



**CHICO**  
**CLIMATE ACTION COMMISSION**  
**REGULAR MEETING AGENDA**  
**THURSDAY, SEPTEMBER 9, 2021 - 6:00 P.M.**  
(VIRTUAL MEETING)

# Chico

## CLIMATE ACTION COMMISSION

Cheri Chastain, Chair  
Mark Stemen, Vice Chair  
David Donnan  
Kirk Monfort  
Michael Nelson  
Rebekah Casey  
Vacant

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Community Development Department  
411 Main Street, 2<sup>nd</sup> Floor  
Chico, CA 95928  
(530) 879-6800

Or

[www.chico.ca.us](http://www.chico.ca.us)

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**Posted:** September 2, 2021  
**Prior to:** 5:00 p.m.

*The Commission appreciates your cooperation in turning off all cell phones during this meeting.*

### **City Staff**

Brendan Vieg – Community Development Director  
Molly Marcussen – Associate Planner



*Please contact the City Clerk at (530) 896-7250 should you require an agenda in an alternative format or if you need to request a disability-related modification or accommodation in order to participate in a meeting. This request should be received at least three working days prior to the meeting in order to accommodate your request.*

## Information and Procedures Concerning Climate Action Commission Meetings

### Public Participation:

All members of the public may address the Climate Action Commission on any item listed on the agenda. Public participation in the hearing process is encouraged.

Please step up to the podium microphone when addressing the Commission.

Each speaker will be asked to voluntarily state his/her name before speaking, and after speaking to voluntarily write his/her name on a record to be maintained by the City Staff.

The Commission and City staff will ensure order and decorum during all Commission meetings. Persons demonstrating rude, boisterous or profane behavior will be called to order by the Chair. If such conduct continues, the Chair may call a recess, requesting the removal of such person(s) from the Council Chamber, adjourn the meeting or take other appropriate action.

### Time Limit:

Presentations should be limited to a maximum of three (3) minutes, unless otherwise determined by the Chair.

A speaker may not defer his/her time to other speakers.

Groups or organizations are encouraged to select a spokesperson to speak on their behalf. Each subsequent speaker is encouraged to submit new information, rather than repeating comments made by prior speakers.

### Written Material:

The Climate Action Commission may not have sufficient time to fully review written materials presented at the public hearing. Interested parties are encouraged to provide written materials at least eight (8) days prior to the public hearing to allow distribution with the Climate Action Commission's agenda packet to provide adequate time for review by the Climate Action Commission. Written materials submitted in advance of the public hearing must be submitted to the City of Chico, Community Development Department, 411 Main Street, 2<sup>nd</sup> Floor, or by mail to: P. O. Box 3420, Chico, CA 95927. Materials related to an item on this agenda submitted to the Climate Action Commission after distribution of the agenda packet are available for public inspection in the Community Development Department at 411 Main Street, 2<sup>nd</sup> Floor, Chico, CA 95928 during normal business hours.

### Hearing Impaired:

Anyone who has difficulty hearing the proceedings of a meeting may be provided with a portable listening device by requesting one from the City Staff. The device works directly from the public-address system, and the listener can hear all speakers who are using a microphone.

### Special Presentations:

Special presentations which include slides, films, etc. during the course of a meeting will only be allowed with **prior** approval of the Climate Action Commission.

### Business from the Floor:

The Chair will invite anyone in the audience wishing to speak to the Climate Action Commission to identify themselves and the matter

they wish to discuss which would involve matters not already on the posted agenda.

The Commission may also be direct that a matter be placed on a future agenda, provide direction to staff, or request that staff research a particular issue. No action may be taken until a subsequent meeting.

### Agenda Copies are:

-Available at the meeting.

-May be mailed by subscription, at an annual cost set forth in the City of Chico Fee Schedule.

-May be picked up the Friday prior to the meeting at the Community Development Department without charge.

-Available on the internet at [www.chico.ca.us](http://www.chico.ca.us)

### Copies of Agenda Reports are:

-Available for public inspection at City of Chico Community Development Department the Friday prior to the meeting.

-Copies may be obtained after payment of applicable copy fees.

### Agenda Items:

The agenda items will be considered in the order listed unless the Commission requests a change. In order that all items may be considered, any item may be continued to another meeting if it appears there will be insufficient time for full consideration of the item.

### Items Not Appearing on Posted Agenda:

This agenda was posted on the Council Chamber bulletin board at least 72 hours in advance of this meeting. For each item not appearing on the posted agenda, upon which the Climate Action Commission wishes to take action, the Commission must make one of the following determinations:

1. Determine by a majority vote that an emergency exists as defined in Government Code Sec. 54956.5.
2. Determine by a two-thirds vote, or by a unanimous vote if less than two-thirds of the Climate Action Commission is present, that need to take immediate action and that the need for action came to the attention of the City subsequent to the agenda being posted.

### Use of Cell Phones During Meetings:

The Climate Action Commission appreciates your cooperation in turning off all cell phones.

### Appeal of Climate Action Commission Decision:

Any aggrieved person or persons dissatisfied with a Climate Action *Commission* decision may appeal that decision to the City Council within 10 calendar days. In accordance with Government Code Section 65009, if any person(s) challenges the action of the Climate Action *Commission*, said person(s) may be limited to raising only those issues that were raised at the public hearing described in this notice, or in written correspondence delivered to the Climate Action *Commission* at, or prior to, the public hearing.

**CITY OF CHICO**  
**CLIMATE ACTION COMMISSION**  
**REGULAR MEETING OF THURSDAY, SEPTEMBER 9, 2021**  
Municipal Center - 421 Main Street - Council Chambers - 6:00 pm  
(Virtual Meeting)

**PUBLIC PARTICIPATION:** *This meeting is being conducted in accordance with Executive Order N-29-20. Members of the public may virtually attend the meeting using the City’s Zoom platform.*

Zoom public participants may use the following information to remotely view and participate in the Climate Action Commission meeting online:

**Event Name:** Climate Action Commission meeting

**Date/Time:** Thursday, September 9, 2021, at 6:00 PM

**Event URL:** <https://us06web.zoom.us/j/85468324872?pwd=djBnaTVEZmpDaTZSM2VzeWp5OTVnUT09>

**Password:** Climate21

**Meeting ID:** 854 6832 4872

**Call-in #:** 1 408 638 0968 or +1 669 900 6833 **Call-in Password:** 530710546

**1. CALL TO ORDER**

1.1. Roll Call

**2. CONSENT AGENDA**

*All matters listed under the Consent Agenda are considered routine and will be enacted by one motion. There will be no separate discussion of these items unless requested by a member of the Climate Action Commission. A member of the public may request that an item be removed, provided the item does not relate to a noticed hearing which has been closed to further public comment. **Items removed from the Consent Agenda will be considered immediately following the approval of the Consent Agenda.***

**2.1. Approval of Minutes**

August 12, 2021 (**Attachment A**).

**3. PUBLIC HEARING ITEMS**

**3.1. Climate Action Plan Update - Climate Action Commission Recommendation to City Council**

The Climate Action Commission will conduct a public hearing to consider a recommendation to the City Council to adopt an Initial Study/Negative Declaration and approve the Climate Action Plan Update (see **Attachment B**) for staff report, draft Climate Action Plan Update, and resolution). The Climate Action Plan outlines measures and actions to be taken to achieve greenhouse gas emissions (GHG) reductions equal to 40% below 1990 levels by 2030 and puts the City on the path to achieve carbon neutrality by 2045 consistent with goals set by the State of California. An Initial Study was prepared by the City pursuant to the California Environmental Quality Act (CEQA) and no adverse impacts were identified. Therefore, a Negative Declaration was prepared. The Initial Study/Negative Declaration was circulated for a 30-day public review from August 3, 2021 to September 2, 2021.

**4. BUSINESS FROM THE FLOOR/PUBLIC COMMENT**

*Members of the public may address the Commission at this time on any matter not already listed on the agenda, with comments being limited to three minutes. The Commission cannot take any action at this meeting on requests made under this section of the agenda.*

**5. REPORTS & COMMUNICATIONS**

*These items are provided for the Commission 's information. Although the Commission may discuss the items, no action can be taken at this meeting. Should the Commission determine that action is required, the item or items may be included for action on a subsequent posted agenda.*

**6. ADJOURNMENT**

Adjourn to the Adjourned Regular Meeting of Thursday, October 14, 2021.

**CITY OF CHICO**  
**CLIMATE ACTION COMMISSION MEETING MINUTES**  
**REGULAR MEETING OF THURSDAY, AUGUST 12, 2021**  
Municipal Center - 421 Main Street - Council Chambers - 6:00 pm  
(Virtual Meeting)

Commissioners Present: Cheri Chastain, Chair  
Mark Stemen, Vice Chair  
Dave Donnan  
Michael Nelson

Commissioners Absent: Rebekah Casey  
Kirk Monfort

Staff Members Present: Brendan Vieg, Community Development Director  
Molly Marcussen, Associate Planner  
Linda Herman, Natural Resource Manager

**1. CALL TO ORDER**

**1.1. Roll Call**

Commissioners were present as noted above.

**2. CONSENT AGENDA**

**2.1. Approval of Minutes**

Vice Chair Stemen moved to approve the minutes. Commissioner Donnan seconded. Minutes approved 4-0-0.

**3. ITEMS TO BE DISCUSSED**

**3.1. Status Update Regarding Implementation of the City's Waste Franchise Agreement**

The commission received an update from Recology and Waste Management regarding implementation of the City's Waste Franchise Agreement

**4. BUSINESS FROM THE FLOOR/PUBLIC COMMENT**

None.

**5. REPORTS & COMMUNICATIONS**

Associate Planner Molly Marcussen updated the commission on the CivicSpark program.

**6. ADJOURNMENT**

Adjourn to the Adjourned Regular Meeting of Thursday, September 9th, 2021. 6:56.



## Climate Action Commission Agenda Report

Meeting Date: 09/09/21

TO: Climate Action Commission

File: Climate Action Plan Update

FROM: Brendan Vieg, Director, CDD (879-6806; [brendan.vieg@chicoca.gov](mailto:brendan.vieg@chicoca.gov))  
 Molly Marcussen, Associate Planner (879-6808; [molly.marcussen@chicoca.gov](mailto:molly.marcussen@chicoca.gov))

RE: Climate Action Plan Update - Climate Action Commission Recommendation to City Council

**REPORT IN BRIEF**

The Climate Action Commission will conduct a public hearing to consider a recommendation to the City Council to adopt an Initial Study/Negative Declaration (**Attachment A, Exhibit I**) and approve the Climate Action Plan Update (**Attachment B**). The Climate Action Plan outlines measures and actions to be taken to achieve greenhouse gas emissions (GHG) reductions equal to 40% below 1990 levels by 2030 and puts the City on the path to achieve carbon neutrality by 2045 consistent with goals set by the State of California.

Recommendation:

The Community Development Director recommends that the Climate Action Commission:

- 1) Adopt Resolution No. 21-01 recommending City Council adoption of an Initial Study/Negative Declaration and approval of the Climate Action Plan Update (**Attachment A**).

Proposed Motion:

I move that the Climate Action Commission adopt Resolution No. 21-01 recommending City Council adoption of an Initial Study/Negative Declaration and approval of the Climate Action Plan Update (**Attachment A**).

**FISCAL IMPACT**

To help ensure the CAP is both cost-effective and fiscally responsible, the CAP includes a Climate Action Finance Map (CAP, Appendix D). The Climate Action Finance Map includes funding and financing pathway options to support the measures and actions included in the CAP. Specifically, the map identifies potential grants, partner sponsorships, state or utility incentive programs, loans, bonds, fees, and tax pathways (in that order) to be utilized for implementing the CAP. The City and community costs associated with each CAP action are generally described in Chapter 4. Staff will return to the Commission and City Council for feedback, approval, and authorization to implement CAP measures, as necessary.

**BACKGROUND**

In November 2012, the Chico City Council adopted the 2020 Climate Action Plan, which contained actions to be taken by the City and the community to reduce GHG emissions to 25% below 2005 levels (consistent with a State goal at that time). Chico met its 2020 GHG emissions reduction goal decreasing community wide emission by 27%.

The proposed CAP Update includes new measures and actions to further mitigate GHG emissions and will guide the City towards reducing GHG emissions consistent with the more

recent State goal to reduce GHG emissions 40% below 1990 levels by 2030, established by Senate Bill (SB) 32, and will make substantial progress towards the State's long-term goal of carbon neutrality by 2045, established by Executive Order (EO) B-55-18.

The proposed actions in the attached CAP Update are substantially the same as the actions presented to the Climate Action Commission at its July 8, 2021 meeting.

### **Community Engagement**

In addition to feedback and guidance provided by the Climate Action Commission over the past year and half, the CAP was developed with a robust public engagement process. This process consisted of building awareness about the CAP effort, informing the community about Chico's GHG emissions and reduction progress to date, soliciting and obtaining feedback from the community on community context and priorities, engaging the community on Chico-specific climate action issues and policies, and meeting with targeted stakeholders to build policy development consensus. For a full discussion regarding community engagement refer to Appendix A of the CAP Update.

Top community concerns included the need for clear implementation timelines, impacts of electrification to housing affordability, decreased grid reliability, and affordability of electric appliance adoption.

### **GHG Reduction Framework**

The City worked with community partners to identify strategies for reducing GHG emissions as part of the CAP's development. The strategies are organized into the following hierarchy:

- **Sector Strategies:** Focused strategies for reductions in each sector, including Energy, Transportation, Waste, Sequestration, and Outreach and Education.
- **Measures:** Measures define quantitative goals within each sector strategy that will result in substantial reductions in GHG emissions.
- **Actions:** Actions consist of the specific steps the City and community will take in support of specific measures, which together accomplish the measure goal.

Effective climate action does not occur in a vacuum and groups outside of municipal government may be better positioned to implement specific actions and measures. To successfully implement the CAP, it will take collaboration across City departments, with local non-profits, utility providers, waste haulers, community groups, business associations, local institutions, and the community at large. More detail regarding the GHG reduction framework can be found in Chapter 4 of the CAP.

### **GHG Reduction Strategies**

GHG reduction strategies have been developed in five sectors: Energy, Transportation, Waste, Sequestration, and Outreach and Education. Each sector includes implementation measures and actions with identified co-benefits and costs. Detailed information on the CAP measures and actions can be found in Chapter 6 of the CAP. Information on each measures' GHG reduction quantification can be found in Appendix B of the Climate Action Plan Update. Below is a summary of key strategies by sector.

## Energy

The focused strategy for the Energy sector is electrification of buildings coupled with carbon-free electricity. All-electric buildings are powered 100% by electricity and when coupled with carbon-free electricity, their operating energy footprint becomes carbon-free.

The California Renewable Portfolio Standard requires all retail electricity providers in California (e.g., PG&E) to provide carbon neutral electricity by 2045. Procuring community-wide carbon-free electricity through a Community Choice Aggregation (CCA) will expedite that timeline and offer significant GHG reductions in the short term with minimal increases to community electricity bills. As part of the City and County's Butte Choice Energy partnership (CAP Measure E-1-1), community accounts will be entered into the CCA's 100% renewable/carbon free electricity option starting in 2024 (community members will have the opportunity to opt-out or opt-down from this option).

Further, CAP Measure E-2 directs the City to adopt an electrification ordinance starting in 2025 requiring new buildings and major retrofits to be all-electric. It's important to note that adopting an ordinance might not be necessary, as there is early evidence that the 2025 California Building Code Update will make electrification of new construction and major retrofits mandatory (in order for the State to meet its own GHG emission reduction goals).

The other key Energy measure is related to increased generation and storage of renewable energy. While community members continue to invest in solar PV and battery storage, the City is aggressively implementing a comprehensive PG&E Sustainable Solutions Turnkey Program to install renewable energy technology at municipal facilities. Further, a feasibility study through the PG&E Sustainable Solutions Turnkey program will assess cost and applicable locations for installation of battery back-up systems, generators, and/or a micro-grid throughout the City.

## Transportation

Transportation represents the largest GHG emissions sector in Chico and has historically been the most challenging sector to address across California. Reducing transportation emissions and becoming a carbon neutral city means reducing the number of miles driven by fossil fuel-powered vehicles. This requires a major shift in the community's relationship to transportation and is greatly dependent on community buy-in to transportation alternatives. The City cannot achieve higher bike and pedestrian use, transit mode share, or EV adoption alone, but it is committed to pursuing the funding, partnerships and infrastructure updates to make these choices more attractive and feasible for the community. The transportation strategy consists of:

- Implementation of the Chico Bicycle Master Plan, which identifies a suite of road improvement projects and bike safety innovations, as well as safe bike parking infrastructure to reduce bike theft.
- Improving electric vehicle (EV) infrastructure by requiring EV chargers in new development (which is quickly becoming a requirement under the California Building Code) and working towards installing EV chargers in existing parking lots.
- Improving shared mobility and transit programs and infrastructure by partnering with shared rideables companies (e.g., e-bike share), and working in collaboration with BCAG to expand B-Line service lines, increase route speeds, and reduce wait times.
- Incentivizing biking, walking, and other active transportation modes through improved



curbside management procedures including dynamic parking pricing, improved use of parking space, and overall support for active transportation and EVs, in line with the City's Downtown Access Plan.

- Implementing the City's General Plan that promotes sustainable infill development and mixed-use development in new growth areas to reduce vehicle miles travelled.

### Waste

Emission reductions in the Waste sector are driven by compliance with SB 1383, which requires all jurisdictions in California to reduce organic waste disposal 75% and increase edible food recovery 20% relative to 2014 levels by 2025. The main mechanism to comply with SB 1383 is to update waste hauler franchise agreements and identifying and partnering with appropriate stakeholders to ensure requirements for organic waste reduction and edible food recovery are met.

### Sequestration

A carbon neutral future includes carbon sequestration mechanisms which take carbon out of the atmosphere. The best technology that cities have for achieving higher rates of carbon sequestration is through increasing the urban tree canopy by planting more trees and green-scaping. The primary actions under this sector strategy are implementing Chico's Urban Forest Revitalization Program, which establishes tree planting goals for the future, and developing and implementing an Urban Forest Master Plan.

### Outreach and Education

A coordinated outreach and education effort are an important part of any CAP to provide the information and context to the community that is necessary for successful CAP implementation. The many partners identified during the CAP development process will be crucial in the over-arching outreach and education efforts identified in the CAP.

### Co-Benefits

In addition to GHG emissions reduction benefits, there are co-benefits or positive effects that implementation of the CAP's measures can achieve. These co-benefits include economic growth, reduced traffic congestion, improved public health, healthier ecosystems, carbon sequestration, enhanced resilience, and equity and inclusion. The co-benefits support the City's mission: "To protect and enhance our community's quality of life for present and future generations."

## **CAP Implementation and Monitoring**

### Implementation

The CAP Update includes a suite of strategies, measures, and actions that have been designed to achieve GHG emissions reductions in line with the City's 2030 emissions target and make substantial progress towards achieving the 2045 GHG emissions goal. The CAP also establishes a 2025 GHG emissions milestone to measure short-term progress. Actual progress is best tracked by comparing Chico's GHG emissions targets to quantified GHG emissions in future years using activity data. As with any forecast there is some degree of uncertainty associated with implementation of the CAP, as adoption rates of new technologies and services, costs of each measure, changes to technology, and legislative changes will evolve over time. To help ensure this plan is responsive to evolving real world conditions and achieves the GHG emissions targets, the CAP includes a plan for funding, implementing,

monitoring, and updating the CAP over time.

The CAP's implementation will be led by the City, with support from community partners. While possible funding and financing solutions have been identified in the Climate Action Financing Plan, the City will ultimately identify the best funding pathway at the time of implementation of each action. The CAP's strategies, measures, and actions will be implemented over time, according to the specific implementation dates identified in Chapter 6. Implementation of the CAP's measures and actions have already begun and will continue through at least 2045. The implementation start date and other details on timing for actions are identified in Chapter 6.

The City has already begun implementing the following key actions:

- **E-1-1:** Procure carbon neutral electricity for the community through Butte Choice Energy Community Choice Aggregation (CCA), in accordance with the ordinance authorizing the implementation of a CCA Program through a Joint Powers Agreement with Butte County
- **E-4-4:** Implement the comprehensive PG&E Sustainable Solutions Turnkey Program to install renewable energy technology at municipal facilities
- **T-1-1:** Implement the Chico Bicycle Plan 2019 Update in accordance with the Plan's goals, objectives, and policies
- **T-1-3:** Require major road upgrades to include bicycle infrastructure
- **T-4-1:** In accordance with the Downtown Access Plan, utilize dynamic pricing for Downtown area parking, increasing costs of parking during times of high usage and special events
- **T-5-1:** Support implementation of the City's General Plan that promotes sustainable infill development and mixed-use development in new growth areas to reduce vehicle miles travelled (VMT)
- **S-1-1:** Increase carbon sequestration by increasing urban canopy cover at least 10% by 2030 through new green-scaping programs (Chico's Urban Forest Revitalization Program)
- **S-2-1:** Develop and implement the Urban Forest Master Plan

### Monitoring and Reporting

Monitoring of the CAP Update will be conducted by the City and will consist of the following activities to be conducted on at least a bi-annual basis:

- Identifying the implementation status for each CAP measure and action and evaluating this against each action's implementation timeline.
- Completing an updated GHG emissions inventory and evaluating the results against the City's GHG emissions targets.
- Providing a report with the above information and analysis to the Climate Action Commission and City Council.

The monitoring activities and resulting reports will inform whether the City is on track to reach its 2030 target, or if changes to or additional measures and actions are needed.

### **Qualified GHG Reduction Plan**

In addition to guiding the City towards reducing GHG emissions consistent with State goals, the CAP will fulfill the requirements of the California Environmental Quality Act (CEQA) Guidelines §15183.5(b) to be a qualified GHG reduction plan. Under CEQA, local agencies must evaluate the environmental impacts of new development projects, including impacts from GHG emissions associated with their construction and operation. This process can be cumbersome for local agencies and developers alike and can result in project delays. The CEQA Guidelines provide an option for new projects to streamline the CEQA analysis of GHG emissions by tiering off of a “qualified” GHG reduction plan. Per CEQA Guidelines §15183.5(b), a qualified GHG reduction plan must:

- Quantify existing and projected GHG emissions within the plan area;
- Establish a reduction target based on Senate Bill 32;
- Identify and analyze sector specific GHG emissions;
- Specify policies and actions to enact and implement to achieve specified reduction targets;
- Establish a tool to monitor progress and amend if necessary; and
- Be adopted in a public process following environmental review.

This CAP meets these requirements and will facilitate thoughtful development over the next decade. This is especially important given the City’s current demand for market rate and affordable housing and the need to implement the Council-adopted Capital Improvement Plan.

### **ENVIRONMENTAL REVIEW**

An Initial Study was prepared by the City pursuant to the California Environmental Quality Act (CEQA) and no adverse impacts were identified. Therefore, a Negative Declaration was prepared. The Initial Study/Negative Declaration showed no substantial evidence of a fair argument that the project will have a significant effect on the environment and the document has been prepared in conformance with the provisions of CEQA and Chico Municipal Code (CMC), Chapter 1.40, "Environmental Review Guidelines". The Initial Study/Negative Declaration was circulated for a 30-day public review from August 3, 2021 to September 2, 2021. As of September 1<sup>st</sup>, 2021, the City has received three comments from community members on the draft IS/ ND and CAP Update. Comments have been provided as (**Attachment C**).

### **PUBLIC CONTACT**

A display ad for the Climate Action Commission’s September 9, 2021 meeting was published in the *Chico Enterprise Record* on August 3, 2021.

### **DISTRIBUTION**

Associate Planner Molly Marcussen  
Community Development Director Brendan Vieg

### **ATTACHMENTS**

A. Resolution

- I. Exhibit I: Initial Study/Negative Declaration
- B. Climate Action Plan Update
- C. Public Comments

**RESOLUTION NO. 21-01**

**RESOLUTION OF THE CLIMATE ACTION COMMISSION OF THE CITY OF  
CHICO RECOMMENDING CITY COUNCIL ADOPTION OF AN INITIAL  
STUDY/NEGATIVE DECLARATION AND APPROVAL OF THE CLIMATE ACTION  
PLAN UPDATE**

WHEREAS, in 2016, the California Legislature adopted Senate Bill (SB) 32 to extend the State's commitment to GHG emissions reductions by tightening the target to 40% below 1990 levels by 2030; and

WHEREAS, in 2018, Governor Brown adopted Executive Order (EO) B-55-18 setting a Statewide goal of reaching carbon neutrality by no later than 2045; and

WHEREAS, the City Council directed an update to the City's 2020 Climate Action Plan to achieve consistency with these State goals; and

WHEREAS, a Climate Action Plan Update has been prepared that establishes consistency with SB 32 and EO B-55-18; and

WHEREAS, implementation of the Climate Action Plan Update will result in co-benefits in the following areas: economic growth, reduced traffic congestion, improved public health, healthier ecosystems, carbon sequestration, enhanced resilience, and equity and inclusion; and

WHEREAS, in accordance with the California Environmental Quality Act (CEQA) discretionary projects are required to be reviewed for environmental impacts and when applicable, environmental documents prepared; and

WHEREAS, an initial study (Exhibit I) was prepared by the City in conformance with the provisions of CEQA and Chico Municipal Code Chapter 1.40 (Environmental Review Guidelines) which concludes that adoption of the Climate Action Plan Update will not result in a significant adverse impact on the environment; and

1 WHEREAS, a negative declaration (Exhibit I) was prepared and the initial study and  
2 negative declaration were circulated for a 30-day public review period from August 3, 2021  
3 to September 2, 2021; and

4 WHEREAS, the Climate Action Commission held a duly noticed public hearing and  
5 considered the Climate Action Plan Update, initial study, and proposed negative declaration.

6 NOW, THEREFORE, BE IT RESOLVED THAT THE CLIMATE ACTION  
7 COMMISSION RECOMMENDS THAT THE CITY COUNCIL OF THE CITY OF  
8 CHICO:

- 9 1. Determine that the initial study and negative declaration prepared for the Climate  
10 Action Plan Update reflects the independent judgment of the City of Chico and that  
11 there is no substantial evidence supporting a fair argument that adoption of the  
12 Climate Action Plan Update may have a significant adverse effect on the  
13 environment.
- 14 2. Adopt the negative declaration as set forth in the Exhibit I.
- 15 3. Approve the Climate Action Plan Update.

16 THE FOREGOING RESOLUTION WAS ADOPTED by the Climate Action Commission  
17 at its meeting held on September 9, 2021, by the following vote:

18 AYES:

19 NOES:

20 ABSENT:

21 ABSTAINED:

22 DISQUALIFIED:

23 ATTEST:

APPROVED AS TO FORM:

24  
25 \_\_\_\_\_  
26 Brendan Vieg, Secretary

\_\_\_\_\_  
Vincent Ewing, City Attorney

27 \*Pursuant to The Charter of the City of Chico, Section 906(E)  
28 CA Std Form 09/06/18



# Chico Climate Action Plan Update

## Draft Initial Study – Negative Declaration

*prepared for*

**City of Chico**

Community Development Department

411 Main Street, PO Box 3420

Chico, California 95927

Contact: Molly Marcussen, Associate Planner

*prepared by*

**Rincon Consultants, Inc.**

4825 J Street, Suite 200

Sacramento, CA 95819

**July 29, 2021**



**RINCON CONSULTANTS, INC.**

Environmental Scientists | Planners | Engineers

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Appendix A Sources, Health Effects, and Typical Controls Associated with Criteria Pollutants  
Appendix B Description of Greenhouse Gases of California Concern

# Initial Study

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## Proposed Plan Title

Chico Climate Action Plan (CAP) Update

## Lead Agency/Plan Sponsor and Contact

### Lead Agency/Plan Sponsor

City of Chico  
Community Development Department  
411 Main Street, PO Box 3420  
Chico, CA 95927

### Contact Person

Molly Marcussen, Associate Planner  
email address: molly.marcussen@chicoca.gov

## Plan Location and Physical Setting

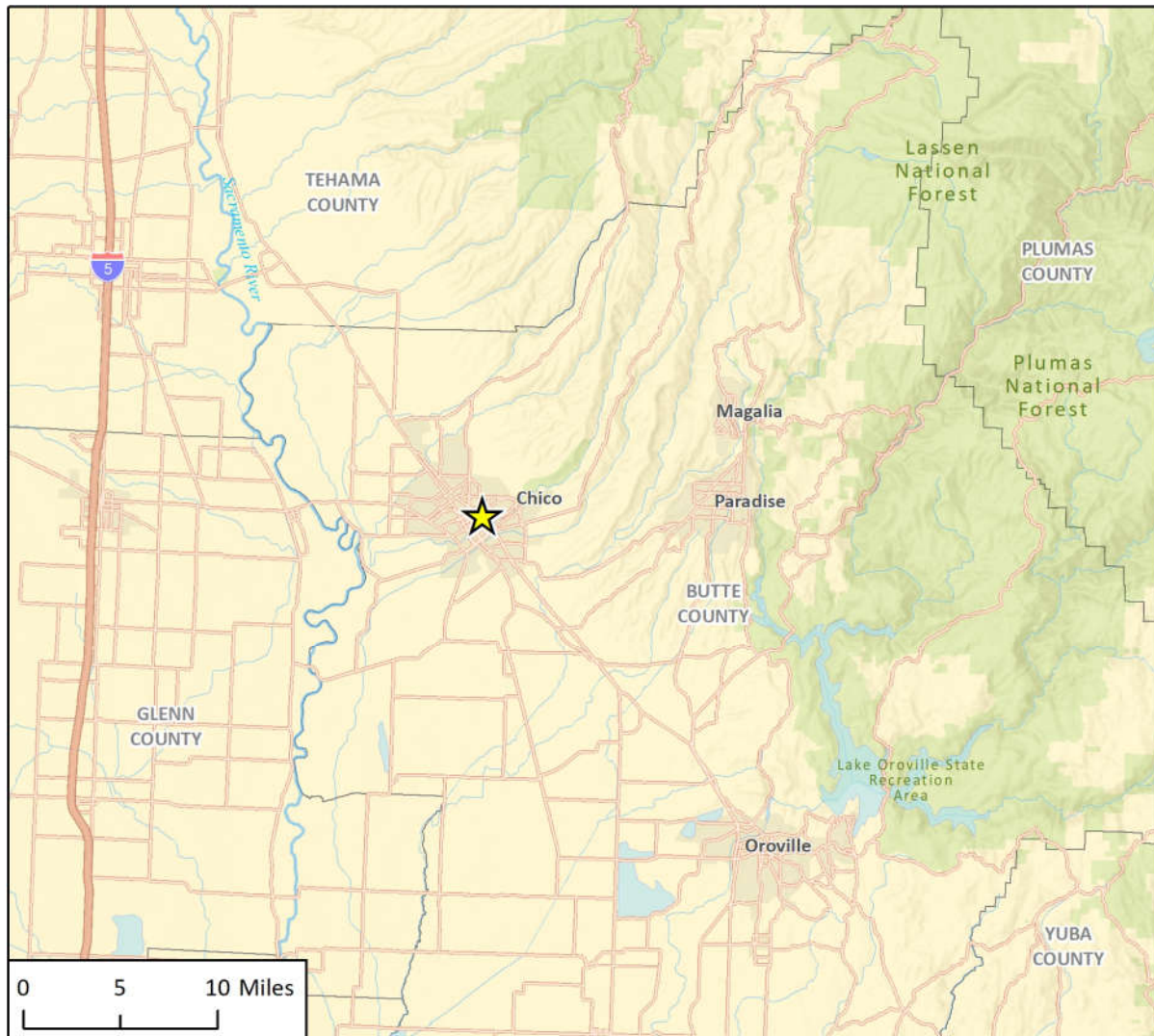
The City of Chico CAP Update applies to all areas and plans/projects within the City of Chico limits. Figure 1 shows the regional location, and Figure 2 shows the plan location. The plan location includes all of Chico's incorporated lands.

### Regional Location and Setting

The City of Chico is approximately 34 square miles within the northwestern portion of Butte County and the larger Sacramento Valley. The City primarily sits on the Sacramento Valley floor with a small eastern portion of the City paralleling Big Chico Creek down from the Sierra Nevada foothills into the flatter portions of the City. The City is bordered by unincorporated Butte County on all sides and is near the boundaries of Tehama County and Glenn County. Immediately to the north of the City lies predominantly agricultural and undeveloped lands, to the east are the Sierra Nevada Foothills and the City of Paradise, to the south is predominantly agricultural land and the community of Durham, and to the west is predominantly agricultural lands and the community of Hamilton City. The nearest major cities are Sacramento and Redding, which are approximately 80 miles to the south and 60 miles to the north of Chico, respectively.

Vehicular access to Chico is primarily provided by State Route (SR) 32 (Deer Creek Highway) and SR 99 (Golden State Highway). The City is served by several public transit facilities including the Butte County Regional Transit B-Line bus, the Plumas County Transit System bus, the Glenn Ride bus, Amtrak passenger rail, and Greyhound Lines Inc motorcoach services. In addition, the City is accessible by the Chico Municipal Airport and Sacramento International Airport.

Figure 1 Regional Location



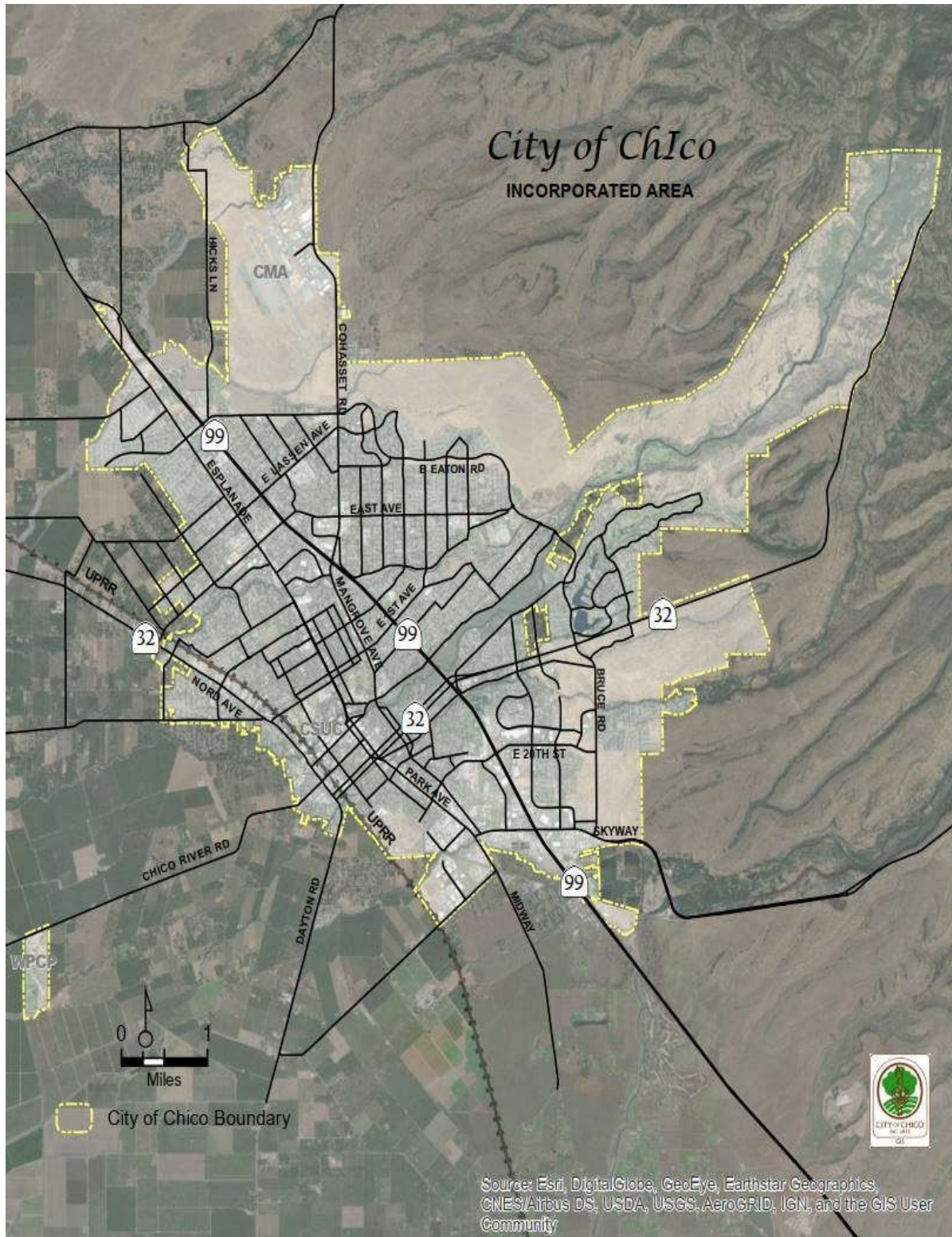
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★ City of Chico (Plan Location) 



Fig. 1 Regional Location

Figure 2 Plan Location



## Local Setting

Chico is the most populous city in Butte County.<sup>1</sup> The City supports a diverse range of industries, including agriculture, recreation, tourism, healthcare manufacturing, and education. The City is home to California State University at Chico, Enloe Medical Center, which serves as the regional medical hospital and level II Trauma Center, and Bidwell Park, which covers 17 percent of the City's geographical extent. Residential uses comprise the largest portion of existing land uses within the City and its Sphere of Influence, with parks, open space and public/quasi-public land uses accounting for the second largest portion of existing land uses.<sup>2</sup>

The City is located primarily on the Sacramento Valley floor, near the foothills of the Sierra Nevada mountain range. The City is located approximately 230 feet above mean sea level, and its topography is generally flat with some areas of hilly terrain near the eastern city limits. Eight creeks and waterways run through the City and drain westward from the Sierra Nevada foothills toward the Sacramento River, including the Big Chico Creek, Little Chico Creek, and Lindo Channel (or Sandy Gulch).<sup>2,3</sup> The City is characterized by a warm, temperate climate with dry summers and rainier winters. The warmest months of the year in Chico are July and August, and the coldest months of the year are December and January. The annual average daily maximum temperature is 75.2 degrees Fahrenheit (°F), while the annual average daily minimum temperature is 47.0°F. Average monthly rainfall measured in the local area since 1973 varies from 0.02 inch in July to 4.86 inches in January.<sup>4</sup>

## Existing Setting

### Sustainability and GHG Reduction Efforts Setting

#### City of Chico Sustainability and GHG Reduction Efforts

The City has implemented a variety of environmental programs since 2007 contributing to GHG reductions. The following is a list of the City's primary sustainable and climate protection programs:

- Sustainability Task Force established (2007)
- 2030 General Plan adopted (2011)
- 2020 Climate Action Plan adopted (2012)
- Hazard Mitigation Plan prepared (2013)
- Sustainable Solutions Turnkey Initiative begins (2016)
- Vulnerability Assessment conducted (2018)
- Climate Action Commission established (2019)
- Wastewater Treatment Plant upgrades (2018)
- Chico Bicycle Plan adopted (2019)
- Community Choice Aggregation authorized (2019)

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<sup>1</sup> California Department of Finance. 2021. E-5 Population and Housing Estimates for Cities, Counties, and the State, 2011-2020 with 2010 Census Benchmark. Available: <<https://www.dof.ca.gov/Forecasting/Demographics/Estimates/e-5/>>. Accessed May 14, 2021.

<sup>2</sup> Chico, City of. 2010. General Plan Update Draft Environmental Impact Report. Available: <<https://chico.ca.us/sites/main/files/file-attachments/4.1landuse.pdf?1577755464>>. Accessed March 23, 2021.

<sup>3</sup> Butte County. 2019. Local Hazard Mitigation Plan. Available: <<https://www.buttecounty.net/oem/mitigationplans>>. Accessed March 23, 2021.

<sup>4</sup> Iowa State University. 2021. Iowa Environmental Mesonet: Chico Municipal Station. Available: <[https://mesonet.agron.iastate.edu/sites/monthlysum.php?station=CIC&network=CA\\_ASOS](https://mesonet.agron.iastate.edu/sites/monthlysum.php?station=CIC&network=CA_ASOS)>. Accessed March 23, 2021.

## Regional Sustainability and GHG Reduction Efforts

In coordination with Butte County, the State of California, and the federal government, the City of Chico has committed to implementing regional and State policies related to GHG emissions reduction. As follows is a summary of the regional GHG emissions reduction efforts, which the City of Chico CAP Update is intended to be consistent with or exceed.

### *2020 Regional Transportation Plan/Sustainable Communities Strategy*

The Butte County Association of Governments (BCAG) adopted the 2020 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) in December 2020. The RTP/SCS outlines policies, projects, and programs required to improve the County's transportation system over the next 20 years and demonstrates how the region will integrate transportation and land use planning to meet the greenhouse gas reduction targets established by Senate Bill (SB) 375 and air quality requirements established by the State Implementation Plan. The 2020 RTP/SCS maintains 14 policies from the 2016 RTP/SCS related to topics such as roadways, public transit, goods movement, and land use, and adds an emergency preparedness policy in light of recent climate change-driven disasters, such as the Camp Fire.<sup>5</sup>

### *Butte County Transit and Non-Motorized Transportation Plan*

In 2015, BCAG adopted the Transit and Non-Motorized Transportation Plan (Plan) to provide the County with a long-range plan for enhancing and expanding public transit, bicycle facilities, and pedestrian access to transit within the County. The Plan's goals are to support the sustainable growth targets contained within the RTP/SCS, improve quality of life for residents, reduce GHG emissions, and reduce congestion.<sup>6</sup>

### *State Sustainability and GHG Reduction Efforts*

As follows is a summary of the State GHG emissions reduction efforts, which the City of Chico CAP is intended to be consistent with or exceed.

### *California Senate Bill 375*

In 2008, Senate Bill 375 (SB 375) enhanced the State's ability to reach AB 32 targets by directing CARB to develop regional GHG emissions reduction targets to be achieved from passenger vehicles for 2020 and 2035. In addition, SB 375 directs each of the State's 18 major Metropolitan Planning Organizations (MPO) to prepare a sustainable community's strategy (SCS) that contains a growth strategy to meet such regional GHG emissions reduction targets for inclusion in the respective regional transportation plan (RTP).

On March 22, 2018, CARB adopted updated regional targets for reducing GHG emissions from 2005 levels by 2020 and 2035. BCAG was assigned targets of a six percent reduction in per capita GHG emissions from passenger vehicles by 2020 and a seven percent reduction in per capita GHG

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<sup>5</sup> Butte County Association of Governments (BCAG). 2020. Butte County Regional Transportation Plan/Sustainable Communities Strategy. Available: <<http://www.bcag.org/documents/planning/RTP%20SCS/2020%20RTP%20SCS/Document%20Chapters/2020%20RTP%20SCS%20Document-ALL%20REVISED.pdf>>. Accessed March 23, 2021.

<sup>6</sup> Butte County Association of Governments (BCAG). 2015. Transit and Non-Motorized Transportation Plan. Available: <<http://www.bcag.org/Planning/Transit--Non-Motorized-Transportation-Plan/index.html>>. Accessed March 23, 2021.

emissions from passenger vehicles by 2035. On December 10, 2020, BCAG formally adopted the 2020 RTP/SCS, which meets the requirements of SB 375.

#### *California Executive Order S-3-05*

In 2005, the California governor issued Executive Order (EO) S-3-05, which identifies Statewide GHG emissions reduction targets to achieve long-term climate stabilization as follows:

- Reduce GHG emissions to 1990 levels by 2020
- Reduce GHG emissions to 80 percent below 1990 levels by 2050

In response to EO S-3-05, California Environmental Protection Agency (CalEPA) created the Climate Action Team (CAT), which in March 2006 published the Climate Action Team Report (the “2006 CAT Report”). The *2006 CAT Report* identified a recommended list of strategies that the State could pursue to reduce GHG emissions. These are strategies that could be implemented by various State agencies to ensure that the emission reduction targets in EO S-3-05 are met and can be met with existing authority of the State agencies. The strategies include the reduction of passenger and light duty truck emissions, the reduction of idling times for diesel trucks, an overhaul of shipping technology/infrastructure, increased use of alternative fuels, increased recycling, and landfill methane capture, among others.

#### *California Assembly Bill 32*

In 2006, the California legislature signed Assembly Bill (AB) 32 – the Global Warming Solutions Act – into law, requiring a reduction in Statewide GHG emissions to 1990 levels by 2020 and California Air Resources Board (CARB) preparation of a Scoping Plan that outlines the main State strategies for reducing GHGs to meet the 2020 deadline. In addition, AB 32 required CARB to adopt regulations to require reporting and verification of Statewide GHG emissions. Based on this guidance, CARB approved a 1990 Statewide GHG level and 2020 limit of 427 MT of CO<sub>2</sub>e.

#### *California Climate Change Scoping Plan*

In 2008, CARB approved the original California Climate Change Scoping Plan, which included measures to address GHG emission reduction strategies related to energy efficiency, water use, and recycling and solid waste, among other measures. Many of the GHG reduction measures included in the Scoping Plan (e.g., Low Carbon Fuel Standard, Advanced Clean Car standards, and Cap-and-Trade) have been adopted and implemented since approval of the Scoping Plan.

#### *California Climate Change Scoping Plan Update (2013)*

In 2013, CARB approved the first update to the California Climate Change Scoping Plan. The 2013 Scoping Plan Update defined CARB climate change priorities for the next five years and set the groundwork to reach post-2020 Statewide GHG emissions reduction goals. The 2013 Scoping Plan Update highlighted California’s progress toward meeting the “near-term” 2020 GHG emission reduction goals defined in the original Scoping Plan. It also evaluated how to align the State’s longer-term GHG reduction strategies with other State policy priorities, including those for water, waste, natural resources, clean energy, transportation, and land use.



### *California Executive Order B-30-15*

In 2015, the California governor issued Executive Order B-30-15, which established a Statewide mid-term GHG reduction target of 40 percent below 1990 levels by 2030.

### *California Senate Bill 32*

In 2016, the California legislature signed Senate Bill 32 (SB 32) into law, extending AB 32 by requiring further reduction in Statewide GHG emissions to 40 percent below 1990 levels by 2030 (the other provisions of AB 32 remain unchanged). On December 14, 2017, CARB adopted the 2017 Scoping Plan, which provides a framework for achieving the 2030 target. The 2017 Scoping Plan relies on the continuation and expansion of existing policies and regulations, such as the Cap-and-Trade Program, as well as implementation of recently adopted policies and policies, such as SB 350 and SB 1383 (see below).

### *California Climate Change Scoping Plan Update (2017)*

In 2017, CARB approved the second update to the California Climate Change Scoping Plan. The 2017 Scoping Plan put an increased emphasis on innovation, adoption of existing technology, and strategic investment to support its strategies. As with the 2013 Scoping Plan Update, the 2017 Scoping Plan Update does not provide project-level thresholds for land use development. Instead, it recommends that local governments adopt policies and locally-appropriate quantitative thresholds consistent with Statewide per-capita goals of six MT of CO<sub>2</sub>e by 2030 and two MT of CO<sub>2</sub>e by 2050. As stated in the 2017 Scoping Plan Update, these goals may be appropriate for plan-level analyses (city, county, subregional, or regional level), but not for specific individual projects, because they include all GHG emissions sectors in the State.<sup>7</sup>

### *California Executive Order B-55-18*

In 2018, the California governor issued Executive Order B-55-18, which established a new Statewide goal of achieving carbon neutrality by 2045 and maintaining net negative emissions thereafter. This goal is in addition to the existing Statewide GHG reduction targets established by SB 32.

For more information on the Senate and Assembly Bills, Executive Orders, and Scoping Plans discussed above, and to view reports and research referenced above, please refer to the following websites: [www.climatechange.ca.gov](http://www.climatechange.ca.gov) and [www.arb.ca.gov/cc/cc.htm](http://www.arb.ca.gov/cc/cc.htm).

### *Assembly Bill 197, State Air Resources Board Greenhouse Gases Regulations*

In 2016, the California legislature approved AB 197, a bill linked to SB 32, which increases legislature oversight over the California Air Resources Board and directs the California Air Resources Board to prioritize disadvantaged communities in its climate change regulations, and to evaluate the cost-effectiveness of measures it considers. AB 197 requires the ARB to “protect the State’s most impacted and disadvantaged communities [and] consider the social costs of the emissions of greenhouse gases” when developing climate change programs. The bill also adds two new legislatively appointed non-voting members to the ARB, increasing the Legislature’s role in the ARB’s decisions.

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<sup>7</sup> California Air Resources Board (CARB). 2017. California’s 2017 Climate Change Scoping Plan. Available: [https://ww2.arb.ca.gov/sites/default/files/classic/cc/scopingplan/scoping\\_plan\\_2017.pdf](https://ww2.arb.ca.gov/sites/default/files/classic/cc/scopingplan/scoping_plan_2017.pdf). Accessed March 23, 2021.

### *Senate Bill 350, Clean Energy and Pollution Reduction Act of 2015*

In October 2015, SB 350 was signed into law, establishing new clean energy, clean air, and GHG reduction goals for 2030 and beyond. SB 350 codifies Governor Jerry Brown's aggressive clean energy goals and establishes California's 2030 GHG reduction target of 40 percent below 1990 levels. To achieve this goal, SB 350 increases California's renewable electricity procurement goal from 33 percent by 2020 (legislation originally enacted in 2002) to 50 percent by 2030. Renewable resources include wind, solar, geothermal, wave, and small hydroelectric power. In addition, SB 350 requires the State to double State-wide energy efficiency savings in electricity and natural gas end uses by 2030 from a base year of 2015.

### *Senate Bill 100, The 100 Percent Clean Energy Act of 2018*

In September 2018, Governor Brown signed SB 100, requiring that the State's load serving entities (including energy utilities and community choice energy programs) must procure energy generated 100 percent from Renewables Portfolio Standard (RPS) for eligible renewable resources by 2045.

### *California Energy Efficiency Strategic Plan of 2008*

In September 2008, the California Public Utilities Commission (CPUC) adopted California's first Long Term Energy Efficiency Strategic Plan, presenting a single roadmap to achieve maximum energy savings across all major groups and sectors in California. The Strategic Plan was subsequently updated in January 2011 to include a lighting chapter. The Strategic Plan sets goals of all new residential construction and all new commercial construction in California to be zero net energy (ZNE) by 2020 and 2030, respectively. In 2018, the California Energy Commission voted to adopt a policy requiring all new homes in California to incorporate rooftop solar. This change will go into effect in January 2020 with the adoption of the 2019 Title 24 Code and is a step towards the State achieving its goal of all residential new construction being ZNE by 2020. Additionally, the Strategic Plan sets goals of 50 percent of existing commercial building to be retrofit to ZNE by 2030 and all new State buildings and major renovations to be ZNE by 2025.

### *Senate Bill 1275, Charge Ahead Initiative*

In September 2014, Senate Bill 1275 was signed into law, establishing a State goal of one million zero-emissions and near-zero-emissions vehicles in service by 2020 and directing the Air Resources Board to develop a long-term funding plan to meet this goal. SB 1275 also established the Charge Ahead California Initiative requiring planning and reporting on vehicle incentive programs and increasing access to and benefits from zero-emissions vehicles for disadvantaged, low-income, and moderate-income communities and consumers.

### *Assembly Bill 1493, the Pavley Bill*

In 2002, the California State Legislature enacted Assembly Bill 1493 (aka "the Pavley Bill"), which directs the Air Resources Board to adopt standards that will achieve "the maximum feasible and cost-effective reduction of greenhouse gas emissions from motor vehicles," taking into account environmental, social, technological, and economic factors. In September 2009, the ARB adopted amendments to the "Pavley" regulations to reduce GHG emissions in new passenger vehicles from 2009 through 2016. The Pavley Bill is considered to be the national model for vehicle emissions standards. In January of 2012, the ARB approved a new emissions control program for vehicle model years 2017 through 2025. The program combines the control of smog, soot, and greenhouse gases

and the requirement for greater numbers of zero emission vehicles into a single package of standards called Advanced Clean Cars.

#### *Assembly Bill 117, Community Choice Aggregation*

Assembly Bill 117 establishes the creation of Community Choice Aggregation (CCA) that fosters clean and renewable energy markets. CCA allows cities and counties to aggregate the buying power of individual jurisdictions. The California CCA markets were created as an answer to the brownouts and energy shortages of the early 2000's. AB 117 was passed in 2002 as an answer to California's increased energy independency by incorporating more alternative and renewable energy sources into its energy portfolio. With AB 117, municipalities can provide alternative energy choices to their local carrier (e.g., the Pacific Gas and Electric Company [PG&E]). Marin Clean Energy was the first CCA in the State of California to go online with a 50 percent to 100 percent clean energy portfolio in 2010. Peninsula Clean Energy (PCE) was created in February 2016 when all 20 towns/cities in San Mateo County, plus the County of San Mateo, voted unanimously to form a Joint Powers Authority to administer the program. PCE is a public, locally controlled electricity provider that gives PG&E customers in San Mateo County the choice of having 50 percent to 100 percent of their electricity supplied from clean, renewable sources at competitive rates. CCAs are governed by the California Public Utilities Commission (CPUC). SB 790 further ensures fair and transparent competition by creating a code of conduct and guiding principles for entrants into the CCA field.

#### *Senate Bill 97, CEQA Guidelines for Addressing GHG Emissions*

The California Environmental Quality Act (CEQA) requires public agencies to review the environmental impacts of proposed projects, including General Plans, Specific Plans, and specific kinds of development projects. In February 2010, the California Office of Administrative Law approved the recommended amendments to the State CEQA Guidelines for addressing GHG emissions. The amendments were developed to provide guidance to public agencies regarding the analysis, mitigation, and effects of GHG emissions in draft CEQA documents.

#### *Butte County Air Quality Management District CEQA Guidelines*

The Butte County Air Quality Management District (BCAQMD) published the *CEQA Air Quality Handbook* in October 2014, which provides guidelines for the assessment of air quality and GHG emissions impacts for projects subject to CEQA review. The *CEQA Air Quality Handbook* notes that BCAQMD has not adopted a threshold for GHG emissions impacts and recommends that projects are assessed based on compliance with an approved GHG Emissions Reduction Plan, the Lead Agency's adopted threshold, or consistency with the goals of AB 32. According to the BCAQMD, if a plan or project is consistent with an adopted GHG Emissions Reduction Plan, then it can be presumed that the plan or project would not result in significant impacts related to GHG emissions. This approach is consistent with State CEQA Guidelines, Section 15183.5, which states that:

“Lead agencies may analyze and mitigate the significant impacts of greenhouse gas emissions at a programmatic level, such as...a plan to reduce greenhouse gas emissions. Later project-specific environmental documents may tier from and/or incorporate by reference that existing programmatic review. Project-specific environmental documents may rely on an [Environmental Impact Report] containing a programmatic analysis of greenhouse gas emissions.”

## General Plan Designation and Zoning

The CAP would be implemented throughout the City and would occur in all Chico General Plan designations and zoning designations. The plan would not alter any existing designations.

## Description of the CAP Update

The Chico CAP Update incorporates the many climate protection programs noted above that the City of Chico has in place and will continue to reduce GHG emissions. The City has developed the CAP Update in order to achieve a number of objectives, including a safer future and enhanced quality of life for the community, new economic opportunities through green jobs, enhanced social equity and citizen engagement on the issue of climate change, and reduced obstacles for building affordable housing. The CAP Update provides a foundation for future development efforts in the City of Chico. It is anticipated that environmental documents for future development projects will identify and incorporate applicable GHG reduction measures from the CAP Update.

In 2021, Chico is actively engaged in addressing climate change, sustainability, and reductions in GHG emissions. The CAP Update addresses communitywide GHG emissions and includes a target to reduce communitywide GHG emissions output to 2.71 metric tons of carbon dioxide equivalent (MT of CO<sub>2</sub>e) per person (or 292,437 MT of CO<sub>2</sub>e in total emissions) by 2030. This corresponds to an 80 percent reduction in per capita emissions (or a 46 percent reduction in total emissions) below 1990 levels by 2030, exceeding the California Senate Bill 32 target for 2030 to reduce total GHG emissions 40 percent below 1990 levels. In order to meet the 2030 City emissions target, the City has specifically proposed an 80 percent per capita emissions reduction target of 2.71 MT of CO<sub>2</sub>e per person for 2030 (a 46 percent emissions reduction target of 292,437 MT of CO<sub>2</sub>e in total emissions) compared to 1990 levels as the reference year. The Chico CAP Update assessed herein is based upon the 2005 and 2017 community-level inventories and formulates a list of actions or “measures” to achieve the City’s sustainability goals.

The 2005 GHG emissions inventory provides an important foundation for the CAP, providing the basis for an emissions back-cast to 1990 to serve as the reference year from which the City’s target to reduce per capita emissions 80 percent below 1990 levels by 2030 has been developed. Approximately 8.8 MT of CO<sub>2</sub>e per person (637,518.7 MT of CO<sub>2</sub>e total) were emitted in Chico in 2005. The 2017 inventory also provided the basis for the GHG emissions forecast, against which progress toward the City’s 2030 target can be measured. Approximately 5.07 MT of CO<sub>2</sub>e per person (466,366.2 MT of CO<sub>2</sub>e total) were emitted in Chico in 2017. GHG emissions in the 2005 and 2017 inventories were emitted from the residential and commercial energy, transportation, and waste sectors. The residential and commercial energy sector represents emissions that result from electricity and natural gas used in both private and public sector buildings and facilities. The transportation sector includes emissions from gasoline and diesel sales within the City. The transportation sector was the largest contributor to Chico’s GHG emissions in both 2005 and 2017, followed by energy and waste. Table 1 provides the Chico community GHG emissions in 2017 by sector as well as each sector’s percentage of communitywide emissions.

**Table 1 Chico 2017 Communitywide GHG Emissions by Sector**

<b>Sector</b>	<b>GHG Emissions (MT of CO<sub>2</sub>e)</b>	<b>Percentage of GHG Emissions</b>
Gasoline Sales	181,031.0	39%
Diesel Sales	101,854.1	22%
Commercial Electricity	32,657.6	7%
Residential Electricity	30,757.0	7%
Commercial Gas	31,925.8	7%
Residential Gas	64,768.9	14%
Waste to Landfill	23,371.8	5%
<b>Total</b>	<b>466,366.2</b>	<b>100%</b>
<b>Population</b>	<b>92,022</b>	<b>N/A</b>
<b>Per Capita Emissions (MT of CO<sub>2</sub>e/person)</b>	<b>5.07</b>	<b>N/A</b>

MT of CO<sub>2</sub>e = metric tons of carbon dioxide equivalent

As shown in Table 1, the largest sectors of GHG emissions are related to transportation (specifically gasoline and diesel sales) and building energy use (specifically residential and commercial electricity and natural gas use). As part of the CAP Update, Chico is committed to a per capita emissions reduction target of 80 percent below 1990 levels by 2030 and an interim target of 73 percent below 1990 levels by 2025. This 2030 GHG emissions goal is selected to be consistent with SB 32 State emissions targets and BCAG regional passenger vehicle emissions targets, to be consistent with CEQA for a qualified GHG emissions reduction strategy, and to be achievable by City-supported measures identified in the CAP Update. The CAP Update includes a business-as-usual (BAU) forecast of GHG emissions, based on the 2017 inventory, that will enable the City of Chico to estimate the amount of emissions reductions needed to meet its per capita reduction targets.

The CAP Update includes measures to make residential, commercial, and municipal buildings more energy efficient and increase the amount of locally produced renewable energy. It recommends development patterns that reduce urban sprawl and emphasize complete streets that allow people to go about their business on foot, by bicycle, or via public transportation. It also offers ways to divert organic waste that would otherwise go to landfills. In addition, the CAP update includes measures to increase urban greenspace and trees for carbon sequestration and to provide community education and outreach regarding the CAP and local sustainability efforts. Table 2 includes a complete list of the CAP Update measures and descriptions of respective supporting actions as well as anticipated annual GHG reductions by 2030.

**Table 2 Chico CAP Update Measures and Actions**

ID #	Measure and Respective Supporting Actions	Anticipated GHG Emissions Reduction (MT of CO <sub>2</sub> e)
<b>Measure E-1</b>	<b>Procure Carbon-Free Electricity for the Community Through a CCA by 2024 and Maintain Opt-Out Rates of 5% for Residential and 15% for Commercial Through 2030 and 2045</b>	
Action E-1-1	<b>Provide carbon neutral electricity to the community:</b> Procure carbon neutral electricity for the community through Butte Choice Energy Community Choice Aggregation (CCA), in accordance with the ordinance authorizing the implementation of a CCA Program through a Joint Powers Agreement with Butte County, amending Title 15 of the Municipal Code. Automatically enroll community and municipal accounts in the 100% renewable energy option by 2024 (or as market conditions prove favorable) with an opt-out option	2030: 39,170 2045: 0
Action E-1-2	<b>Partner with Butte Choice Energy to conduct community outreach and track opt-out rates:</b> Work with Butte Choice Energy to conduct targeted community outreach with the aim of maintaining low opt-out rates (5% or less for residential accounts and 15% or less for commercial accounts). Track opt-out rates through Butte Choice Energy and share results publicly on an annual basis.	Supportive
<b>Measure E-2</b>	<b>Eliminate Natural Gas in All New Building Construction Starting in 2025 to Reduce Natural Gas 6% by 2030 and 16% by 2045 Compared to the Adjusted Forecast</b>	
Action E-2-1	<b>Require new construction to be all-electric:</b> Adopt a new ordinance which bans the installation of natural gas in new residential and commercial construction by 2025 if not already required by the State’s 2025 cycle update to the Building Energy Efficiency Standards (California Code of Regulations Title 24, Parts 6 and 11). The ordinance will only apply for building types where electrification is shown to be cost-effective. Implementation will consist of the following: <ol style="list-style-type: none"> <li>1. Engage and educate the community and stakeholders</li> <li>2. Conduct a Cost-effective study</li> <li>3. Develop and draft the new building ordinance for public process and revisions</li> <li>4. Formally adopt the new building ordinance</li> <li>5. Apply to the California Energy Commission for final ordinance approval</li> </ol>	2030: 6,730 2045: 19,560

ID #	Measure and Respective Supporting Actions	Anticipated GHG Emissions Reduction (MT of CO <sub>2</sub> e)
Measure E-3	<p><b>Electrify Existing Residential Buildings Starting in 2027 to Reduce Overall Residential Natural Gas Consumption to 100 Therms/Person by 2030 and 30 Therms/Person by 2045</b></p>	
Action E-3-1	<p><b>Electrify existing residential buildings:</b> If not already required by the State’s Building Energy Efficiency Standards (California Code of Regulations Title 24, Parts 6 and 11), adopt an electrification ordinance for existing residential buildings to transition natural gas to electric in two phases, to be implemented through the building permit process.</p> <p>PHASE I: Limit expansion of natural gas lines in existing buildings by 2025.</p> <p>PHASE II: Require HVAC system replacements and hot water heaters replacements to be all-electric by 2027.</p> <p>Implementation will consist of the following:</p> <ol style="list-style-type: none"> <li>1. Engage and educate the community and stakeholders</li> <li>2. Conduct a Cost-effective study</li> <li>3. Develop and draft the new building ordinance for public process and revisions</li> <li>4. Formally adopt the new building ordinance</li> <li>5. Apply to the California Energy Commission for final ordinance approval</li> </ol>	<p>2030: 13,47020</p> <p>2045: 50,36049</p>
Action E-3-2	<p><b>Update RECO to support electrification :</b> Expand the City’s Residential Energy Conservation Ordinance (RECO), Title 16 of the Municipal Code, to cover substantial remodels (over 50%). Amend RECO to require electrification and/or energy conservation improvements for substantial remodels (over 50%) in the same way that RECO currently requires these types of upgrades upon transfer/sale of homes and apartments. The amendment will include electrification options such as installation of a 200 amp panel and/or installation of electric heat pump appliances for HVAC and hot water heaters as well as the option to go beyond the base requirements for energy conservation set forth in the State’s Building Energy Efficiency Standards (California Code of Regulations Title 24, Part 6).</p>	
Action E-3-3	<p><b>Electrify municipal buildings:</b> Adopt decarbonization plan to decarbonize municipal buildings by 2045. This plan would include a new building electrification policy as well as an existing building natural gas phase-out policy. Decarbonization of municipal buildings will be driven by the PG&amp;E Sustainable Solutions Turnkey Program, which aims to achieve net neutrality in electricity usage by 2030, and work towards full decarbonization by 2045.</p>	<p>2030: 460</p> <p>2045: 1,150</p>
Action E-3-4	<p><b>Perform an electrification feasibility study:</b> Conduct a feasibility study/existing building analysis to understand the costs associated with electrifying existing residential and commercial buildings in the City of Chico.</p>	<p>Supportive</p>
Action E-3-5	<p><b>Track electrification progress:</b> Develop a permit tracking program for existing building electrification to track annual progress in achieving the City’s electrification goals.</p>	<p>Supportive</p>

ID #	Measure and Respective Supporting Actions	Anticipated GHG Emissions Reduction (MT of CO <sub>2</sub> e)
Action E-3-6	<p><b>Identify and partner with stakeholders to conduct electrification outreach, promotion, and education:</b> Leverage partnerships with stakeholders to conduct outreach, promotion, and education around new and existing building electrification, including:</p> <ul style="list-style-type: none"> <li>▪ Induction/electric stove cooking competition to demonstrate the competitiveness of electric stoves for replacing gas stoves</li> <li>▪ Information sessions/events that educate the public on safety concerns around gas stoves and health/cost benefits of replacing water heaters and space heaters with electric heat pumps</li> <li>▪ Develop financial and technical resources, including hosting workforce development trainings for installers and building owners/operators to discuss benefits and technical requirements of electrification and move towards all-electric requirements</li> <li>▪ Conduct internal trainings with planners and building officials on state decarbonization goals and incentives available for electric homes</li> <li>▪ Establish a comprehensive, coordinated electrification education campaign for property owners and occupants, including an updated list of rebates and incentives available for residents wanting to electrify their homes</li> </ul>	Supportive
Action E-3-7	<p><b>Partner with stakeholders to develop resident-level funding pathways for implementing electrification ordinance:</b> Leverage partnerships with stakeholders and establish funding pathways to ease community members' costs when complying with an electrification ordinance or meeting State standards, including:</p> <ul style="list-style-type: none"> <li>▪ Investigation of a transfer tax rebate for electric panels and/or other upgrades</li> <li>▪ Partner with PG&amp;E, Butte Choice Energy, and/or other stakeholders to create or expand electrification/retrofit programs and incentives, especially for low-income residents. These could include the PACE program, PG&amp;E's low-income weatherization program, tariffed on-bill financing, metered energy efficiency, or others.</li> </ul>	Supportive
<b>Measure E-4</b>	<b>Increase Generation and Storage of Local Renewable Energy</b>	
Action E-4-1	<p><b>Coordinate with stakeholders to provide local energy generation support and incentives for the community:</b> Partner with PG&amp;E and/or other stakeholders to support and incentivize local on-site energy generation and storage resources within the community with a focus on underserved communities. This could include a co-located community solar and storage project.</p>	Supportive
Action E-4-2	<p><b>Streamline battery storage building permit requirements:</b> Coordinate City departments to establish and streamline battery storage building permit requirements to allow for easier implementation of these technologies within the community.</p>	Supportive
Action E-4-3	<p><b>Conduct an energy generation feasibility study:</b> Conduct a feasibility study through the PG&amp;E Sustainable Solutions Turnkey (SST) program to assess cost and applicable locations for installation of battery back-up systems, generators, or a micro-grid throughout the City. Engage with the community to determine how local energy generation systems can support community infrastructure as well as critical public infrastructure</p>	Supportive



ID #	Measure and Respective Supporting Actions	Anticipated GHG Emissions Reduction (MT of CO <sub>2</sub> e)
Action E-4-4	<p><b>Install renewable energy technology at municipal facilities:</b> Implement the comprehensive PG&amp;E Sustainable Solutions Turnkey Program to install renewable energy technology at municipal facilities. Key energy conservation measures include:</p> <ul style="list-style-type: none"> <li>▪ Increasing backup generation capacity and adding battery storage at City facilities</li> <li>▪ Upgrading aeration systems at the Wastewater Treatment Plan to reduce energy consumption by 11%</li> <li>▪ Upgrading and automating all City HVAC systems</li> <li>▪ Installing solar PV at the Municipal Services Parking Lot to create 290 kW energy savings</li> <li>▪ Replacing aging 1MW solar PV system at the Wastewater Treatment Plan, and adding an additional 738 kW of solar PV within the existing footprint to create a total of 1.75 MW energy savings</li> <li>▪ Updating City-operated irrigation control system design and development City-wide.</li> </ul>	Supportive
<b>Measure T-1</b>	<b>Improve Active Transportation Infrastructure to Achieve Greater Than 6% Bicycle Mode Share by 2030 and 12% Bicycle Mode Share by 2045</b>	
Action T-1-1	<p><b>Implement Chico Bicycle Master Plan:</b> Implement the Chico Bicycle Plan 2019 Update in accordance with the Plan’s goals, objectives, and policies. Implementation of the Plan may include:</p> <ul style="list-style-type: none"> <li>▪ Adding additional miles to the bikeway network</li> <li>▪ Implementing new end-of-trip facilities and enforcement protocols to reduce bicycle theft</li> <li>▪ Conducting road repairs and road maintenance</li> <li>▪ Improving/expanding wayfinding, safety, and comfort</li> <li>▪ Integrating with transit and other transport modes</li> <li>▪ Conducting promotion and education around biking in Chico</li> <li>▪ Identifying and competing for funding sources</li> </ul>	<p>2030: 1,530</p> <p>2045: 1,500</p>
Action T-1-2	<p><b>Require shaded and convenient bike parking:</b> Require shaded Park-a-Bike style rack or equivalent when installing bike parking in new developments.</p>	Supportive
Action T-1-3	<p><b>Require major road upgrades to include bicycle infrastructure:</b> Require major road upgrades to include bicycle infrastructure and its maintenance unless a significant cost/feasibility issue is shown. Update Title 18 Standard Details on each roadway section type to include the applicable bikeway modifications such as Type II lanes and buffered bikeway.</p>	Supportive
Action T-1-4	<p><b>Perform a street/intersection study:</b> Conduct a street/intersection study to identify streets and intersections that can be improved for pedestrians and bicyclists through traffic calming measures and/or where multi-use pathway opportunities exist to increase active transportation.</p>	Supportive

ID #	Measure and Respective Supporting Actions	Anticipated GHG Emissions Reduction (MT of CO <sub>2</sub> e)
Action T-1-5	<p><b>Complete an Active Transportation Plan:</b> Develop and implement an Active Transportation Plan (consistent with the General Plan) that identifies funding strategies and policies for development of pedestrian, bicycle, and other modes of alternative transportation projects. Work with the City’s bike/ped working group to identify high priority areas. Example improvements include:</p> <ul style="list-style-type: none"> <li>▪ Pave shoulders of streets that have high traffic counts</li> <li>▪ Separate bike lanes from motor traffic with concrete bumper blocks or better</li> <li>▪ Establish a safe east-west connection over highway 99</li> </ul>	Supportive
Action T-1-6	<p><b>Identify and partner with stakeholders to conduct outreach, promotion, and education:</b> Leverage partnerships with stakeholders to conduct ongoing outreach, promotion, and education around active transportation in Chico. This could include:</p> <ul style="list-style-type: none"> <li>▪ Establishing City-wide events or programs that promote active transportation in the community</li> <li>▪ Regularly updating the City’s Bicycle and Pedestrian Network Map and sharing through City and stakeholder partnership platforms</li> <li>▪ Supporting Chico Velo in hosting workshops and classes on bike riding, safety, and maintenance by certified instructors</li> <li>▪ Instituting car-free days downtown, potentially coupled with Farmer’s Market or other large and regular events</li> <li>▪ Consolidating a list of local employer-provided bicycle parking, lockers, showers, and incentives as a demonstration tool for other interested employers</li> </ul>	Supportive
Action T-1-7	<p><b>Create a Bike/Ped/Parking Coordinator Position:</b> Create a Bike/Ped/Parking Coordinator position for the City to ensure implementation of active and shared mobility measures.</p>	Supportive
<b>Measure T-2</b>	<b>Improve EV Infrastructure to Achieve Greater Than 23% EV Share of Car Registrations by 2030, and 90% by 2045</b>	
Action T-2-1	<p><b>Increase privately owned EV charging infrastructure:</b> If not already required by the State’s Building Energy Efficiency Standards, consistent with the Final Butte PEV Readiness Plan, amend the City’s Building Code by 2023 to require the following:</p> <ul style="list-style-type: none"> <li>▪ EV capable private garages for new single-family and duplex residential development</li> <li>▪ 20% EV charging capable spaces and panel capacity for new multi-family residential development</li> <li>▪ 20% EV charging capable spaces for new commercial development</li> <li>▪ At least 1% working EV charging spaces for all new development and major retrofits</li> </ul>	<p>2030: 28,620</p> <p>2045:105,500</p>
Action T-2-2	<p><b>Increase publicly accessible EV charging infrastructure:</b> Work with public and private partners to ensure there are at least 942 publicly accessible DCFC and Level 2 EV chargers with the City’s Sphere of Influence, with a focus on providing access to low-income households and affordable housing by 2030. Prioritize locations based on analysis in the Final Butte PEV Readiness Plan.</p>	

ID #	Measure and Respective Supporting Actions	Anticipated GHG Emissions Reduction (MT of CO <sub>2</sub> e)
Action T-2-3	<b>Increase City-owned EV charging infrastructure:</b> Install new publicly accessible EV chargers at City-owned facilities. Develop and implement a fee for use of City-owned chargers to encourage efficient use and turnover, especially for those without home charging capability. Allocate parking fee revenue towards projects that support EV infrastructure, alternative fuel projects, and active transportation projects.	
Action T-2-4	<b>Identify and partner with stakeholders to develop ZEV-related rebates:</b> Investigate partnerships with public and private stakeholders to develop rebates on at-home electric circuits, panel upgrades, and Level 2 chargers.	Supportive
Action T-2-5	<b>Encourage EV adoption and infrastructure improvements:</b> Conduct outreach, promotion, and education to encourage EV adoption and infrastructure improvements. This could include the following: <ul style="list-style-type: none"> <li>▪ Providing education and outreach to the community on the benefits of ZEVs, availability of public charging, and relevant rebates and incentives available for businesses and residents</li> <li>▪ Working with major employers (e.g., CSUC, Fifth Sun, Build.com, Enloe) to provide EV charging for employees and encourage EV adoption among employees</li> </ul>	Supportive
Action T-2-6	<b>Establish electrical and technical standards for electric vehicle supply equipment (EVSE).</b> EVSE standards to be established include construction of equipment, wiring methods, and safety protection, consistent with the California Electrical Code and the Underwriter’s Laboratories guidance on EVSE.	Supportive
Action T-2-7	<b>Establish universal EV signage:</b> Establish universal signage and marking requirements for EV parking spaces.	Supportive
Action T-2-8	<b>Streamline the EVSE permitting and inspection processes:</b> Streamline both the EVSE permitting and inspection processes, which may include: <ul style="list-style-type: none"> <li>▪ Prioritizing EVSE permitting for faster turnaround times</li> <li>▪ Establishing flat fees for standard installations</li> <li>▪ Enabling homeowners and licensed contractors to submit EVSE permit applications online</li> <li>▪ Allowing EVSE across different zoning classifications</li> <li>▪ Considering simple EVSE installations as exempt from CEQA on a case-by-case basis</li> <li>▪ Allowing installation of EVSE as a mitigation measure for large projects</li> <li>▪ Condensing inspections for more complex installations that do not include panel upgrades or underground conduit</li> <li>▪ Establishing a 24-hour flexible inspection request program online</li> <li>▪ Providing shorter inspection windows</li> <li>▪ Removing requirement for electrician to be present during inspection to decrease consumer costs</li> </ul>	Supportive
Measure T-3	<b>Improve Shared Mobility and Transit Programs and Infrastructure</b>	

ID #	Measure and Respective Supporting Actions	Anticipated GHG Emissions Reduction (MT of CO <sub>2</sub> e)
Action T-3-1	<p><b>Partner with BCAG to improve and expand transit within the City:</b> This could include:</p> <ul style="list-style-type: none"> <li>▪ Expanded transit service, especially along transit priority corridors, and more frequent and reliable transit service. More frequent transit can begin to act as a shuttle, especially since downtown employees and CSUC students and faculty are eligible for free transit passes</li> <li>▪ Improved and/or more efficient transit technology</li> <li>▪ Improved service/communication through interactive service maps, app payments, and real time arrival info</li> <li>▪ Increased active transportation access to transit stops</li> <li>▪ Enhanced, comfortable stops and stations</li> <li>▪ Education and outreach to the community on new and existing shared transit options</li> <li>▪ Subsidized transit passes</li> <li>▪ New electric hop-on hop-off trolley service through major points of interest (e.g., downtown, Bidwell Park, Bidwell Mansion, Sierra Nevada, fair grounds, Chico State)</li> </ul>	Supportive
Action T-3-2	<p><b>Prepare for shared bike programs:</b> Conduct an active transportation share (e.g., bike-share, scooter-share) feasibility study. Update municipal ordinances to prepare the City for shared mobility programs in accordance with the Bicycle Master Plan and the Downtown Access Plan. Consider starting a bike share pilot program in Downtown, ideally with docked e-bikes.</p>	Supportive
Action T-3-3	<p><b>New employer trip reduction programs:</b> Implement General Plan Action CIRC 9.1.2 to reduce single occupancy vehicle trips associated with work commutes. As a condition of project approval, require new non-residential projects that will employ more than 100 people to submit a Travel Demand Management Plan that identifies strategies to reduce single-occupancy vehicle trips, including encouraging employers to provide transit subsidies, bicycle facilities, alternative work schedules, telecommuting and preferential parking for carpool/vanpools.</p>	Supportive
Action T-3-4	<p><b>Conduct a transportation equity study:</b> Partner with CSUC to conduct a transportation equity study to investigate current barriers for minority, low-income, and senior populations in disadvantaged communities to take transit, walk, bike, use rideshare, or carshare.</p>	Supportive
Action T-3-5	<p><b>Conduct a local transportation survey:</b> Support BCAG in conducting local transportation surveys every five years to better understand the community's needs and motivation for traveling by car versus other alternatives such as by bike or bus. Use survey results to inform transit expansion and improvement projects.</p>	Supportive
Action T-3-6	<p><b>Encourage and facilitate carsharing services:</b> Perform ongoing outreach to carsharing companies about the potential to implement a carsharing program in Chico, preferably electric.</p>	Supportive
Action T-3-7	<p><b>Encourage use of local transit:</b> Promote use of B-Line for Downtown transit especially. This could include bus open houses and promotion of DoubleMap app</p>	Supportive

ID #	Measure and Respective Supporting Actions	Anticipated GHG Emissions Reduction (MT of CO <sub>2</sub> e)
Action T-3-8	<b>Invest in TDM strategies:</b> In accordance with the Downtown Access Plan, designate and use a portion of paid parking revenue to invest in TDM strategies including Actions T-3-1 to T-3-7 that will ensure cost-effective Downtown access by improving transit, bicycle facilities, and create incentives for people to avoid driving	Supportive
<b>Measure T-4</b>	<b>Implement Parking and Curb Management Procedures that Support the Mode Shift Goals of the Overall Transportation Strategy</b>	
Action T-4-1	<b>Utilize dynamic parking pricing Downtown:</b> In accordance with the Downtown Access Plan, utilize dynamic pricing for Downtown area parking, increasing costs of parking during times of high usage and special events.	Supportive
Action T-4-2	<b>Improve curbside management:</b> Improve curbside management in accordance with the Downtown Access Plan. This may include updating the Municipal Code to require active loading only, prohibit double parking, define locations for additional loading zones, and design loading zone signage.	Supportive
Action T-4-3	<b>Encourage parklets downtown:</b> Identify opportunities for development of parklets throughout the City's Downtown, to replace parking spaces with bike parking or outdoor restaurant seating.	Supportive
Action T-4-4	<b>Establish carpool/vanpool/shuttle parking minimums:</b> Update the Zoning Code to establish minimums for carpool/vanpool/shuttle parking requirements in new non-residential development.	Supportive
<b>Measure T-5</b>	<b>Support Implementation of the City's General Plan that Promotes Sustainable Infill development and Mixed-use development in New Growth Areas to Reduce Vehicle Miles Traveled (VMT)</b>	
Action T-5-1	<b>Support infill growth:</b> Continue to support infill growth and thoughtful mixed-use development in new growth areas consistent with the Chico 2030 General Plan and the regional Sustainable Communities Strategy.	Supportive
<b>Measure W-1</b>	<b>Update Waste Hauler Franchise Agreements to Implement Requirements of SB 1383 and Achieve 75% Reduction Below 2014 Levels in Organic Waste to 0.4 Tons of Waste/Person by 2025 and Maintain Through 2045</b>	
Action W-1-1	<b>Require residential and commercial organic waste collection through updated waste hauler contracts:</b> Update waste hauler contracts to include expanded organic waste collection. Pass an ordinance by 2022 requiring residential and commercial organics generators to subscribe to organics collection programs or alternatively report organics self-hauling and/or backhauling. Allow limited waivers and exemptions to generators for de minimis volumes and physical space constraints and maintain records for waivers/exemptions	2030: 7,693 2045: 7,693
Action W-1-2	<b>Require edible food recovery:</b> Adopt an edible food recovery ordinance or similarly enforceable mechanism to ensure edible food generators, food recovery services, and food recovery organizations comply with State requirements to increase recovery rates.	Supportive
Action W-1-3	<b>Partner with North State Rendering to expand use of the digester:</b> Work with North State Rendering to expand use of organics in the digester. Conduct a pilot to demonstrate effectiveness and identify funding sources for a larger expansion.	Supportive

ID #	Measure and Respective Supporting Actions	Anticipated GHG Emissions Reduction (MT of CO <sub>2</sub> e)
Action W-1-4	<p><b>Conduct capacity planning for organic waste collection:</b> Engage in organic waste collection capacity planning by executing the following:</p> <ul style="list-style-type: none"> <li>▪ Estimate Chico’s disposal of organic waste in tons</li> <li>▪ Identify and verify amount of available organics waste recycling infrastructure</li> <li>▪ Estimate the amount of new or expanded capacity needed to process organic waste</li> <li>▪ Work with the City of Chico’s Recycling and Solid Waste Division and waste haulers to coordinate organic waste delivery to Recology’s Oroville Transfer Station and Ostrom Road organics facility</li> <li>▪ Develop and submit an implementation schedule highlighting planning effort to provide enough new or expanded organics capacity, including timelines and relevant milestones by the end of the report period</li> <li>▪ Identify proposed new or expanded facilities that could be used for additional capacity</li> </ul>	Supportive
Action W-1-5	<p><b>Conduct capacity planning for edible food recovery:</b> Engage in edible food recovery capacity planning by executing the following actions:</p> <ul style="list-style-type: none"> <li>▪ Estimate the amount of edible food that will be disposed by organics generators in Chico</li> <li>▪ Work with commercial food generators to reduce excess edible food generation</li> <li>▪ Work regionally to establish a full list of food recovery organizations that can receive edible food from Chico businesses</li> <li>▪ Identify proposed new or expanded food recovery capacity</li> <li>▪ Identify the minimum capacity required to recover 20% of edible food that is estimated to be disposed</li> <li>▪ If existing and planned capacity is insufficient based on the above process, the City of Chico must develop and submit an implementation schedule highlighting the planning effort to provide enough new or expanded capacity for increasing edible food donations and identify proposed new or expanded facilities to be used to for additional capacity</li> </ul>	Supportive
Action W-1-6	<p><b>Develop and implement a partnered education and outreach program:</b> Update waste hauler contracts and partner with stakeholders (e.g., Recology, CSUC, Chico State, BEC) to develop and implement an education and outreach program around SB 1383:</p> <ul style="list-style-type: none"> <li>▪ Coordinate with Recology’s education and outreach personnel to expand on existing community outreach</li> <li>▪ Conduct outreach and education at schools on composting, recycling, and waste reduction</li> <li>▪ Provide education to the community on home composting techniques</li> <li>▪ Inform organics generators/edible food generators on requirements to properly separate materials, organic waste prevention and on-site recycling, methane reduction benefits of composting, and information related to edible food donation</li> <li>▪ Hold a compost give-away event for Chico residents</li> <li>▪ Identify percentage of organics generators who are “limited English-Speaking households” or “linguistically isolated.” If more than five percent (5%) of Chico’s organics generators are defined as “limited English-speaking households” or linguistically isolated,” provide education and outreach in a language or languages that will assure the information is understood by that community</li> </ul>	Supportive

ID #	Measure and Respective Supporting Actions	Anticipated GHG Emissions Reduction (MT of CO <sub>2</sub> e)
Action W-1-7	<b>Develop and implement an inspection and compliance program:</b> Update waste hauler contracts to implement an inspection and compliance program for the edible food recovery program and organics procurement program with defined enforcement mechanisms and penalties, to begin prior to 2024. Maintain records of compliance in accordance with SB 1383.	Supportive
<b>Measure S-1 Increase Carbon Sequestration by Increasing urban Canopy Cover at Least 10% by 2030 Through New Greenscaping Programs</b>		
Action S-1-1	<b>Implement Chico’s Urban Forest Revitalization Program:</b> Implement the Urban Forest Revitalization Program to plant 700 trees by March 2022 (adopted) and 4,500 trees by 2030 (new goal). Focus on areas of the City with low tree canopy cover based on canopy map and optimize carbon sequestration through management of the existing urban forest.	2030: 260 2045: 260
Action S-1-2	<b>Increase greenspace in Chico:</b> Identify and participate in partnership opportunities necessary to convert public and private spaces into water efficient greenspace and increase the City’s carbon sequestering greenspace by 2030.	Supportive
Action S-1-3	<b>Improve greenspace management to maximize carbon sequestration:</b> Improve management of public open space and park lands, including use of compost, to maximize carbon sequestration. Through permit review, evaluate and ensure that landscaping plans utilize native species identified in the Urban Forest Management Plan where feasible.	Supportive
Action S-1-4	<b>Require shade trees in new major developments:</b> Require new development to include shade trees for enhanced energy savings, provided it would not interfere with solar installation. Tree species and location would be determined in coordination with the City’s Urban Forester. Street tree planting shall also be required for all new single-family subdivisions	Supportive
<b>Measure S-2 Develop and Implement the urban Forest Master Plan</b>		
Action S-2-1	<b>Develop, adopt and implement the urban Forest Master Plan:</b> Create an actionable strategic plan for the City’s urban forest that will guide it to its vision of a healthy, robust and resilient urban forest over the next 40 years. The plan shall include sections on work programs, policies, ordinances, sustainable urban forest management, design, planting, staffing, stewardship, carbon offset, storm water management, creek, open space and natural resource management, public tree inventory, and community participation and education.	Supportive
Action S-2-2	<b>Conduct a canopy cover analysis:</b> Conduct a tree canopy coverage analysis that includes all trees within the city limits, including public and private property trees, open space, natural resources area, creek and riparian areas, and golf courses. The resulting study should provide information on the number of trees and tree density on all identified areas and provide analysis if trees are equitably distributed throughout the city and present a clear picture on where city should strategically invest resources.	Supportive

ID #	Measure and Respective Supporting Actions	Anticipated GHG Emissions Reduction (MT of CO <sub>2</sub> e)
Action S-2-3	<p><b>Conduct citywide tree planting analysis:</b> Conduct a tree planting analysis to gain a better understanding of the urban forest’s overall condition. The resulting information should be used to develop management recommendations associated with tree removal, tree planting, trimming cycle adjustments and related maintenance activities. Additionally, the results of this analysis should be used to develop a list of recommended tree species that will be suitable for the city’s current environmental conditions as well as anticipated conditions caused by climate change.</p>	
<b>Measure O-1</b>	<b>Conduct a wholistic community outreach and education program to optimize CAP implementation</b>	
Action O-1-1	<p><b>Conduct partnered community outreach and education:</b> Develop a plan for ongoing community outreach strategies to maintain education and promotion of the CAP. This includes regular maintenance of the City’s CAP webpage and ongoing PR, working with CUSD to create K-12 lesson plans, and partnering with CSUC and non-profits.</p>	Supportive

Note: MT of CO<sub>2</sub>e = metric tons of carbon dioxide equivalent  
Source: Compiled by Rincon based on information contained in the Chico Draft CAP Update.

The measures included in the CAP Update (shown above in Table 2), combined with Statewide legislation, will enable Chico to meet its per capita GHG emissions reduction target of 80 percent below 1990 levels by 2030 and the interim target of 73 percent below 1990 levels by 2025. Table 3 shows the contribution of the Statewide initiatives in conjunction with the CAP Update measures to reduce Chico projected total emissions in 2030.

**Table 3 Chico 2030 GHG Reduction Target by Sector**

State Initiative	Sector	2030 Reduction in per Capita Emissions (MT of CO <sub>2</sub> e/person)	2030 Reduction in Total Emissions (MT of CO <sub>2</sub> e)
Advanced Clean Cars Program	On-road Transportation	1.06	113,662
Renewable Portfolio Standard	All electricity	0.26	28,021
Title 24	Residential Energy	0.01	1,282
A. Total State Initiative Emissions Reductions		1.33	142,965
B. Total CAP Update Emissions Reductions		0.91	97,931
C. Total Expected Emissions Reductions (A+B)		2.24	240,896
D Chico Emissions Reduction Requirement		2.24	240,896
E. Meets/exceeds State Goals? (C > D)		Yes	Yes
MT of CO <sub>2</sub> e = metric tons of carbon dioxide equivalent			

Table 4 shows the 2025 and 2030 GHG emissions and targets for Chico, including the expected emissions once the measures listed in Table 2 are implemented. Figure 3 and



**Figure 4** illustrate, for total and per capita emissions respectively, how the BAU forecast emissions are estimated to increase (in gray), thus widening the emissions reductions needed by 2025 and 2030. Figure 3 and

**Figure 4** also show the adjusted forecast emissions (in blue), after State-level initiatives are accounted for, as well as the emissions target/goal pathway trajectory chosen by the City of Chico (in orange), and the emissions reductions after all State-level actions and Chico CAP Update measures are applied (in green).

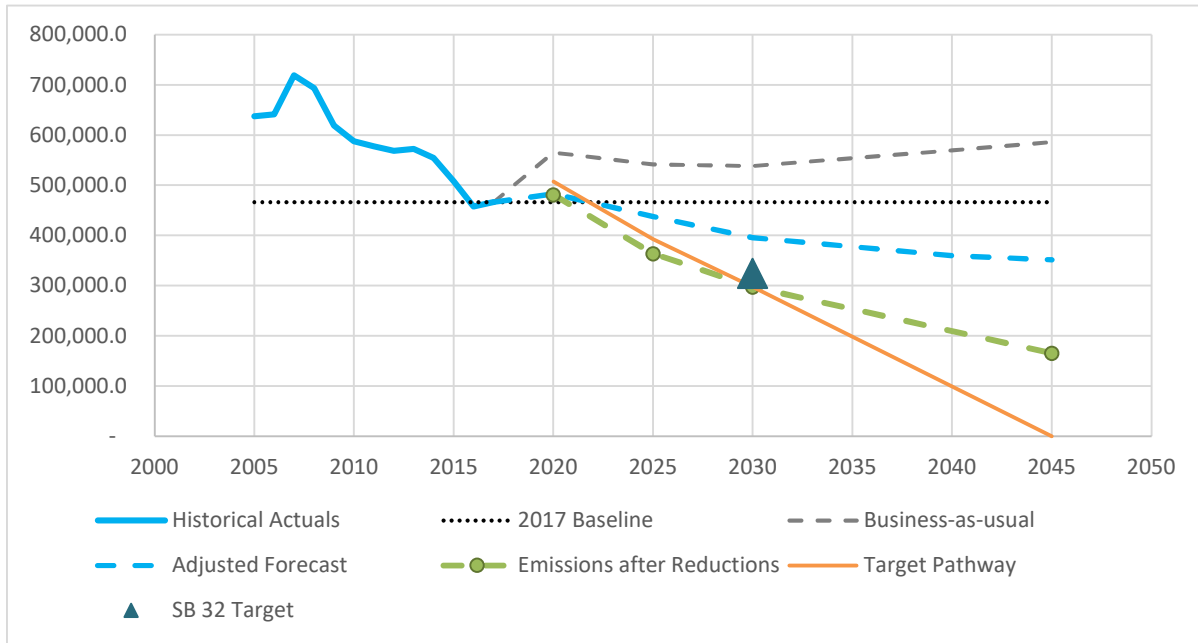
**Table 4 Chico GHG Emissions Projections and Targets**

Description	Emissions (MT of CO <sub>2</sub> e/person)	Emissions (MT of CO <sub>2</sub> e total)
1990 Emissions	13.56	541,891
2025 BAU Emissions	5.04	541,754
2025 Target Emissions (73% below 1990)	3.65	392,528
2025 Expected Emissions with Implementation of CAP Measures and Actions	3.38	363,535
2030 BAU Emissions	5.00	538,282
2030 Target Emissions (80% below 1990)	2.76	297,386
2030 Expected Emissions with Implementation of CAP Measures and Actions	2.76	297,386

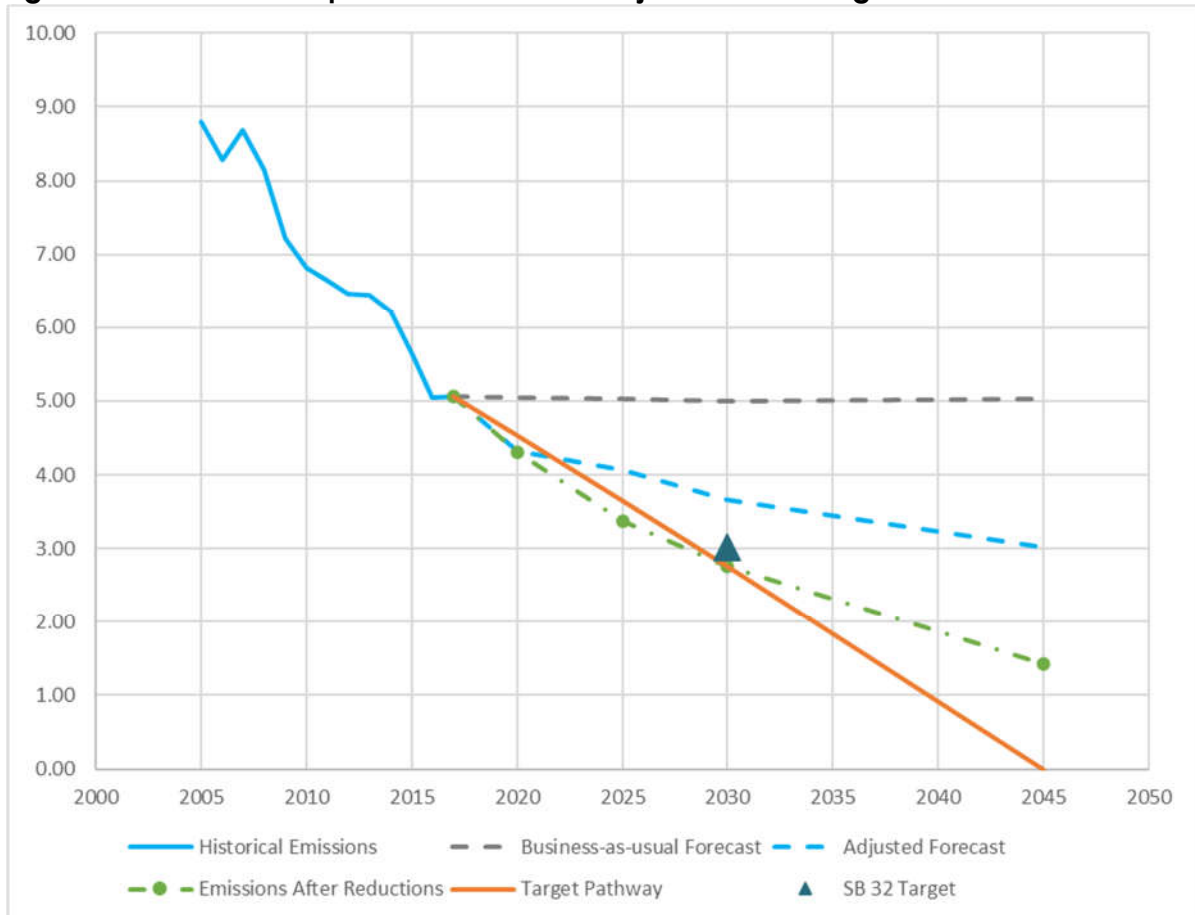
MT of CO<sub>2</sub>e = metric tons of carbon dioxide equivalent

Implementation of the CAP Update measures listed in Table 2 could result in physical changes to the environment that could potentially have an impact on the environment. While individual projects resulting from these measures have not been identified for the purposes of this document, the types of actions that could result from realization of the CAP measures are taken into account in considering potential environmental impacts that could occur through implementation of the CAP Update. For example, projects or actions requiring ministerial approval, such as installation of electric vehicle charging stations and supporting infrastructure, as well as new bicycle or pedestrian facilities, would introduce physical changes related to the temporary presence and operation of construction vehicles and equipment during installation of required facilities and the long-term presence of new facilities such as bike and pedestrian facilities, solar arrays, and electric vehicle charging stations, which could alter pedestrian and vehicular traffic patterns. Future plans or projects requiring discretionary approval would be subject to environmental review under CEQA, and individual impact analyses will identify required plan- or project-specific mitigation measures where applicable.

**Figure 3 Chico Total GHG Emissions Projections and Targets**



**Figure 4 Chico Per Capita GHG Emissions Projections and Targets**



## Cumulative Projects Scenario

For purposes of CEQA cumulative impacts analysis of the Chico CAP Update, the cumulative projects scenario is buildout of the 2030 Chico General Plan . The Chico 2030 General Plan Land Use Element assumes a total of 21,495 housing units and 15,762,360 gross square feet of non-residential development by the horizon year in 2030.<sup>8</sup> In addition, BCAG projects a Chico population of 107,712 persons by 2030.<sup>9</sup>

## Required Approvals

### City of Chico

Required approvals include:

- certification of the CAP Update Initial Study-Negative Declaration; and
- approval of the CAP Update.

Although individual plans or projects may be implemented later under the umbrella of the CAP Update, each individual plan or project would be subject to separate environmental review under CEQA.

### Other Public Agencies

The City of Chico has sole approval authority over the CAP. There are no other public agencies whose approval is required.

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<sup>8</sup> Chico, City of. 2011. Chico 2030 General Plan Land Use Element. Available: <[https://chico.ca.us/sites/main/files/file-attachments/3.\\_land\\_use\\_element\\_updated.pdf?1593458892](https://chico.ca.us/sites/main/files/file-attachments/3._land_use_element_updated.pdf?1593458892)>. Accessed March 29, 2021.

<sup>9</sup> Butte County Association of Governments (BCAG). 2019. Provisional Long-Term Regional Growth Forecasts 2018-2040. Available: <[http://www.bcag.org/documents/demographics/pop\\_emp\\_projections/Growth\\_Forecasts\\_2018-2040\\_draft\\_v2.pdf](http://www.bcag.org/documents/demographics/pop_emp_projections/Growth_Forecasts_2018-2040_draft_v2.pdf)>. Accessed May 26, 2021.

## Environmental Factors Potentially Affected

This project would potentially affect the environmental factors checked below, involving at least one impact that is “Potentially Significant” or “Less than Significant with Mitigation Incorporated” as indicated by the checklist on the following pages.

- |  |   |   |
|--|---|---|
| <input type="checkbox"/> Aesthetics                | <input type="checkbox"/> Agriculture and Forestry Resources | <input type="checkbox"/> Air Quality                        |
| <input type="checkbox"/> Biological Resources      | <input type="checkbox"/> Cultural Resources                 | <input type="checkbox"/> Energy                             |
| <input type="checkbox"/> Geology/Soils             | <input type="checkbox"/> Greenhouse Gas Emissions           | <input type="checkbox"/> Hazards & Hazardous Materials      |
| <input type="checkbox"/> Hydrology/Water Quality   | <input type="checkbox"/> Land Use/Planning                  | <input type="checkbox"/> Mineral Resources                  |
| <input type="checkbox"/> Noise                     | <input type="checkbox"/> Population/Housing                 | <input type="checkbox"/> Public Services                    |
| <input type="checkbox"/> Recreation                | <input type="checkbox"/> Transportation                     | <input type="checkbox"/> Tribal Cultural Resources          |
| <input type="checkbox"/> Utilities/Service Systems | <input type="checkbox"/> Wildfire                           | <input type="checkbox"/> Mandatory Findings of Significance |

## Determination

Based on this initial evaluation:

- I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.
- I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions to the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.
- I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.
- I find that the proposed project MAY have a “potentially significant impact” or “less than significant with mitigation incorporated” impact on the environment, but at least one effect (1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and (2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

- I find that although the proposed project could have a significant effect on the environment, because all potential significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

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Lead Agency Representative Signature

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Date

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Lead Agency Representative Printed Name

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Title

# Environmental Checklist

## 1 Aesthetics

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Have a substantial adverse effect on a scenic vista?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Substantially damage scenic resources, including but not limited to, trees, rock outcroppings, and historic buildings within a State scenic highway?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c. In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from a publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d. Create a new source of substantial light or glare that would adversely affect daytime or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

*1a, 1b, Would the project have a substantial adverse effect on a scenic vista? Would the project substantially damage scenic resources, including but not limited to, trees, rock outcroppings, and historic buildings within a State scenic highway?*

The 2030 General Plan and its Environmental Impact Report (EIR) identify scenic resources within and nearby the City as the Sierra Nevada Foothills to the east of the City, agricultural landscapes, major creeks (e.g., Mud Creek, Sycamore Creek, Lindo Channel [Sandy Gulch], Big Chico Creek, Little Chico Creek, Butte Creek, Dead Horse Slough, and Comanche Creek), and Bidwell Park. Scenic vistas are available from within Bidwell Park and from publicly accessible roadways including Manzanita Avenue, Vallombrosa Avenue, East 8th Street, the Esplanade, Chico Canyon Road, Centennial Avenue, Humboldt Road, Bidwell Avenue, North Park Drive, and South Park Drive.<sup>10,11</sup> The nearest designated California Scenic Highway is California State Route 49, which is approximately 42 miles southeast of Chico and is a north-south state highway that runs through many historic mining communities from the California Gold Rush. The nearest State Route eligible for designation as a

<sup>10</sup> Chico, City of. 2011. Chico 2030 General Plan. Available: <<https://chico.ca.us/post/chico-2030-general-plan>>. Accessed March 29, 2021.

<sup>11</sup> Chico City of. 2010. 2030 General Plan Update Draft Environmental Impact Report. Available: <[https://chico.ca.us/sites/main/files/file-attachments/chicodeir\\_combined\\_noappendices.pdf?157775314](https://chico.ca.us/sites/main/files/file-attachments/chicodeir_combined_noappendices.pdf?157775314)>. Accessed March 29, 2021.

California Scenic Highway is a portion of State Route 70, located approximately 15 miles east of Chico in Plumas County.<sup>12</sup>

As a policy document, the CAP Update would not result in impacts related to scenic vistas and scenic highways. However, implementation of some CAP measures and actions may promote infrastructure development and redevelopment through policies and programs. CAP Measure E-4 and Actions E-4-1 and E-4-4 promote installation of solar PV systems and associated battery energy storage facilities to provide greener renewable electricity within the City. CAP Measure T-1 and Actions T-1-1, T-1-3, and T-1-5 and CAP Measure T-3 and Actions T-3-1 through T-3-3 involve the installation of new bicycle, pedestrian, and public transit infrastructure such as new bike lanes, bike sharing stations in the downtown area, and a new electric trolley service. CAP Measure T-2 and Actions T-2-1 through T-2-3 and Action T-2-5 encourage the installation of electric vehicle charging stations and supporting infrastructure. CAP Actions W-1-4 and W-1-5 may result in new or expanded organic waste recycling facilities. Additionally, CAP Measure S-1 and Actions S-1-1, S-1-2, and S-1-4 facilitate the expansion of greenspace and the planting of native shade trees within the City.

The CAP would promote infrastructure development and redevelopment that is complimentary to existing development and land uses. Though the implementation of the CAP may result in future development, CAP-related projects and actions, including those identified above, would be required to adhere to City development zoning and regulations, including Chico Municipal Code (CMC) Chapter 19.18, which establishes the City's Design Review process, and the City's Design Guidelines Manual.<sup>13</sup> The Design Guidelines Manual establishes criteria for the aesthetic qualities of new development in the city including design, architecture, lighting, and signage.<sup>14</sup> Compliance with the CMC and Design Guidelines Manual would ensure that potential future infrastructure development and redevelopment related to the CAP would be carefully integrated with the existing character of the, minimizing potential aesthetic impacts. In addition, CAP projects or actions would be reviewed for consistency with the General Plan policies related to scenic resources prior to approval. As such, the CAP would not result in adverse impacts related to scenic vistas within the City. Furthermore, given the distance from the nearest eligible and officially designated State scenic highways and the presence of intervening structures and topography, future site-specific CAP projects would not be visible from State Route 49 or State Route 70. Therefore, the CAP Update would not substantially damage scenic resources and historic buildings within a designated or eligible State scenic highway. Therefore, the CAP Update would result in ***less-than-significant impacts*** related to scenic vistas and ***no impact*** to scenic highways.

*1c. In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from a publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?*

The City of Chico is an urbanized area with the following applicable visual character/quality goals and policies from the City General Plan Land Use (LU), Community Design (CD), and Open Space and Environment Elements (OS):

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<sup>12</sup> California Department of Transportation (Caltrans). 2021. California State Scenic Highway System Map. Available: <<https://www.arcgis.com/apps/webappviewer/index.html?id=2e921695c43643b1aaf7000dfcc19983>>. Accessed March 29, 2021.

<sup>13</sup> Chico, City of. 2021. City Municipal Code Chapter 19.18. Available: <[https://codelibrary.amlegal.com/codes/chico/latest/chico\\_ca/0-0-0-1](https://codelibrary.amlegal.com/codes/chico/latest/chico_ca/0-0-0-1)>. Accessed May 18, 2021.

<sup>14</sup> Chico, City of. 2009. City of Chico Design Guidelines Manual. Available: <<https://chico.ca.us/general-plan-other-planning-documents>>. Accessed March 29, 2021.

- **LU 1.2 – Growth Boundaries/Limits:** Maintain long-term boundaries between urban and agricultural uses in the west and between urban uses and the foothills in the east, and limit expansion north and south to produce a more compact urban form.
- **LU 2.4 – Land Use Compatibility:** Promote land use compatibility through use restrictions, development standards, and special design considerations.
- **LU 2.5 – Open Space and Resource Conservation:** Protect open space areas with known sensitive resources.
- **LU 2.6 – Agricultural Buffers:** Require buffering for new urban uses along the City’s Sphere of Influence adjacent to commercial crop production. Landscaping, trails, gardens, solar arrays, and open space uses are permitted within the buffer. Design criteria for buffers are as follows:
  - A minimum 100-foot-wide physical separation, which may include roadways and creeks, between the agricultural use and any habitable structure.
  - Incorporate vegetation, as may be needed to provide a visual, noise, and air quality buffer.
- **LU 3.3 – Neighborhood Services:** Recognize existing neighborhoods and continue to facilitate the development of neighborhood plans in partnership with residents and property owners to preserve and enhance neighborhood character, identity, and livability.
- **CD 1.1 – Natural Features and Cultural Resources:** Reinforce the City’s positive and distinctive image by recognizing and enhancing the natural features of the City and protecting cultural and historic resources.
- **CD 2.4 – Context Sensitive Foothill Development:** Minimize disruption of viewsheds from foothill development, through the careful location and design of roads, buildings, lighting, landscaping and other infrastructure.
- **CD 3.1 – Lasting Design and Materials:** Promote architectural design that exhibits timeless character and is constructed with high quality materials.
- **CD 4.1 – Distinctive Character:** Reinforce the distinctive character of neighborhoods with design elements reflected in the streetscape, landmarks, public art, and natural amenities.
- **OS 2.4 – Visual Resources:** Preserve the foothills as a natural backdrop to the urban form.
- **OS 2.5 – Creeks and Riparian Corridors:** Preserve and enhance Chico’s creeks and riparian corridors as open space for their aesthetic, drainage, habitat, flood control, and water quality values.
- **OS 5.1 – Urban/Rural Boundary:** Protect agriculture by maintaining the Greenline boundary between urban and rural uses.
- **OS 6.1 – Healthy Urban Forest:** Ensure the protection and management of the urban forest.<sup>15</sup>

The CAP Update would not involve land use or zoning changes but would instead promote sustainable infrastructure development and redevelopment through policies and programs. Implementation of some CAP measures related to transportation, renewable energy, and GHG sequestration may result in physical changes that could impact scenic resources. CAP Measure E-4 and Actions E-4-1 and E-4-4 promote installation of solar PV systems and associated battery energy storage facilities to provide renewable electricity within the City. CAP Measure T-1 and Actions T-1-

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<sup>15</sup> Chico, City of. 2011. Chico 2030 General Plan Land Use, Community Design, and Open Space and Environment Elements. Available: <<https://chico.ca.us/post/chico-2030-general-plan>>. Accessed March 29, 2021.



1, T-1-3, and T-1-5 and CAP Measure T-3 and Actions T-3-1 through T-3-3 involve the installation of new bicycle, pedestrian, and public transit infrastructure such as new bike lanes and a new electric trolley service. CAP Measure T-2 and Actions T-2-1 through T-2-3 and Action T-2-5 encourage the installation of electric vehicle supporting infrastructure. Additionally, CAP Measure S-1 and Actions S-1-1, S-1-2, and S-1-4 facilitate the expansion of greenspace and the planting of native shade trees within the City.

Implementation of solar panels and battery storage, introduction of active transportation and public transit infrastructure, and planting additional trees may slightly change the scenic character of the City. However, future CAP-related projects would be located and designed to be complimentary to existing land uses and would be required to adhere to City development zoning and regulations, including the Chico Design Manual Guidelines, that seek to preserve the character of the City and minimize environmental impacts. In addition, CAP Update projects and actions would be reviewed for consistency with the General Plan policies highlighted above and other applicable regulatory land use actions prior to approval. Therefore, the CAP Update would not conflict with applicable zoning and other regulations governing scenic quality and would result in a ***less than significant impact***.

*1d. Would the project create a new source of substantial light or glare that would adversely affect daytime or nighttime views in the area?*

The CAP Update would not involve land use or zoning changes. Rather the CAP Update would promote sustainable infrastructure development and redevelopment that is complimentary to existing development and land uses. As a policy document, the CAP Update would not directly result in impacts related to light and glare. However, implementation of CAP measures E-4, T-1, T-2, T-3, and S-1 may promote new active transportation and public transit infrastructure, solar panels, and tree planting throughout the City, as discussed in *Responses 1a., 1b., and 1c.*, above.

CAP Action E-4-4 includes ten potential programs to increase renewable energy generation, including expanding the existing solar array at the Water Treatment Plant and installing solar panels at municipal facilities. Solar panels have the potential to result in new sources of glare within the City if not thoughtfully designed and located. The design and location of proposed solar infrastructure would be complimentary to existing development in the City, such as the expansion of existing solar arrays and addition of small-scale rooftop solar panels, in order to reduce potential glare impacts. Furthermore, CAP projects and actions would be reviewed for consistency with the CMC, including Section 19.60.050, which establishes exterior lighting standards, and the Design Guidelines Manual.<sup>16</sup> In addition, CAP projects or actions would be reviewed for consistency with the General Plan and other applicable regulatory land use actions prior to approval. Compliance with these regulations would minimize environmental impacts related to light and glare by limiting the use of highly reflective materials and requiring the shielding of exterior lighting. Thus, the CAP would result in a ***less-than-significant impact*** related to light and glare.

## Cumulative Impacts

The cumulative projects scenario is overall General Plan buildout for Chico in 2030. Cumulative impacts related to scenic resources, visual character, and increased light and glare would generally be site-specific, and cumulative projects are not anticipated to contribute to cumulative aesthetic

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<sup>16</sup> Chico, City of. 2021. City Municipal Code Section 19.16.050. Available: <[https://codelibrary.amlegal.com/codes/chico/latest/chico\\_ca/0-0-0-1](https://codelibrary.amlegal.com/codes/chico/latest/chico_ca/0-0-0-1)>. Accessed May 18, 2021.

impacts with adherence to General Plan policies and the Municipal Code. Because of the developed nature of Chico, future infrastructure projects under the CAP, in combination with other cumulative projects anticipated under General Plan buildout, would not adversely impact the visual character of the City. In addition, future development in the City would be required to comply with the City's Design Review process and be reviewed against applicable General Plan policies and City's design standards for design quality and compatibility with adjacent land uses. Therefore, implementation of the CAP Update would result in a ***less-than-significant cumulative impact*** related to aesthetics.

## 2 Agriculture and Forestry Resources

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Conflict with existing zoning for agricultural use or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)); timberland (as defined by Public Resources Code Section 4526); or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d. Result in the loss of forest land or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e. Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

*2a, 2b, 2e. Would the project:*

- *Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?*
- *Conflict with existing zoning for agricultural use or a Williamson Act contract?*
- *Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use?*

The City of Chico is characterized primarily by urban and suburban development; however, the City does contain some areas of active agricultural use. The largest agricultural land use within the City is the Vanella Orchard, which is located on 8th Avenue. There are also several small agricultural

operations and orchards throughout the City.<sup>17</sup> According to the Farmland Mapping and Monitoring Program, the majority of land within the City is classified as urban and built-up land, with five scattered areas mapped as Prime Farmland or Unique Farmland.<sup>18</sup> There are no Williamson Act contracts within the City.<sup>19</sup> Areas of unincorporated Butte County surrounding the City, particularly to the west of the City, are largely agricultural.<sup>19</sup>

The majority of CAP Update measures focus on electrification of buildings, improving active transportation, zero emission vehicle and public transit infrastructure, increasing organic waste diversion, and increasing urban greenspace and trees. These measures would not involve projects or policies that would result in impacts related to conversion or loss of farmland. CAP Measure E-4 seeks to increase generation and storage of local renewable energy. There is the potential for new renewable energy incentives to result if solar panels are placed on agricultural lands. However, the use of solar panels on agricultural land would not preclude continued or future agricultural use and productivity of sites. Furthermore, the CAP Update includes Measure T-5, which supports infill development and the reduction of urban sprawl, which could help to preserve existing agricultural lands within the City and within the agricultural areas adjacent to the City. Therefore, the CAP Update would result in a **less-than-significant impact** related to degradation of agricultural resources or conversion of agricultural land to non-agriculture uses, nor would there be a conflict with existing zoning or general plan land use designations.

*2c, 2d, 2e. Would the project:*

- *Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)); timberland (as defined by Public Resources Code Section 4526); or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?*
- *Result in the loss of forest land or conversion of forest land to non-forest use?*
- *Involve other changes in the existing environment which, due to their location or nature, could result in conversion of forest land to non-forest use?*

The City contains approximately 265 acres of natural areas that are not developed as well as a number of parks and greenways that contain trees.<sup>20,19</sup> However, there are no lands zoned for Timberland Production within the City.<sup>21,22</sup> The CMC Chapter 16.66, Tree Preservation Regulations, establishes policies, regulations and standards necessary to ensure tree protection within the City.<sup>23</sup> In addition, the General Plan contains a number of goals, policies, and actions such as Goal OS-6,

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<sup>17</sup> Chico, City of. 2010. 2030 General Plan Update Draft Environmental Impact Report. Available: <[https://chico.ca.us/sites/main/files/file-attachments/chicodeir\\_combined\\_noappendices.pdf?1577755314](https://chico.ca.us/sites/main/files/file-attachments/chicodeir_combined_noappendices.pdf?1577755314)>. Accessed March 29, 2021.

<sup>18</sup> California Department of Conservation. 2021. California Important Farmland Finder. Available: <<https://maps.conservation.ca.gov/dlrp/ciff/>>. Accessed March 29, 2021.

<sup>19</sup> Chico, City of. 2010. 2030 General Plan Update Draft Environmental Impact Report. Available: <[https://chico.ca.us/sites/main/files/file-attachments/chicodeir\\_combined\\_noappendices.pdf?1577755314](https://chico.ca.us/sites/main/files/file-attachments/chicodeir_combined_noappendices.pdf?1577755314)>. Accessed March 29, 2021.

<sup>20</sup> Chico, City of. 2019. Park and Recreation Master Plan Update. April 21, 2019. Available: <[https://issuu.com/playcard/docs/master-plan\\_packaged-final-issuu](https://issuu.com/playcard/docs/master-plan_packaged-final-issuu)>. Accessed March 30, 2021.

<sup>21</sup> Chico, City of. 2020. Zoning Map. Available: <[https://chico.ca.us/sites/main/files/file-attachments/citywebmap\\_zoning20170901aug2017.pdf?1594054713](https://chico.ca.us/sites/main/files/file-attachments/citywebmap_zoning20170901aug2017.pdf?1594054713)>. Accessed March 30, 2021.

<sup>22</sup> California Department of Fish and Wildlife. n.d. Forests and Timberlands in the California Department of Fish and Wildlife Region 2. Available: <<https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=111178&inline>>. Accessed March 30, 2021.

<sup>23</sup> Chico, City of. 2021. City Municipal Code Chapter 16.66. Available: <[https://codelibrary.amlegal.com/codes/chico/latest/chico\\_ca/0-0-0-1-](https://codelibrary.amlegal.com/codes/chico/latest/chico_ca/0-0-0-1-)>. Accessed May 18, 2021.

provide a healthy and robust urban forest, that illustrate the City's commitment to managing and preserving Chico's urban forest.<sup>24</sup> The CAP Update aligns with the General Plan by including measures and actions that emphasize the maintenance and expansion of the urban forest and greenspaces within Chico, as well as the control of suburban sprawl that could encroach upon agricultural and forest lands surrounding the City. CAP Measure S-1 and Actions S-1-1 through S-1-4 facilitate the implementation of an urban forest revitalization program and increasing greenspace and native trees throughout the City.

As such, the CAP Update would increase planting of trees within the City and be consistent with the City's Tree Preservation Regulations. Furthermore, the CAP Update seeks to increase trees within the City for the purposes of carbon sequestration and shading. The CAP Update does not include measures that would result in the loss of forest land or the conversion of forest land to non-forest use, nor would it conflict with or cause the rezoning of forest, timber land, or Timberland Production areas. Therefore, the CAP would result in a **no impact** related to degradation of forestry resources or conversion of forest land to non-forest uses, nor would there be a conflict with existing zoning or general plan land use designations.

### Cumulative Impacts

The cumulative projects scenario is overall General Plan buildout for Chico in 2030. As the City's population grows and development intensifies in the future, in combination with other cumulative projects anticipated under General Plan buildout, CAP Measure T-5 would guide the City to direct growth to infill areas, reducing suburban sprawl that could impact agriculture and forestry resources within the surrounding unincorporated Butte County. In addition, CAP Measure S-1 and Actions S-1-1 through S-1-4 would ensure that the urban forest is maintained and that additional trees are planted throughout the City. As discussed above, the CAP Update would not include any measures or actions that would significantly impact agricultural or forest resources. In addition, the CAP would not involve land use or zoning changes that could result in cumulative impacts related to conversion or loss of farmland or forest land. Therefore, implementation of the CAP Update would result in **no cumulative impact** related to agricultural and forestry resources.

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<sup>24</sup> Chico, City of. 2011. Chico 2030 General Plan Open Space and Environment Element. Available: <<https://chico.ca.us/post/chico-2030-general-plan>>. Accessed March 29, 2021.

# 3 Air Quality

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d. Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

**3a. Would the project conflict with or obstruct implementation of the applicable air quality plan?**

The federal Clean Air Act (CAA) governs air quality in the United States and is administered by the U.S. EPA at the federal level. Air quality in California is also governed by regulations under the California CAA, which is administered by CARB at the State level. At the regional and local levels, local air districts typically administer the federal and California CAA. As part of implementing the federal and California CAA, the U.S. EPA and CARB have established ambient air quality standards for major pollutants at thresholds intended to protect public health. Chico is located within the Sacramento Valley Air Basin (the Air Basin), which includes the counties of Butte, Colusa, Glenn, Placer, Sacramento, Shasta, Solano, Sutter, Tehama, Yolo, Yuba. The Air Basin is under the jurisdiction of the Butte County Air Quality Management District (BCAQMD). As the local air quality management agency, BCAQMD is required to monitor air pollutant levels to ensure that State and federal air quality standards are met and, if they are not met, to develop strategies to meet the standards. Depending on whether or not the standards are met or exceeded, the Air Basin is classified as being in “attainment” or “nonattainment.” Under State law, air districts are required to prepare a plan for air quality improvement for pollutants for which the district is in non-attainment. BCAQMD is in non-attainment for the State and federal ozone standards, the State PM<sub>2.5</sub> (particulate matter up to 2.5 microns in size) standards, and the State PM<sub>10</sub> (particulate matter up to 10 microns in size) standards and is required to prepare a plan for improvement.<sup>25</sup> The sources, health effects, and typical controls associated with criteria pollutants are described in Appendix A.

Air districts in the northern portion of the Air Basin (encompassing Shasta, Tehama, Glen, Colusa, Butte, and Feather River air districts), prepared and adopted a uniform Air Quality Attainment Plan

<sup>25</sup> Butte County Air Quality Management District (BCAQMD). 2021. Air Quality Standards and Air Pollutants. Available: <<https://bcaqmd.org/planning/air-quality-standards-air-pollutants/>>. Accessed April 14, 2021.

(AQAP) for the purpose of achieving and maintaining healthful air quality throughout the northern portion of the Air Basin. In December 2018, BCAQMD adopted the 2018 Triennial Air Quality Attainment Plan (2018 AQAP), which assesses the progress made in implementing the previous triennial update and proposes modifications to the strategies necessary to attain the California Ambient Air Quality Standards (CAAQS) by the earliest practicable date.<sup>26</sup> In addition, BCAQMD maintains a PM<sub>2.5</sub> Nonattainment Area Redesignation Request and Maintenance Plan. The purpose of this plan is to demonstrate that the planning area has met requirements established in the CAA, to request redesignation to attainment for the 24-hour PM<sub>2.5</sub> National Ambient Air Quality Standards (NAAQS), and to demonstrate how the area will maintain the NAAQS for the next 10 years.<sup>27</sup>

The Federal Clean Air Act Amendments (CAAA) mandate that states submit and implement a State Implementation Plan (SIP) for areas not meeting air quality standards. The SIP includes pollution control measures to demonstrate how the standards will be met through those measures. The SIP is established by incorporating measures established during the preparation of Air Quality Management Plans (AQMP) and adopted rules and regulations by each local Air Pollution Control District (APCD) and AQMD, which are submitted for approval to CARB and the U.S. EPA.<sup>28</sup> The goal of an AQMP is to reduce pollutant concentrations below the NAAQS through the implementation of air pollutant emissions controls.

The CAP Update would not involve land use or zoning changes but would rather promote sustainable infrastructure development and redevelopment. CAP Update measures and actions focus on electrification of buildings, increasing local renewable energy infrastructure and providing carbon neutral electricity, improving active transportation, zero emission vehicle and public transit infrastructure, increasing organic waste diversion, and increasing urban greenspace and trees. Implementation of proposed measures, such as those aimed at reducing VMT and reducing natural gas use, would have co-benefits to air quality within the Air Basin, would help Chico meet applicable air quality plan goals, and would generally reduce sensitive receptor exposure to pollutant concentrations. Although the purpose and intended effect of the CAP Update is to reduce GHG emissions generated in the City to help reduce the effects of climate change, many of its actions would also reduce criteria pollutant (i.e., air quality) emissions. CAP Measures E-2 and E-3 involve increased energy efficiency and building electrification as part of residential and non-residential land use operations, CAP Measures E-1 and E-4 prioritize decarbonizing electricity within the City by 2025 and increasing the generation of local renewable energy, and CAP Measures T-1 through T-5 seek to reduce VMT in the City, improve active transportation and public transit facilities, and increase the adoption of EVs. These energy- and transportation-related measures would reduce air quality emissions as well as GHG emissions. Therefore, the CAP is consistent with the 2018 AQAP and would have **no impact** related to a conflict with or obstruction of the applicable air quality plan.

*3b. Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or State ambient air*

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<sup>26</sup> Sacramento Valley Air Quality Engineering and Enforcement Professionals (SVAQEPP). 2018. Northern Sacramento Valley Planning Area 2018 Triennial Air Quality Attainment Plan. Available: <<http://www.airquality.org/SVBAPCC/Documents/2018%20Triennial%20Report.pdf>>. Accessed April 14, 2021.

<sup>27</sup> Butte County Air Quality Management District (BCAQMD). 2017. Chico, CA/Butte County PM<sub>2.5</sub> Nonattainment Area Redesignation Request and Maintenance Plan. October 2017. Available: <<http://bcaqmd.org/wp-content/uploads/Butte-County-PM2.5-Redesignation-Request-and-Maintenance-Plan.pdf>>. Accessed April 14, 2021.

<sup>28</sup> CARB. 2017. Proposed 2016 State Strategy for the State Implementation Plan. Available: <<https://ww3.arb.ca.gov/planning/sip/2016sip/2016sip.htm>>. Accessed April 14, 2021.

*quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors)?*

The CAP would not involve land use or zoning changes but would instead promote sustainable infrastructure development and redevelopment. As a policy document, the CAP would not result in impacts related to criteria pollutants. However, implementation of the following CAP measures may promote construction activities that would temporarily generate criteria pollutants during the construction phase.

CAP Actions E-3-2, E-3-3, E-3-7, and E-4-1 through E-4-4 promote building electrification of existing buildings and installation of solar PV systems and battery storage facilities to provide greener renewable electricity within the City. CAP Actions T-1-1, T-1-3 through T-1-5, T-3-1, T-3-5, and T-3-8 support the installation of new bicycle, pedestrian, and public transit infrastructure throughout the City to increase the use of public transit and active transportation. CAP Actions T-2-1 through T-2-3, T-2-5, and T-2-8 encourage the installation of electric vehicle charging stations and supporting infrastructure. CAP Actions W-1-1 and W-1-3 through W-1-5 relate to increasing organic waste diversion and facility capacities for organic waste collection. Additionally, CAP Actions T-4-3, S-1-1, and S-1-2 encourage increasing parklet, greenspace, and the planting of urban trees within the community. Construction-related air quality impacts are generally associated with fugitive dust (PM<sub>10</sub> and PM<sub>2.5</sub>) and exhaust emissions from heavy construction vehicles and soil hauling trucks, in addition to reactive organic gases (ROG) that would be released during the drying phase upon application of architectural coatings. However, implementation of proposed measures would not include large-scale construction within Chico and would involve temporary and short-term criteria pollutant emissions. As such, it would result in low-level criteria pollutant emissions and negligible impacts to air quality. CAP projects or actions would also be reviewed for consistency with BCAQMD air quality regulations and other applicable local, State, and federal regulations once project details and locations are known. Thus, the construction required for implementation of the CAP would result in a less-than-significant impact related to net increase of criteria pollutants.

With respect to operational emissions, many CAP measures and actions would have the secondary benefit of reducing criteria pollutant emissions, such as CAP measures aiming to increase building energy efficiency, promote electric vehicles, reduce on-road gasoline fuel use, and reduce VMT. Implementation of CAP measures would be beneficial by helping Chico meet applicable air quality plan goals. In addition, future CAP projects would be required to comply with local, regional, and State air quality regulations. Therefore, the CAP would result in a **less-than-significant impact** related to criteria pollutant emissions.

*3c. Would the project expose sensitive receptors to substantial pollutant concentrations?*

Implementation of the CAP actions described in *Response 3b.*, above, promote infrastructure development and redevelopment that may result in temporary construction activities. Construction-related air quality impacts are generally associated with fugitive dust (PM<sub>10</sub> and PM<sub>2.5</sub>) and exhaust emissions from heavy construction vehicles and soil hauling trucks, in addition to ROG that would be released during the drying phase upon application of architectural coatings. However, implementation of proposed CAP measures would not include large-scale construction, and construction-related emissions would be temporary. As such, implementation of the CAP Update would result in low-level toxic air contaminant emissions associated with construction.

While the CAP could result in construction-related impacts related to toxic air contaminants and exposure to sensitive receptors, CAP projects or actions would be reviewed for consistency with BCAQMD air quality regulations and other applicable local, State, and federal regulations once



project details and locations are known to ensure compliance. Thus, the construction associated with implementation of the CAP Update would not result in substantial emissions of toxic air contaminants and exposure to sensitive receptors. No operational toxic air contaminant emissions are anticipated with implementation of the CAP measures and actions. Therefore, the CAP would have a **less-than-significant impact** related to exposure of sensitive receptors to toxic air contaminants.

*3d. Would the project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?*

The CARB 2005 *Air Quality Land Use Handbook: A Community Health Perspective* identifies land uses associated with odor complaints which include: sewage treatment plants, landfills, recycling facilities, waste transfer stations, petroleum refineries, biomass operations, auto body shops, coating operations, fiberglass manufacturing, foundries, rendering plants, and livestock operations.<sup>29</sup> CAP Measure W-1 promotes increasing organic waste diversion to achieve a 75 percent reduction in organic waste by 2025. As such, the CAP could result in minor odors related to organic waste processing. However, green waste collection bins are not identified on the list of “Sources of Odor Complaints” (Table 1-4) as provided in the *CARB Air Quality Land Use Handbook* and would not be anticipated to result in other emissions, such as those leading to odors, adversely affecting a substantial number of people.<sup>29</sup> In addition, the design and location of future projects related to new or expanded organic waste collection and processing facilities would be complimentary to existing development in the City would be reviewed for potential odor impacts to ensure that projects implemented in accordance with the CAP Update would not adversely affect a substantial number of people. Therefore, the CAP Update would not facilitate development that could create adverse odors, and there would be a **less-than-significant impact** related to odors exposure.

## Cumulative Impacts

The cumulative projects scenario is overall General Plan buildout for Chico in 2030. The CAP Update projects, in combination with other cumulative projects anticipated under General Plan buildout, could exceed applicable BCAQMD thresholds or be inconsistent with the 2018 AQAP. However, implementation of the CAP Update would have a less-than-significant contribution related to potential cumulative air quality impacts within the air basin and on sensitive receptors within the City of Chico, given that the CAP Update would result in Citywide reduction of GHG emissions, energy use, single-occupancy vehicle travel, and waste generation. As such, implementation of the CAP Update would not result in adverse impacts related to contribution of criteria pollutants to the air basin and exposure of sensitive receptors to toxic air contaminants. Therefore, implementation of the CAP Update would result in a **less-than-significant cumulative impact** related to air quality.

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<sup>29</sup> California Air Resources Control Board (CARB). 2005. *Air Quality and Land Use Handbook: A Community Health Perspective*. Available: <<https://ww3.arb.ca.gov/ch/handbook.pdf>>. Accessed July 24, 2020.

# 4 Biological Resources

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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Would the project:

a. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d. Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f. Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

4a. *Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as candidate, sensitive, or special status in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or the U.S. Fish and Wildlife Service?*

Chico is a primarily urbanized community with neighborhood parks, community parks, and recreational and open spaces incorporated throughout the City. The City's Municipal Code Titles 12 and 12R and Chapter 16.66, as well as the General Plan Parks, Public Facilities, and Services Element and General Plan Open Space and Environment Element incorporate goals and policies to protect biological resources, such as plant habitats, trees, wildlife habitats, and rare and endangered species in the City.<sup>30,31</sup> The City contains critical habitat for Butte County meadowfoam (*Limnanthes floccosa ssp. californica*) plant and vernal pool tadpole shrimp (*Lepidurus packardii*) and vernal pool fairy shrimp (*Branchinecta lynchi*) in undeveloped areas in the northern and eastern portions of the City, near the City's boundaries with unincorporated Butte County.<sup>32</sup>

The CAP Update would not involve land use or zoning changes and would instead promote sustainable infrastructure development and redevelopment. The CAP Update measures would not conflict with the Municipal Code or objectives and policies of the General Plan related to wildlife but would rather be consistent with and promote those plans. CAP Update measures would generally apply to the urbanized areas of the City, with little application to parks, open spaces area, or the undeveloped portions of the City where sensitive habitat and related species may be present. In addition, CAP Measure T-5 would support infill development and the reduction of urban sprawl, which would aid in conserving the undeveloped land present near the boundaries of the City that serve as critical habitat for Butte County Meadowfoam, vernal pool tadpole shrimp, and vernal pool fairy shrimp. In addition, CAP Measure S-1 and Action T-4-3 facilitate the implementation of an urban forest revitalization program and increased greenspace, parklets, and native trees throughout the City that could serve as additional habitat for special status species and migratory and nesting birds. As such, the CAP would not have a substantial adverse effect on candidate, threatened, or endangered wildlife species either directly through individual take or indirectly through species habitat modification.

As a policy document, the CAP Update would not directly result in impacts related to wildlife species of special status. However, implementation of some CAP measures may promote infrastructure development within the urbanized portions of the City and could result in impacts to species through construction activities. CAP Measure E-4 would increase the production and storage of local renewable energy by encouraging the installation of new solar panel and battery energy storage facilities throughout the City. CAP Measure W-1 relates to increasing organic waste diversion and facility capacities for organic waste collection and could result in the construction of new or expanded solid waste processing facilities. Construction has the potential to disturb nesting habitat for birds and raptors protected under Sections 3503, 3503.5, and 3513 of the California Fish and Game Code (CFGC) and under the Migratory Bird Treaty Act (MBTA). However, construction activities for future CAP projects would be required to comply with the provisions of the MBTA and CFGC Sections 3503, 3503.5, and 3513 in order to avoid impacts to protected birds and would be reviewed for consistency with City, State, and Federal policies related to protected species. As such,

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<sup>30</sup> Chico, City of. 2021. City Municipal Code Title 12 and 12R. Available: <[https://codelibrary.amlegal.com/codes/chico/latest/chico\\_ca/0-0-0-1](https://codelibrary.amlegal.com/codes/chico/latest/chico_ca/0-0-0-1)>. Accessed May 18, 2021.

<sup>31</sup> Chico, City of. 2011. General Plan Parks, Public Facilities, and Services and Open Space and Environment Elements. Available: <<https://chico.ca.us/post/chico-2030-general-plan>>. Accessed May 18, 2021.

<sup>32</sup> U.S. Fish and Wildlife Service (USFWS). 2021. Critical Habitat for Threatened and Endangered Species Map. Available: <<https://fws.maps.arcgis.com/home/webmap/viewer.html?webmap=9d8de5e265ad4fe09893cf75b8dbfb77>>. Accessed April 14, 2021.

the CAP Update would not have a substantial adverse effect on special-status wildlife species. Therefore, the CAP would result in a ***less-than-significant impact*** related to special-status wildlife species.

*4b, 4c. Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community (such as State or federally protected wetlands, including, but not limited to, marsh, vernal pool, coastal, etc.) identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service through direct removal, filling, hydrological interruption, or other means?*

The CAP Update would not involve land use or zoning changes but would instead promote sustainable infrastructure development and redevelopment within urbanized areas of the City. According to the General Plan Open Space and Environment Element, special habitat resources in Chico include riparian woodlands, permanent wetlands, vernal pools, and rivers and streams. The General Plan contains Goal OS-1 and its related policies and actions to conserve these sensitive habitats and native species that rely on them, as well as Goal OS-2 to preserve a network of protected open space and Creekside greenways, including riparian corridors and wetlands.<sup>33</sup>

The CAP Update measures would generally apply to the urbanized areas of the City, with little application to parks, open spaces area, or other locations where riparian and wetland habitat is located. CAP Measure S-1 and Action T-4-3 facilitate the implementation of an urban forest revitalization program and increased greenspace, parklets, and native trees throughout the City, which aligns with General Plan goals related to habitat and greenspace conservation. Likewise, CAP Measure T-5 would support infill development and the reduction of urban sprawl, which would aid in conserving undeveloped sensitive habitat areas in the City. Though some CAP-related projects, such as those that involve the installation of new solar panels and battery energy storage facilities and expansion of organic waste processing capacity, could result in the construction of new facilities, it is unlikely that future facilities would be planned for areas with sensitive habitat. Future CAP-related projects would be required to adhere to City development regulations and General Plan policies, including the City of Chico Tree Preservation Ordinance, to retain urban forestry and minimize environmental impacts. In addition, the location and details of future CAP projects would be reviewed for consistency with applicable local, regional, and State regulations related to sensitive habitat prior to approval. As such, the CAP Update would not have a substantial adverse effect on riparian habitat or sensitive natural community, such as wetlands. Therefore, the CAP would have a ***less-than-significant impact*** related to sensitive natural plant communities.

*4d. Would the project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?*

The CAP Update would not involve land use or zoning changes but would instead promote sustainable infrastructure development and redevelopment within urbanized portions of the City. As a policy document, the CAP Update would not result in direct impacts related to interference with species movement or use of wildlife nursery sites. However, implementation of CAP measures such as E-4, T-1, T-3, and W-1 related to improving active transportation facilities, renewable energy production and storage, and organic waste processing may include infrastructure development that could potentially disturb habitat areas. CAP projects would be required to adhere to City development regulations and General Plan policies, including the City of Chico Tree Preservation

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<sup>33</sup> Chico, City of. 2011. General Plan Open Space and Environment Element. Available: <<https://chico.ca.us/post/chico-2030-general-plan>>. Accessed May 18, 2021.

Ordinance, and would be reviewed for consistency with applicable local, regional, and State regulations to retain urban forestry and open space and minimize environmental impacts. In addition, CAP Measure S-1 and Action T-4-3 facilitate implementation of an urban forest revitalization program and increased greenspace, parklets, and native trees throughout the City, while Measure T-5 would support infill development and the reduction of urban sprawl. These measures and actions would aid in conserving habitat areas and habitat connectivity in and near the City. Furthermore, the CAP measures would generally apply to the urbanized areas of the City with little application to parks, open spaces area, or other locations where wildlife corridors or native wildlife nursery sites may be present. Therefore, the CAP would result in a **less-than-significant impact** related to interference with species movement or wildlife nursery use.

*4e. Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?*

Chico is a primarily urbanized community with neighborhood parks, community parks, and recreational spaces throughout the City. The General Plan Parks, Public Facilities, and Services Element and General Plan Open Space and Environment Element incorporate goals and policies resource protection in the City.<sup>34</sup> Additionally, the CMC Chapter 16.66 was established to preserve trees and enhance the ecological benefit to the community by providing for the regulation of planting, management, maintenance, preservation and, where necessary, removal of trees.<sup>35</sup>

The CAP Update would not involve land use or zoning changes but would promote sustainable infrastructure development and redevelopment within the urbanized portion of the City. The purpose and intended effect of the CAP is to reduce GHG emissions generated in the City to help reduce the effects of climate change. Implementation of proposed measures would be beneficial by helping Chico meet applicable local policies and ordinances for protecting biological resources, including Measure S-1 which provides for the planting of additional urban trees. The CAP would not conflict with or obstruct implementation of the applicable policies for preserving biological resources and would not affect the City's ability to attain goals and policies that protect biological resources. Therefore, the CAP would result in **no impact** related to consistency with local biological resources protection policies.

*4f. Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plan?*

The City is not currently subject to a Habitat Conservation Plan or Natural Community Conservation Plan, although the Butte Regional Conservation Plan is currently in preparation and would include the City of Chico upon its final adoption.<sup>36</sup> The CMC and General Plan Parks, Public Facilities, and Services Element include an inventory of open space resources as well as goals and policies to preserve natural resources, such as plant and wildlife habitats in the City. The CAP Update would not facilitate specific development projects, nor would it add or enable new development that would conflict with the adopted Municipal Code, General Plan, or with the Butte Regional Conservation Plan once it is approved. Rather, the CAP Update prioritizes halting urban sprawl and

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<sup>34</sup> Chico, City of. 2011. General Plan Parks, Public Facilities, and Services and Open Space and Environment Elements. Available: <<https://chico.ca.us/post/chico-2030-general-plan>>. Accessed May 18, 2021.

<sup>35</sup> Chico, City of. 2021. City Municipal Code Chapter 16.66. Available: <[https://codelibrary.amlegal.com/codes/chico/latest/chico\\_ca/0-0-0-1](https://codelibrary.amlegal.com/codes/chico/latest/chico_ca/0-0-0-1)>. Accessed May 18, 2021.

<sup>36</sup> California Department of Fish and Wildlife (CDFW). 2021. Natural Community Conservation Plan Summaries. Available: <<https://wildlife.ca.gov/Conservation/Planning/NCCP/Plans>>. Accessed April 14, 2021.

the preservation of greenspace and trees in order to reduce GHG emissions and related impacts to the environment. Therefore, the CAP Update would have **no impact** related to consistency with an adopted habitat or natural community conservation plan.

### **Cumulative Impacts**

The cumulative projects scenario is overall General Plan buildout for Chico in 2030. Implementation of CAP Update projects, in combination with other cumulative projects anticipated under General Plan buildout, Big Chico Creek, Little Chico Creek, and Lindo Channel could result in impacts to biological resources during infrastructure and building construction. However, as described in *Responses 4a. through 4f.*, above, infrastructure development or redevelopment resulting from implementation of the CAP Update would be required to comply with applicable General Plan policies and State and federal regulatory requirements regarding avoidance of special wildlife species and habitat. In addition, the CAP Update contains measures that prioritize the preservation of open space and trees. Therefore, implementation of the CAP Update would result in a **less-than-significant cumulative impact** related to biological resources.

## 5 Cultural Resources

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. Disturb any human remains, including those interred outside of formal cemeteries?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

*5a. Would the project cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?*

The City of Chico (City) has identified 265 historic-aged properties potentially eligible for listing in the National Register of Historic Places (NRHP) as individual resources or contributors to districts, and four California Historical Landmarks.<sup>37,38</sup> The CAP would not involve land use or zoning changes but would promote infrastructure development and redevelopment that would be complimentary to existing development. CAP projects would be required to comply with General Plan Cultural Resources and Historic Preservation Policy, as outlined in the Cultural Resources and Historic Preservation Element.<sup>39</sup> This policy requires the identification and protection of sites and structures within the city of Chico of architectural, historical, archaeological, and cultural significance. This includes sites, structures, and areas that are associated with a historic event, activity, or persons that contribute to the historic character of districts, neighborhoods, landmarks, historic structures, and artifacts. To maintain less than significant adverse impacts, CAP projects and actions should be reviewed for compliance with applicable local, regional, and State regulations regarding cultural resources and the City's General Plan Cultural Resources and Historic Preservation Policy to avoid impacts related to unknown archaeological resources.<sup>38</sup> With these measures, the CAP would result in a **less-than-significant impact** related to historical resources.

*5b. Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?*

The City has not listed known archeological sites within its City limits. However, the City is highly sensitive for prehistoric and historic-era archaeological deposits.<sup>38</sup> Hence, there is a possibility for

<sup>37</sup> Chico, City of. 1983. Chico Historic Resources Inventory. Available: <<https://chico.ca.us/post/historic-resources-inventory>>. Accessed April 27, 2021.

<sup>38</sup> Office of Historic Preservation. 2021. California Historical Landmarks, Butte County. Available: <[https://ohp.parks.ca.gov/?page\\_id=21391](https://ohp.parks.ca.gov/?page_id=21391)>. Accessed April 18, 2021.

<sup>39</sup> Chico, City of. 2011. Chico 2030 General Plan Cultural Resources and Historic Preservation Element. Available: <<https://chico.ca.us/post/chico-2030-general-plan>>. Accessed March 29, 2021.

sites not previously recorded to be present in areas designated for CAP development and/or redevelopment. In particular, CAP Measures E-4, T-1, T2, T-3, T-5 and S-1 would result in small-scale construction projects that may expose previously undiscovered archaeological resources during ground disturbing activities. The CAP projects would be located and designed strategically to reduce ground disturbance to the maximum extent possible. In addition, CAP projects and actions would be reviewed for consistency with applicable local, regional, and State archeological regulations prior to final siting and construction and would be required to implement BMPs in accordance with the General Plan Cultural Resources and Historic Preservation Element and City Best Management Practices Manual policies.<sup>40,41</sup> These policies include a standard requirement during all ground disturbing activities that if potential archaeological resources are unearthed, construction must be halted, the Planning Director must be contacted, and a qualified professional must be hired to investigate and make recommendations. With compliance with the required measures and policies contained in the General Plan and City Best Management Practices Manual, the CAP Update would result in a ***less-than-significant impact*** related to archaeological resources.

5c. *Would the project disturb any human remains, including those interred outside of formal cemeteries?*

There are four formal cemeteries with human interments within the City. Considering there are four known cemeteries, there is a possibility of encountering unknown buried human remains throughout the City. Implementation of the following CAP measures may promote infrastructure development and redevelopment. In particular, CAP Measure E-4, Measures T-1, T2, and T-3, Measure T-5 and Measure S-1 would all result in ground disturbing activities that could result in an impact on unknown human burial sites. To maintain less than significant adverse impacts, CAP projects and actions should be reviewed for compliance with applicable local, regional, and State regulations regarding cultural resources and the City's General Plan Cultural Resources and Historic Preservation Element to avoid impacts related to unknown human interments.<sup>39</sup> In addition, CAP projects would be required to comply with state coroner requirements related to burial findings, including assessment and mitigation incorporation once project details and locations are known. With these measures, the CAP Update would result in a ***less-than-significant impact*** related to human remains.

## Cumulative Impacts

The cumulative projects scenario is overall General Plan buildout for Chico in 2030. Implementation of the CAP Update projects, in combination with other cumulative projects anticipated under General Plan buildout, would include infrastructure and building developments that could have an impact on cultural resources during construction. Impacts to historic and archaeological resources are generally site-specific. Additionally, there is a possibility of encountering buried archaeological deposits and human remains throughout the City. Accordingly, potential impacts associated with cumulative developments would be addressed on a case-by-case basis. In addition, future projects in the City, including those associated with implementation of the CAP, would be required to comply with the City's General Plan Cultural Resources and Historic Preservation Element Policy that requires the identification and protection of sites and structures of architectural, historical, archaeological, and cultural significance, to avoid impacts related to cultural resources. Therefore,

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<sup>40</sup> Chico, City of. 2011. Chico 2030 General Plan Cultural Resources and Historic Preservation Element. Available: <<https://chico.ca.us/post/chico-2030-general-plan>>. Accessed March 29, 2021.

<sup>41</sup> Chico, City of. 1998. Best Management Practices Manual. Available: <[https://chico.ca.us/sites/main/files/file-attachments/complete\\_manual.pdf?1574726222](https://chico.ca.us/sites/main/files/file-attachments/complete_manual.pdf?1574726222)>. Accessed May 26, 2021.



implementation of the CAP Update would result in a ***less-than-significant cumulative impact*** related to cultural resources.

# 6 Energy

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

6a. *Would the project result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?*

California is one of the lowest per-capita energy users in the United States, ranked 46th in the nation, due to its energy efficiency programs and mild climate.<sup>42</sup> California consumed 279,402 gigawatt-hours (GWh) of electricity and 2,154,030 million cubic feet of natural gas in 2019.<sup>43,44</sup> The single largest end-use sector for energy consumption in California is transportation (39.1 percent), followed by industry (23.5 percent), commercial (19.2 percent), and residential (18.3 percent).<sup>42</sup> Adopted in 2018, SB 100 accelerates the State’s Renewable Portfolio Standards Program, codified in the Public Utilities Act, by requiring electricity providers to increase procurement from eligible renewable energy resources to 33 percent of total retail sales by 2020, 60 percent by 2030, and 100 percent by 2045.

The City of Chico has demonstrated its commitment to energy efficiency and renewable energy through many efforts, as described in the Sustainability and GHG Reduction Efforts Setting section above. The City has adopted the California Green Building Standards Code, per CMC Title 16R, that requires efficiency measures to reduce energy use, and provide energy reduction benefits. The City has also completed a communitywide GHG emissions inventory for 2017, which is summarized in Table 1.<sup>45</sup> Gasoline and diesel sales were responsible for the highest emissions of GHGs within the

<sup>42</sup> United States Energy Information Administration (USEIA). 2021. “California - Profile Overview.” Last modified: February 18, 2021. Available: <<https://www.eia.gov/state/?sid=CA>> Accessed April 14, 2021.

<sup>43</sup> California Energy Commission (CEC). 2019. Electricity Consumption by County. Available: <<http://www.ecdms.energy.ca.gov/electbycounty.aspx>>. Accessed March 30, 2021.

<sup>44</sup> United States Energy Information Administration (USEIA). 2021. Natural Gas: Natural Gas Consumption by End Use. February 26, 2021. Available: <[https://www.eia.gov/dnav/ng/ng\\_cons\\_sum\\_dcu\\_sca\\_a.htm](https://www.eia.gov/dnav/ng/ng_cons_sum_dcu_sca_a.htm)>. Accessed March 30, 2021.

<sup>45</sup> Chico, City of. 2021. City Municipal Code Chapter 16R Available: <[https://codelibrary.amlegal.com/codes/chico/latest/chico\\_ca/0-0-0-1](https://codelibrary.amlegal.com/codes/chico/latest/chico_ca/0-0-0-1)>. Accessed May 18, 2021.

Chico community in 2017. According to the California Energy Commission (CEC), Butte County consumed approximately 1,396 GWh of electricity and 39 million therms of natural gas in 2019.<sup>46,47</sup>

The CAP Update is a policy document containing climate action measures to reduce Citywide GHG emissions. The CAP Update would encourage energy efficiency in existing residential, commercial, and municipal building stock through new policies and educational campaigns as well as new requirements for proposed new buildings. The CAP Update would also incentivize increased renewable energy production within the City. Additionally, the CAP Update attempts to reduce transportation-related energy consumption by increasing active transportation and public transit use and reducing VMT. CAP Measures E-2 and E-3 seek to decrease natural gas consumption in new and existing buildings by requiring electrification, while Measure E-4 encourages the production and storage of local renewable energy. Additionally, CAP Measure E-1 would implement electricity policy changes that call for use of electricity from clean, renewable sources and would automatically enroll the community in a 100 percent renewable energy option by 2024. CAP Measures T-1 through T-5 would provide improvements to the active transportation, public transit and EV infrastructure of the City, as well as encourage infill development, to reduce energy consumption and GHG emissions from the transportation sector. CAP Measure W-1 relates to increasing organic waste diversion and facility capacities for organic waste collection. Additionally, CAP Action T-4-3 and Measure S-1 encourage increasing parklet, greenspace, and the planting of urban trees within the community.

Implementation of solar PV, transportation, and organic waste processing infrastructure, as well as new parklets and tree planting, would require small-scale construction. However, energy use for the construction of such projects would be temporary in nature, and construction equipment used would be typical of similar-sized construction projects in the region. In addition, construction contractors would be required to comply with the provisions of California Code of Regulations Title 13 Sections 2449 and 2485, which would minimize unnecessary fuel consumption. Construction equipment would be subject to the United States Environmental Protection Agency (USEPA) Construction Equipment Fuel Efficiency Standard, which would also minimize inefficient, wasteful, or unnecessary fuel consumption. Furthermore, per applicable regulatory requirements such as 2019 California's Green Building Standards Code (CALGreen; California Code of Regulations, Title 24, Part 11), future infrastructure projects would comply with construction waste management practices to divert a minimum of 65 percent of construction and demolition debris. These practices would result in efficient use of energy necessary to construct CAP-related projects. Upon completion of construction for any CAP-related infrastructure development and redevelopment, non-renewable energy use would be reduced by increasing renewable energy production and storage and reducing VMT within the City.

The purpose and intended effect of the CAP Update is to reduce GHG emissions generated in the City to minimize the effects of climate change, including those emissions generated by energy demand and supply. The CAP Update would not result in the use of non-renewable resources in a wasteful or inefficient manner; rather, it would assist in reducing use of non-renewable energy resources and increasing the production of local renewable energy. Therefore, the CAP Update would result in **no impact** related to the wasteful, inefficient, or unnecessary consumption of energy.

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<sup>46</sup> CEC. 2019. Electricity Consumption by County. Available: <<http://www.ecdms.energy.ca.gov/elecbycounty.aspx>>. Accessed March 30, 2021.

<sup>47</sup> CEC. 2019. Natural Gas Consumption by County. Available: <<http://ecdms.energy.ca.gov/elecbycounty.aspx>>. Accessed March 30, 2021.

*6b. Would the project conflict with or obstruct a State or local plan for renewable energy or energy efficiency?*

Relevant plans and policies that aim to increase energy efficiency and the production of renewable energy include Senate Bill (SB) 100, the 2019 California Green Building Standards Code, and the 2019 California Energy Code Part 6 (Title 24). SB 100 supports the reduction of GHG emissions from the electricity sector by accelerating the state's Renewables Portfolio Standard Program and requires electricity providers to increase procurement from eligible renewable energy resources to 33 percent of total retail sales by 2020, 60 percent by 2030, and 100 percent by 2045. The California Green Building Standards Code institutes mandatory minimum environmental performance standards for all ground-up new construction of non-residential and residential structures. In addition, Title 24 establishes energy-efficiency standards for residential and non-residential buildings in order to reduce California's energy demand. Title 24 is updated periodically to incorporate and consider new energy-efficiency technologies and methodologies as they become available. New construction and major renovations must demonstrate their compliance with the current Building Energy Efficiency Standards through submission and approval of a Title 24 Compliance Report to the local building permit review authority and the CEC.

The City of Chico has adopted the California Green Building Standards Code and Title 24 pursuant to CMC Title 16R.<sup>48</sup> Therefore, construction and operation associated with infrastructure projects stemming from the CAP Update would be designed to comply with the energy source standards of the California Green Building Standard Code and Title 24. Future CAP projects would be required to demonstrate compliance with The Green Building Standards Code and Title 24 by implementing sustainability and energy efficiency measures such as high-efficiency lighting and HVAC systems, low-flow water fixtures, dual-paned windows, and water efficient landscaping and irrigation systems. Compliance with these regulations would minimize potential conflicts with adopted energy conservation plans

As discussed under *Response 6a.*, above, CAP Measures E-2 and E-3 propose revisions to the building code in order to mandate that new residential and commercial developments and major remodels be built to an all-electric standard. Measure E-3 also contains Action E-3-3, which requires the electrification of all municipal buildings by 2045. In addition, CAP Measure E-1 would institute a 100 percent renewable electricity option within the City by 2024 and measure E-4 would incentivize the production and storage of local renewable energy through solar projects and battery energy storage. These measures are consistent with the goals and policies established by SB 100, the California Green Building Standards Code, and Title 24. Thus, the CAP Update would not conflict with adopted renewable energy or energy conservation plans and there would be ***no impact***.

## Cumulative Impacts

The cumulative projects scenario is overall General Plan buildout for Chico in 2030. Implementation of the CAP Update would result in reducing use of non-renewable energy resources across the community, in particular with remodeled buildings, new construction, and municipal buildings. Implementation of the CAP Update would also increase the production of renewable energy within the City. Additionally, the CAP Update includes measures to increase the use of active transportation and public transit and reduce VMT within the City, which would reduce transportation fuel use. As the City's population grows and development intensifies in the future, as

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<sup>48</sup> Chico, City of. 2021. City Municipal Code Chapter 16R Available: <[https://codelibrary.amlegal.com/codes/chico/latest/chico\\_ca/0-0-0-1](https://codelibrary.amlegal.com/codes/chico/latest/chico_ca/0-0-0-1)>. Accessed May 18, 2021.

anticipated under General Plan buildout, measures contained within the CAP Update would ensure that new development is constructed to strict energy efficiency standards, the City sources its energy from renewable sources, and that growth is directed to infill areas to reduce suburban sprawl and transportation energy use. As the CAP Update would result in decreased non-renewable energy use within the City and would align with existing plans and policies related to renewable energy and energy efficiency, implementation of the CAP Update would result in ***no cumulative impact*** related to energy.

# 7 Geology and Soils

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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Would the project:

a. Expose people or structures to potentially substantial adverse effects, including the risk of loss, injury, or death involving:				
1. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2. Strong seismic ground shaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
3. Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
4. Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d. Be located on expansive soil, as defined in Table 1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e. Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

7a. *Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:*

- *Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault?*
- *Strong seismic ground shaking?*
- *Seismic-related ground failure, including liquefaction?*
- *Landslides?*

Chico is located in a seismic hazard zone according to the California Geological Survey (CGS) and there are ten active faults within the vicinity of the City that could cause seismic-related impacts. However, none of these faults are located within or immediately adjacent to the City and there is no known risk of fault rupture within the City. In addition, according to the General Plan Safety Element, Chico has no to low potential for landslides except for in the foothills area.<sup>49</sup> The closest active fault is the Cleveland Hills Fault, located approximately 17 miles south of the City, and is capable of producing a magnitude 6.5 to 6.7 earthquake event.<sup>50</sup> In 2019, Butte County, in coordination with the incorporated cities within the County, adopted an updated Local Hazard Mitigation Plan (LHMP) to assess hazards and reduce risks prior to a disaster event and fully cover the necessity to address seismic and geological hazards. According to the LHMP, the City and surrounding area have relatively low risk from seismic and geologic hazards and may occasionally experience low to medium intensity groundshaking as a result of earthquakes, but the magnitude and intensity are expected to be relatively low.<sup>51</sup>

The CAP Update is a policy document containing climate actions and supporting measures to reduce GHG emissions and is consistent with the Chico General Plan, LHMP, and other regional regulations. CAP Measures E-4 and W-1 may result in new or expanded facilities for the purposes of battery energy storage and organic waste recycling. However, the City has relatively low seismic-related risk and the CAP does not propose habitable development that could result in exposure of people to potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, strong seismic ground shaking, seismic-related ground failure including liquefaction, or landslides. Therefore, the CAP would result in **no impact** related to seismic- and landslide-related hazards.

7b. *Would the project result in substantial soil erosion or the loss of topsoil?*

The CAP Update would not involve land use or zoning changes but would promote sustainable infrastructure development and redevelopment. As a policy document, the CAP would not directly require ground-disturbing activities. However, implementation of several CAP measures may result in construction activities that could cause soil erosion or the loss of topsoil during construction. CAP Actions E-3-2, E-3-3, E-3-7, and E-4-1 through E-4-4 promote building electrification of existing buildings and installation of solar PV systems and battery storage facilities to provide greener renewable electricity within the City. CAP Actions T-1-1, T-1-3 through T-1-5, T-3-1, T-3-5, and T-3-8

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<sup>49</sup> Chico, City of. 2011. Chico 2030 General Plan Safety Element. Available: <<https://chico.ca.us/post/chico-2030-general-plan>>. Accessed March 29, 2021.

<sup>50</sup> Chico, City of. 2010. 2030 General Plan Update Draft Environmental Impact Report. Available: <[https://chico.ca.us/sites/main/files/file-attachments/chicodeir\\_combined\\_noappendices.pdf?1577755314](https://chico.ca.us/sites/main/files/file-attachments/chicodeir_combined_noappendices.pdf?1577755314)>. Accessed March 29, 2021.

<sup>51</sup> Butte County. 2019. Local Hazard Mitigation Plan Update. Available: <<https://www.buttecounty.net/oem/mitigationplans>>. Accessed March 23, 2021.

support the installation of new bicycle, pedestrian, and public transit infrastructure throughout the City to increase the use of public transit and active transportation. CAP Actions T-2-1 through T-2-3, T-2-5, and T-2-8 encourage the installation of electric vehicle charging stations and supporting infrastructure. CAP Actions W-1-1 and W-1-3 through W-1-5 relate to increasing organic waste diversion and facility capacities for organic waste collection. Additionally, CAP Actions T-4-3, S-1-1, and S-1-2 encourage increasing parklet, greenspace, and the planting of urban trees within the community.

As such, the CAP could result in construction-related soil erosion and topsoil loss impacts associated with CAP Measures and Actions. However, CAP projects and actions would be reviewed for consistency with Chico General Plan policies and other local and State geology and soils regulations prior to final siting and construction. Soil erosion caused by strong wind and/or earth-moving operations during construction would be minimized through compliance with BCAQMD Rule 205, Fugitive Dust, which prohibits visible particulate matter from crossing property lines. Standard practices to control fugitive dust emissions include watering of active grading sites, covering soil stockpiles with plastic sheeting, and covering soils in haul trucks with secured tarps.

The potential for CAP project construction activities involving soil disturbance to result in increased erosion and sediment transport by stormwater to surface waters would be minimized because future projects would be required to comply with CMC Chapter 16R.22, Grading Standards, and/or a Construction General Permit, which is issued by the State Water Resources Control Board (SWRCB).<sup>52</sup> These regulations require best management practices (BMPs) to reduce erosion and topsoil loss from stormwater runoff.<sup>53</sup> Compliance with the CMC and/or Construction General Permit would ensure that BMPs are implemented during construction and minimize substantial soil erosion or the loss of topsoil. Therefore, the CAP would result in a **less-than-significant impact** related to soil erosion and loss of topsoil.

*7c., 7d. Would the project be located on a geologic unit or soil that is unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse? Would the project be located on expansive soil, as defined in Table 1-B of the Uniform Building Code, creating substantial risks to life or property?*

According to the LHMP, the City contains areas of generally low potential for liquefaction in the eastern portion and generally moderate potential in the central and western portions. Most of the City is characterized by low to no potential for landslides, with the easternmost foothill areas categorized as moderate risk for landslides.<sup>54</sup> As shown in Figure S-3 of the General Plan Safety Element, the majority of the City is characterized as having either moderately or highly expansive soils, with the eastern portion of the City characterized by low expansion potential.<sup>55</sup> The General Plan Safety Element, CMC, and California Building Code (CBC) regulate hazard development and structural hazards created by residential and commercial development in order to mitigate potential impacts related to unstable soils.

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<sup>52</sup> Chico, City of. 2021. City Municipal Code Chapter 16R.22 Available: <[https://codelibrary.amlegal.com/codes/chico/latest/chico\\_ca/0-0-0-1](https://codelibrary.amlegal.com/codes/chico/latest/chico_ca/0-0-0-1)>. Accessed May 18, 2021.

<sup>53</sup> Chico, City of. 2021. City Municipal Code Chapter 16R.22 Available: <[https://codelibrary.amlegal.com/codes/chico/latest/chico\\_ca/0-0-0-1](https://codelibrary.amlegal.com/codes/chico/latest/chico_ca/0-0-0-1)>. Accessed May 18, 2021.

<sup>54</sup> Butte County. 2019. Local Hazard Mitigation Plan Update. Available: <<https://www.buttecounty.net/oem/mitigationplans>>. Accessed March 23, 2021.

<sup>55</sup> Chico, City of. 2011. Chico 2030 General Plan Safety Element. Available: <<https://chico.ca.us/post/chico-2030-general-plan>>. Accessed March 29, 2021.



The CAP Update is a policy document containing programs that are consistent with the General Plan. Some of the proposed measures in the CAP would support small-scale construction projects, such as electric vehicle charging stations, battery energy storage systems, and new or expanded organic waste processing facilities. However, CAP projects and actions would be reviewed for consistency with local and State geotechnical regulations prior to final siting and construction. New structures would be required to comply with CMC Title 16R, Building Standards, which adopts the latest CBC, including measures to address unstable soil conditions.<sup>56</sup> Therefore, the CAP would result in a **less-than-significant impact** related to risks associated with location on unstable geologic unit or soil or on expansive soils.

*7e. Would the project have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?*

The CAP Update would not involve the development of habitable structures and, thus, no use of septic tanks or alternative wastewater disposal systems. Therefore, **no impact** would occur related to soil capability support of alternative wastewater disposal systems.

*7f. Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?*

The City has identified 126 sites within the City and its vicinity that contain fossilized remains of plants and animals.<sup>57</sup> The General Plan Cultural Resources and Historic Preservation Element includes goals, policies, and actions to protect and preserve cultural and paleontological resources, including Action CRHP-1.16 that requires the City to implement the Best Management Practices Manual to include standard conditions of approval for the protection of paleontological resources.<sup>58</sup>

The CAP Update would not involve land use or zoning changes that would encourage new development but would instead promote infrastructure development and redevelopment. As a policy document, the CAP Update would not directly result in impacts related to paleontological resources or unique geologic features. Most CAP measures that would involve construction activities, such as the transportation measures, would involve work within existing, previously graded and disturbed areas, where the likelihood of encountering intact and previously undiscovered paleontological resources would be minimal. However, implementation of some CAP measures may result in construction activities on previously undisturbed soils. CAP Measure E-4 promotes the installation of solar panels and battery storage facilities to provide renewable electricity within the City and CAP Measure W-1 may result in new or expanded facilities for organic waste collection. These small-scale construction projects may expose paleontological resources during ground disturbing activities. However, CAP projects and actions would be reviewed for consistency with geotechnical and paleontological regulations prior to final siting and construction and would be required to implement BMPs in accordance with the General Plan policies. In addition, the CAP projects would be located and designed strategically to reduce ground disturbance to the

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<sup>56</sup> Chico, City of. 2021. City Municipal Code Chapter 16R Available: <[https://codelibrary.amlegal.com/codes/chico/latest/chico\\_ca/0-0-0-1](https://codelibrary.amlegal.com/codes/chico/latest/chico_ca/0-0-0-1)>. Accessed May 18, 2021.

<sup>57</sup> Chico, City of. 2010. 2030 General Plan Update Draft Environmental Impact Report. Available: <[https://chico.ca.us/sites/main/files/file-attachments/chicodeir\\_combined\\_noappendices.pdf?1577755314](https://chico.ca.us/sites/main/files/file-attachments/chicodeir_combined_noappendices.pdf?1577755314)>. Accessed March 29, 2021.

<sup>58</sup> Chico, City of. 2011. Chico 2030 General Plan Cultural Resources and Historic Preservation Element. Available: <<https://chico.ca.us/post/chico-2030-general-plan>>. Accessed March 29, 2021.

maximum extent possible. Therefore, the CAP would result in a ***less-than-significant impact*** related to paleontological resources or unique geologic features.

### **Cumulative Impacts**

The cumulative projects scenario is overall General Plan buildout for Chico in 2030. CAP Update projects, in combination with other cumulative projects anticipated under General Plan buildout, could expose additional people and property to the low to moderate seismic and geologic hazards that are present in the region. The magnitude of geologic hazards for individual projects, including those associated with implementation of the CAP Update, would depend upon the location, type, and size of development and the specific hazards associated with individual sites. Specific geologic hazards associated with individual project sites would be limited to those sites without affecting other areas. Similarly, potential impacts to paleontological resources associated with each individual site would be limited to that site without affecting other areas, and impacts related to these resources would be minimized on a case-by-case basis. Compliance with existing regulations, including CBC requirements, City-issued permit requirements, the Chico General Plan, and construction general permit requirements, would minimize potential cumulative seismic and geologic impacts. Seismic and geologic hazards would be addressed on a case-by-case basis and would not result in cumulative impacts. Therefore, implementation of the CAP Update would result in a ***less-than-significant cumulative impact*** related to geology and soils.

## 8 Greenhouse Gas Emissions

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Conflict with any applicable plan, policy, or regulation adopted to reduce the emissions of greenhouse gases?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

8a. *Would the project generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment?*

The greenhouse effect is a natural occurrence that helps regulate the temperature of the Earth. The majority of radiation from the Sun hits Earth's surface and warms it. The surface in turn radiates heat back towards the atmosphere, known as infrared radiation. Gases and clouds in the atmosphere trap and prevent some of this heat from escaping into space and re-radiate it in all directions. This process is essential to support life on Earth, because it warms the planet by approximately 60°F. Emissions from human activities since the beginning of the industrial revolution (approximately 270 years ago) have been adding to the natural greenhouse effect by resulting in increased gases in the atmosphere that trap heat and contribute to an average increase in Earth's temperature. Global warming is the observed increase in the average temperature of the Earth's surface, and climate change is the resultant change in wind patterns, precipitation, and storms over an extended period.

GHGs produced by human activities include CO<sub>2</sub>, methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub>O), hydrofluorocarbons (HFCs), perfluorinated compound (PFC), and sulfur hexafluoride (SF<sub>6</sub>) (see Appendix B for more details related to these GHG gases).<sup>59</sup> Combustion of fossil fuels (gasoline, natural gas, and coal), deforestation, and decomposition of waste release carbon into the atmosphere that had been locked underground and stored in oil, gas, and other hydrocarbon deposits or in the biomass of surface vegetation. Since 1750, estimated concentrations of CO<sub>2</sub>, CH<sub>4</sub>, and N<sub>2</sub>O in the atmosphere have increased by over 36 percent, 148 percent, and 18 percent respectively, primarily due to human activity. Emissions of GHGs affect the atmosphere directly by changing its chemical composition.

<sup>59</sup> The proposed CAP Update only considers emissions of CO<sub>2</sub>, CH<sub>4</sub>, and N<sub>2</sub>O, because these are the GHGs most relevant to local government policymaking. These gases comprise a large majority of GHG emissions at the community level. The remaining gases (HFCs, PFC, and SF<sub>6</sub>) are emitted primarily in private sector manufacturing and electricity transmission and are the subject of regulation at the State level. Therefore, these gases were omitted from the proposed CAP Update.

Changes to the land surface also indirectly affect the atmosphere by changing the way in which Earth absorbs gases from the atmosphere. Potential impacts in California due to climate change include sea level rise, more extreme-heat days and high-ozone days, larger and more frequent forest fires, and more drought years.<sup>60</sup> Although GHG emissions do not typically cause direct health impacts at a local level, GHG emissions can result in indirect health impacts by contributing to climate change, which can have public health implications. The primary public health impacts of climate change include the following:

- Increased incidences of hospitalization and deaths due to increased incidences of extreme heat events;
- Increased incidences of health impacts related to ground-level ozone pollution due to increased average temperatures that facilitate ozone formation;
- Increased incidences of respiratory illnesses from wildfire smoke due to increased incidences of wildfires;
- Increased vector-borne diseases due to the growing extent of warm climates; and
- Increased stress and mental trauma due to extreme events and disasters, economic disruptions, and residential displacement.<sup>61</sup>

The City of Chico has completed a communitywide GHG emissions inventory for 2017, which is summarized in Table 1. The transportation sector was the largest contributor to Chico's GHG emissions. Figure 3 and Table 4 summarize the communitywide GHG emissions forecast under three scenarios: 1) business-as-usual projections, 2) business-as-usual projections with State measures, and 3) the City of Chico target reduction path along with State measures. As shown therein, under the business-as-usual scenario, communitywide GHG emissions are forecasted to increase to approximately 538,282MT of CO<sub>2</sub>e (5.00 MT of CO<sub>2</sub>e per capita) by the year 2030, based on anticipated economic and population growth. However, with implementation of State laws and programs, communitywide GHG emissions would decline to approximately 395,317MT of CO<sub>2</sub>e (3.67 MT of CO<sub>2</sub>e per capita) by 2030. Furthermore, implementation of the CAP alongside State laws and programs would reduce communitywide GHG emissions to approximately 297,386 MT of CO<sub>2</sub>e (2.76 MT of CO<sub>2</sub>e per capita) by 2030.

The measures included in the CAP combined with State-wide legislation and initiatives and Countywide transportation programs will enable the City of Chico to meet its per capita emissions reduction target 80 percent below 1990 levels (a 45 percent reduction in communitywide emissions) by 2030 and an interim target of 73 percent below 1990 levels (a 28 percent reduction in communitywide emissions) by 2025. The City needs to achieve a GHG emissions reduction of 97,931 MT of CO<sub>2</sub>e (0.91 MT of CO<sub>2</sub>e per capita) by 2030 to meet its goal. The total estimated GHG reductions that would be achieved by the CAP along with State-wide legislation and initiatives total 240,896 MT of CO<sub>2</sub>e by 2030 (2.24 MT of CO<sub>2</sub>e per capita and 45 percent below 1990 levels). Because SB 32 is considered an interim target toward meeting the 2045 State goal of carbon neutrality, implementation of the CAP would be considered substantial progress toward meeting the State's long-term 2045 goal. Avoiding interference with and making substantial progress toward these long-term State targets are important, because these targets have been set at levels that

<sup>60</sup> California Air Resources Board (CARB) and California Environmental Protection Agency (CalEPA). 2009. Environmental Health and Equity Impacts from Climate Change and Mitigation Policies in California: A Review of the Literature. Available: <<http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.386.4605&rep=rep1&type=pdf>>. Accessed May 18, 2021.

<sup>61</sup> California Natural Resources Energy. 2018. California's Fourth Climate Change Assessment Statewide Summary Report. Available: <<http://www.climateassessment.ca.gov/state/>>. Accessed July 24, 2020.

achieve California's fair share of international emissions reduction targets that will stabilize global climate change effects and help avoid the associated adverse environmental consequences.

The CAP Update includes a list of 13 measures, each with individual actions, intended to reduce communitywide GHG emissions. Implementation of the CAP Update would result in the reduction of communitywide operational GHG emissions, while only generating temporary GHG emissions during construction of infrastructure such as electric vehicle charging stations, bicycle paths, and public transit facilities. Additionally, the CAP Update would serve as a pathway to reduce GHG emissions and introduce other beneficial environmental and sustainability effects. These benefits include reduction in building energy consumption, vehicle miles traveled (and thus air pollution), and solid waste generation. Therefore, the CAP would result in a **less-than-significant impact** related to generation of GHG emissions.

*8b. Would the project conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?*

The CARB 2017 Climate Change Scoping Plan outlines a pathway to achieving the 2030 reduction targets set under SB 32, which are considered interim targets toward meeting the long-term 2045 carbon neutrality goal established by EO B-55-18. The CAP Update is a policy-level document that sets strategies to reduce GHG emissions within the City in an effort to also comply with State regulations. As discussed under *Response 8a.* above, the CAP Update includes measures to reduce City GHG emissions from forecasted business-as-usual levels to approximately 297,386 MT of CO<sub>2</sub>e (2.76 MT of CO<sub>2</sub>e per capita) by 2030. The purpose of the CAP Update is to meet Chico's proportionate fair share of the Statewide GHG emissions reduction target set by SB 32 and work toward the State's longer-term target of carbon neutrality identified in Executive Order B-55-18. The CAP Update would not conflict with any applicable GHG reduction plans, including the CARB 2017 Climate Change Scoping Plan. The CAP Update identifies how the City would achieve consistency with the Statewide GHG emissions limit.

The CAP Update would serve as a pathway to reduce GHG emissions and introduce other beneficial environmental and sustainability effects. These benefits include reduction in building energy consumption, vehicle miles traveled (and thus air pollution), and solid waste generation. Therefore, the CAP Update would result in a **less-than-significant impact** related to consistency with applicable GHG emissions reduction plans, policies, and regulations.

## Cumulative Impacts

The cumulative projects scenario is overall General Plan buildout for Chico in 2030. Analyses of GHG emissions and climate change are cumulative in nature, as they affect the accumulation of GHG emissions in the atmosphere. Cumulative projects anticipated under General Plan buildout and that exceed the thresholds discussed above would have a significant impact related to GHG emissions and climate change, both individually and cumulatively. The CAP Update creates a GHG emissions reduction strategy (consistent with Section 15183.5 of the CEQA Guidelines) for the City of Chico. The CAP Update also includes a series of measures and actions that are intended to reduce per capita GHG emissions by approximately 80 percent below 1990 levels (a 45 percent reduction in communitywide emissions) by 2030, which provides substantial progress toward the City meeting State goals. As such, the CAP Update would result in the reduction of GHG emissions rather than generating GHG emissions. Some GHG emissions would occur during construction of CAP-specific infrastructure projects; however, these emissions would be temporary and minor in nature.

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Therefore, implementation of the CAP Update would result in a ***less-than-significant cumulative impact*** related to GHG emissions.

## 9 Hazards and Hazardous Materials

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d. Be located on a site that is included on a list of hazardous material sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e. For a project located in an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g. Expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

*9a, 9b. Would the project create a significant hazard to the public or the environment through:*

- *The routine transport, use, or disposal of hazardous materials?*
- *Reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?*

The CAP Update is a policy document containing measures and actions to reduce GHG emissions. The proposed CAP does not involve identified site-specific development and, for the most part, it would not facilitate new development that would involve the routine use of hazardous materials. Implementation of some of the CAP Update measures, such as the installation of bicycle lanes, energy retrofits, and installation of electric vehicle charging stations, would require construction activities. Construction would involve the temporary use of hazardous materials such as vehicle fuels and fluids that could be released should an accidental leak or spill occur. However, these types of materials are not considered acutely hazardous, and storage, handling, and disposal of these materials are regulated by the California Department of Toxic Substances Control (CDTSC), United States Environmental Protection Agency (USEPA), and Occupational Safety & Health Administration (OSHA). In addition, standard construction BMPs for the use and handling of such materials would avoid or reduce the potential for such conditions to occur. Any use of potentially hazardous materials during construction of the project would comply with all local, state, and federal regulations regarding the handling of potentially hazardous materials, including Title 49 of the Code of Federal Regulations and Title 22, Division 4.5 of the California Code of Regulations. Risk of spills would cease after construction is completed. Therefore, construction activities related to CAP Update measures and actions would not be anticipated to create upset and accident conditions involving the release of hazardous materials, and operation of the majority of CAP Update measures would not involve the routine transport, use, or disposal of hazardous materials during operation.

However, CAP Measure E-4 emphasizes increasing local renewable energy production and battery energy storage facilities within the City. Hazardous materials used in battery energy storage facilities would generally consist of the lithium-ion batteries. Lithium ion technology is a common battery storage medium and is considered one of the safest and most efficient methods of energy storage on the market. During normal operation, lithium-ion batteries do not represent a risk to off-site receptors, and safety standards applicable to energy storage facilities and safety certification tests established by independent bodies, such as Underwriters Laboratories, National Fire Protection Association, and International Electrotechnical Commission would prevent any reasonable possibility of a substantial adverse effect on the environment related to the lithium-ion batteries. However, in the unlikely event of a fire, there is a risk of the accidental release of hazardous materials associated with battery energy storage facilities. Any future proposed battery energy storage facilities would therefore be carefully reviewed for appropriate locations, safety measures, and consistency with the General Plan and Municipal Code and applicable local, State, and federal regulations. Therefore, the CAP Update would result in a ***less-than-significant impact*** related to creating a significant hazard through the routine transport, use, or disposal of hazardous materials and reasonably foreseeable upset and accident conditions involving the release of hazardous materials.

*9c. Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school?*

The CAP Update is a policy document containing measures to reduce GHG emissions. The proposed CAP Update does not include site-specific proposals and development, nor would it emit or handle hazardous materials. Implementing some CAP measures may require future development or



improvements, such as bike paths, solar panels and battery energy storage facilities, electric vehicle charging stations, or building improvements related to energy efficiency. However, CAP projects and actions would be reviewed to ensure the appropriate location of projects in relation to existing development in the City and would be reviewed for consistency with the General Plan and Municipal Code and applicable local, State, and federal regulations. Therefore, the CAP Update would result in a **less-than-significant impact** related to handling of hazardous materials.

*9d. Would the project be located on a site included on a list of hazardous material sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?*

The CAP Update is a policy document containing actions and supporting measures to reduce GHG emissions. The proposed CAP Update does not include site-specific proposals and development, but CAP measures and actions could result in projects that could be located on listed hazardous materials site. However, CAP projects and actions would be reviewed for consistency with the General Plan and Municipal Code and would be required to comply with applicable local, State, and federal regulations related to hazardous materials sites. Therefore, the CAP Update would result in a **less-than-significant impact** related to location on a listed hazardous materials site.

*9e. For a project located in an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?*

The Chico Municipal Airport is located in the northern portion of the City. The location as well as goals and policies associated with the airport area are included in the Chico General Plan Safety Element and Butte County Airport Land Use Commission Airport Compatibility Plan for the Chico Municipal Airport.<sup>62,63</sup> The CAP Update is a policy document that would not increase airport activity or result in additional habitable development or commercial development that could increase potential exposure of residents and employees to aircraft-related hazards. Additionally, CAP projects and actions would be reviewed for consistency with the Chico General Plan and other applicable local and State regulations related to the Chico Municipal Airport. Therefore, the CAP Update would result in **no impact** related to risks associated with location proximate to a public airport.

*9f. Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?*

The CAP Update is a policy document intended to reduce GHG emissions. The proposed CAP Update does not involve site-specific development, nor would it facilitate new development that would interfere with adopted emergency plans. Implementation of some CAP measures and actions, such as the addition of new pedestrian, bicycle, and public transit facilities, would require construction on local roadways. Construction activities have the potential to require lane closures and may impact traffic and vehicle speeds on the affected roadways; however, these impacts would be temporary and access to roadways would generally be maintained throughout project construction. Furthermore, future projects involving work in the public right-of-way would be required to

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<sup>62</sup> Chico, City of. 2011. 2030 General Plan Safety Element. Available: <[https://chico.ca.us/sites/main/files/file-attachments/12.\\_safety\\_element.pdf?1594855037](https://chico.ca.us/sites/main/files/file-attachments/12._safety_element.pdf?1594855037)>. Accessed April 14, 2021.

<sup>63</sup> Butte County Airport Land Use Commission. 2017. Airport Land Use Compatibility Plan: Chico Municipal, Oroville Municipal, Paradise, and Ranchoero Airports. Available: <[https://www.buttecounty.net/Portals/10/Docs/ALUC/BCALUCP\\_11-15-17/Butte\\_County\\_Airport\\_Land\\_Use\\_Compatibility\\_Plan\\_2017-11-15.pdf](https://www.buttecounty.net/Portals/10/Docs/ALUC/BCALUCP_11-15-17/Butte_County_Airport_Land_Use_Compatibility_Plan_2017-11-15.pdf)>. Accessed April 14, 2021.

coordinate with the City to ensure appropriate construction staging and adequate vehicular and pedestrian access on adjacent roadways, pursuant to CMC Chapter 14.08.<sup>64</sup> Therefore, the CAP Update would result in **no impact** related to impairment or interference with implementation of an emergency response or evacuation plan.

*9g. Would the project expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires?*

According to California Department of Forestry and Fire Protection (CalFIRE), the majority of the City of Chico is not located in designated California Fire Hazard Severity Zones, and the City is not located in a State Responsibility Area.<sup>65</sup> There is an area of moderate fire hazard in the northwestern portion of the city, adjacent to the Chico Municipal Airport, as well as areas of very high fire hazard in the northeastern portion of the City within Upper Bidwell Park. In addition, areas surrounding the City limits to the east of State Route 99 are categorized as moderate to very high fire hazard risk.<sup>54</sup> Though the City contains some areas of fire risk and is adjacent to areas of fire risk, the CAP Update does not propose specific development or new residential or commercial land uses that could be subject to wildland fire. Therefore, the CAP Update would result in **no impact** related to risks associated with exposure to wildland fires.

## Cumulative Impacts

The cumulative projects scenario is overall General Plan buildout for Chico in 2030. Hazards and hazardous materials impacts are typically site-specific in nature. CAP Update projects, in combination with other cumulative projects anticipated under General Plan buildout, are not anticipated to contribute to cumulative hazards and hazardous materials impacts with adherence to applicable General Plan policies and applicable State and federal regulatory requirements. Therefore, implementation of the CAP Update would result in a **less-than-significant cumulative impact** related to hazards and hazardous materials.

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<sup>64</sup> Chico, City of. 2021. City Municipal Code Chapter 14.08. Available: <[https://codelibrary.amlegal.com/codes/chico/latest/chico\\_ca/0-0-0-1](https://codelibrary.amlegal.com/codes/chico/latest/chico_ca/0-0-0-1)>. Accessed May 18, 2021.

<sup>65</sup> California Department of Forestry and Fire Protection (CalFIRE). 2021. Fire Hazard Severity Zone Viewer. Available: <<https://egis.fire.ca.gov/FHSZ/>>. Accessed April 14, 2021.

# 10 Hydrology and Water Quality

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(i) Result in substantial erosion or siltation on- or off-site;	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(ii) Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(iii) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(iv) Impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d. In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e. Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

*10a. Would the project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?*

The CAP Update is a policy document containing measures intended to reduce GHG emissions in the City. CAP Actions E-3-2, E-3-3, E-3-7, and E-4-1 through E-4-4 promote building electrification of existing buildings and installation of solar PV systems and battery storage facilities to provide greener renewable electricity within the City. CAP Actions T-1-1, T-1-3 through T-1-5, T-3-1, T-3-5, and T-3-8 support the installation of new bicycle, pedestrian, and public transit infrastructure throughout the City to increase the use of public transit and active transportation. CAP Actions T-2-1 through T-2-3, T-2-5, and T-2-8 encourage the installation of electric vehicle charging stations and supporting infrastructure. CAP Actions W-1-1 and W-1-3 through W-1-5 relate to increasing organic waste diversion and facility capacities for organic waste collection. Additionally, CAP Actions T-4-3, S-1-1, and S-1-2 encourage increasing parklet, greenspace, and the planting of urban trees within the community. These measures and actions may result in small scale construction activities in the future that could result in water quality impacts due to soil erosion and ground disturbance, as further discussed under Section 7, *Geology and Soils*, and Topic 10c, below.

However, CAP projects and actions would be reviewed for consistency with local and State regulations, including the National Pollution Discharge Elimination System (NPDES) permitting program which requires implementation of Stormwater Pollution Prevention Plans (SWPPPs) and CMC Chapter 16R.22, Grading Standards.<sup>66</sup> These regulations require BMPs to reduce water quality impacts from construction activities. Compliance with the CMC and/or NPDES permitting program would ensure that BMPs are implemented during construction to minimize potential impacts to surface and groundwater quality. As such, the CAP's related infrastructure projects would not result in new or different wastewater discharge that would violate water quality standards, waste discharge requirements, or otherwise degrade surface or groundwater quality. Therefore, the CAP Update would result in ***less-than-significant impacts*** related to surface or groundwater water quality in Chico.

*10b. Would the project substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?*

The CAP is a policy document containing programs that are consistent with the City's General Plan. CAP Actions T-4-3, S-1-1, and S-1-2 encourage increasing parklet, greenspace, urban trees, and permeable surfaces within the community, which would help to reduce impermeable groundcover within the City and improve groundwater infiltration. Furthermore, implementation of the CAP Update actions related to infrastructure development and redevelopment, such as improving the active transportation and public transit facilities within the City, would not substantially degrade groundwater quality or groundwater recharge. Therefore, the CAP Update would result in ***no impact*** related to impedance of sustainable groundwater management.

*10c. Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:*

- *Result in substantial erosion or siltation on- or off-site?*

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<sup>66</sup> Chico, City of. 2021. City Municipal Code Chapter 16R.22. Available: < [https://codelibrary.amlegal.com/codes/chico/latest/chico\\_ca/0-0-0-1](https://codelibrary.amlegal.com/codes/chico/latest/chico_ca/0-0-0-1)>. Accessed May 18, 2021.

- *Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?*
- *Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?*
- *Impede or redirect flood flows?*

Implementation of several CAP Update measures may promote infrastructure development and small-scale construction activities within the City. CAP Measure E-4 would promote development of battery storage facilities to provide greener renewable electricity within the City. CAP Actions T-1-1, T-1-3 through T-1-5, T-3-1, T-3-5, and T-3-8 support the installation of new bicycle, pedestrian, and public transit infrastructure throughout the City to increase the use of public transit and active transportation. CAP Actions T-2-1 through T-2-3, T-2-5, and T-2-8 encourage the installation of electric vehicle charging stations and supporting infrastructure. CAP Measure W-1 may result in new or expanded organic waste processing facilities. Additionally, CAP Actions T-4-3, S-1-1, and S-1-2 encourage increasing parklet, greenspace, and the planting of urban trees within the community.

Providing new transportation infrastructure, new greenspace and trees, and battery energy storage and organic waste processing facilities may slightly change the City's existing drainage pattern and amount of impervious surface. Construction of CAP projects could also result in erosion as discussed in Section 7, *Geology and Soils*. However, impacts to drainage and water quality during construction would be minimized through the implementation of BMPs as required by the CMC and NPDES Construction General Permit program. In addition, CAP projects would be in accordance with the General Plan, which includes goals and policies for the protection and preservation of creeks, streams, and groundwater within the City.<sup>67</sup> Furthermore, CAP Actions T-4-3, S-1-1, and S-1-2 would increase permeable surfaces within the City, which would improve drainage and water quality. Therefore, the CAP Update would result in a ***less-than-significant impact*** related to the alteration of existing drainage patterns.

*10d. Would the project result in flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?*

The City is not located within designated seiche or tsunami zones. Portions of the City are within the 100- and 500-year flood zones defined by Federal Emergency Management Agency (FEMA) and the City is downstream of three dams.<sup>68,69</sup> Therefore, areas of the City are at risk of flooding. As described in Response 10c., CAP projects would not impede or redirect flood flows, and as discussed in Section 9, *Hazards and Hazardous Materials*, CAP projects would generally not involve the regular use or storage of hazardous materials with the exception of battery energy storage facilities that include the storage of lithium ion batteries. Future CAP projects, such as battery energy storage facilities, would be reviewed for compliance with the applicable local and State regulations related to flooding and hazardous materials use. Furthermore, any projects associated with implementation of the CAP located in flood-prone areas must comply with Chapter 16R.37, Floodplain Standards, Chapter 16.34, Floodplain Regulations- General Provisions, Chapter 16.37, Flood Plain Regulations- Standards, and Chapter 16.38, Floodplain Regulations- Enforcement, of the CMC which provide

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<sup>67</sup> Chico, City of. 2011. Chico 2030 General Plan. Available: <<https://chico.ca.us/post/chico-2030-general-plan>>. Accessed March 29, 2021.

<sup>68</sup> Federal Emergency Management Agency (FEMA). 2021. FEMA Flood Map Service Center. Available: <<https://msc.fema.gov/portal/search?AddressQuery=chico%2C%20ca#searchresultsanchor>>. Accessed April 27, 2021.

<sup>69</sup> Butte County. 2019. Local Hazard Mitigation Plan Update. Available: <<https://www.buttecounty.net/oem/mitigationplans>>. Accessed March 23, 2021.

requirements to mitigate potential flood risks.<sup>70,71,72</sup> Therefore, the CAP Update would result in a **less-than-significant impact** related to flooding and inundation resulting in release of pollutants.

*10e. Would the project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?*

The CAP Update measures would not include activities that would result in the direct extraction of groundwater. Rather, the CAP Update encourages expanded permeable surfaces within the City, which would aid in groundwater recharge and reduced surface water runoff and related water quality issues. The CAP Update would not interfere with or obstruct implementation of water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality. Therefore, the CAP Update would result in **no impact** related to consistency with a water quality control plan or sustainable groundwater management plan.

## Cumulative Impacts

The cumulative projects scenario is overall General Plan buildout for Chico in 2030. CAP Update projects, in combination with other cumulative projects anticipated under General Plan buildout, are not anticipated to contribute to cumulative hydrology and water quality impacts with adherence to applicable General Plan policies and applicable local, State, and federal regulatory requirements. Implementation of the CAP would not contribute to an increase in growth and development in Chico but could result in infrastructure development projects, including renewable energy facilities and alternative transportation thoroughfares. As such, implementation of the CAP and other cumulative projects could have incremental impacts related to hydrology and water quality, with potential minor alterations to existing drainage patterns in the City. Therefore, implementation of the CAP Update would result in a **less-than-significant cumulative impact** related to hydrology and water quality.

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<sup>70</sup> Chico, City of. 2021. City Municipal Code Chapter 16R.37. Available: <[https://codelibrary.amlegal.com/codes/chico/latest/chico\\_ca/0-0-0-1](https://codelibrary.amlegal.com/codes/chico/latest/chico_ca/0-0-0-1)>. Accessed May 18, 2021.

<sup>71</sup> Chico, City of. 2021. City Municipal Code Chapter 16.37. Available: <[https://codelibrary.amlegal.com/codes/chico/latest/chico\\_ca/0-0-0-1](https://codelibrary.amlegal.com/codes/chico/latest/chico_ca/0-0-0-1)>. Accessed May 18, 2021.

<sup>72</sup> Chico, City of. 2021. City Municipal Code Chapter 16.38. Available: <[https://codelibrary.amlegal.com/codes/chico/latest/chico\\_ca/0-0-0-1](https://codelibrary.amlegal.com/codes/chico/latest/chico_ca/0-0-0-1)>. Accessed May 18, 2021.

# 11 Land Use and Planning

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

*11a. Would the project physically divide an established community?*

The CAP Update is a policy document containing measures that are consistent with the Chico General Plan and does not include measures or specific development projects that would divide an established community. CAP Measures T-1 and T-3 facilitate the provisioning of new bike lanes, shared bikes, bike parking, sidewalks and pedestrian infrastructure and would also improve the public transit system. Such measures would help to increase connectivity within the Chico community. Therefore, the CAP Update would result in **no impact** related to division of an established community.

*11b. Would the project cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?*

The CAP Update is a policy document containing measures that are consistent with the Chico General Plan and that are designed to reduce adverse environmental impacts associated with climate change. Nonetheless, implementing the CAP Update would require some modification of existing policies, including developing and implementing new programs, and projects, or modifying existing ones. For example, CAP Measures E-2 and E-3 include adoptions of new building ordinances to require building electrification for new and existing developments, as well as revisions to Residential Energy Conservation Ordinance. CAP Action T-1-3 would require updates to Title 18 of the CMC to require bicycle infrastructure improvements for major road upgrade projects. CAP Measures T-2 through T-4 would require updates to the CMC and zoning code to increase EV charging infrastructure, reduce VMT through TDM strategies, and improve parking and curb management. In addition, CAP Measure W-1 would require the adoption of a food recovery ordinance and organics collection ordinance to increase the diversion of organic waste in the City. In order to implement these measures, the City Municipal Code, General Plan, and other applicable documents may need to be amended to reflect new or modified requirements. However, where modifications of existing policies are needed, such as updates to policies related to energy, solid waste, transit, and active transportation, the CAP measures would result in greater avoidance or

reduction of environmental effects. Therefore, the CAP Update would result in ***no impact*** related to consistency with current land use plans or policies.

### **Cumulative Impacts**

The cumulative projects scenario is overall General Plan buildout for Chico in 2030. The CAP Update is a policy document containing measures that are consistent with the City's General Plan. Nonetheless, implementing the CAP Update projects, in combination with other cumulative projects anticipated under General Plan buildout, would require some modification of existing land use policies, including developing and implementing new programs, and projects, or modifying existing ones. The proposed policy changes are consistent with the intent of the goals and policies established within the City General Plan and Zoning Regulations and would not cumulatively contribute to population growth or the loss of housing. Cumulative projects, including the CAP Update, would be required to adhere to City development regulations and General Plan policies to retain land use character and minimize environmental impacts. Future CAP Update projects and actions would be reviewed for consistency with the General Plan and other applicable regulatory land use actions prior to approval. Therefore, implementation of the CAP Update would result in a ***less-than-significant cumulative impact*** related to land use.



# 12 Mineral Resources

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

12a, 12b. Would the project result in the loss of availability of a:

- *Known mineral resource that would be of value to the region and the residents of the State?*
- *Locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?*

The City of Chico General Plan and General Plan Update EIR do not identify any mineral resources or mineral resources recovery sites within the City.<sup>73,74</sup> Furthermore, the CAP Update would not facilitate infrastructure development projects within the City that could result in the loss of availability of known mineral resources. Therefore, the CAP Update would result in **no impact** related to mineral resource.

## Cumulative Impacts

The cumulative projects scenario is overall General Plan buildout for Chico in 2030. The City of Chico General Plan does not identify any mineral resources or mineral resources recovery sites within the City limits. As such, no cumulative impact related to mineral resources could occur. Therefore, implementation of the CAP Update would result in **no cumulative impact** related to mineral resources.

<sup>73</sup> Chico, City of. 2011. Chico 2030 General Plan. Available: <<https://chico.ca.us/post/chico-2030-general-plan>>. Accessed March 29, 2021.

<sup>74</sup> Chico City of. 2010. 2030 General Plan Update Draft Environmental Impact Report. Available: <[https://chico.ca.us/sites/main/files/file-attachments/chicodeir\\_combined\\_noappendices.pdf?1577755314](https://chico.ca.us/sites/main/files/file-attachments/chicodeir_combined_noappendices.pdf?1577755314)>. Accessed March 29, 2021.

# 13 Noise

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project result in:				
a. Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Generation of excessive groundborne vibration or groundborne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

13a. *Would the project result in exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?*

Noise is unwanted sound that disturbs human activity. Environmental noise levels typically fluctuate over time, and different types of noise descriptors are used to account for this variability. Noise level measurements include intensity, frequency, and duration, as well as time of occurrence. Noise level (or volume) is generally measured in decibels (dB) using the A-weighted sound pressure level (dBA). Because of the way the human ear works, a sound must be about 10 dBA greater than the reference sound to be judged as twice as loud. In general, a 3 dBA change in community noise levels is noticeable, while 1-2 dBA changes generally are not perceived. Quiet suburban areas typically have noise levels in the range of 40-50 dBA, while arterial streets are in the 50-60+ dBA range. Normal conversational levels are in the 60-65 dBA range, and ambient noise levels greater than 65 dBA can interrupt conversations.

Noise levels typically attenuate (or drop off) at a rate of 6 dBA per doubling of distance from point sources (such as construction equipment). Noise from lightly traveled roads typically attenuates at a rate of about 4.5 dBA per doubling of distance. Noise from heavily traveled roads typically attenuates at about 3 dBA per doubling of distance; while noise from a point source typically attenuates at about 6 dBA per doubling of distance. Noise levels may also be reduced by the introduction of intervening structures. For example, a single row of buildings between the receptor

and the noise source reduces the noise level by about 5 dBA, while a solid wall or berm that breaks the line-of-sight reduces noise levels by 5 to 10 dBA.

The General Plan Noise Element identifies major sources of noise within the City as roadway traffic, the Chico Municipal Airport, Union Pacific Railroad, and the Enloe Medical Center Heliport. The Noise Element aims to ensure appropriate noise levels considered compatible for community noise environments. The City’s normally acceptable exterior noise exposure standard is 65 dBA community noise equivalent level (CNEL) or less for residential and other noise sensitive uses, as shown below in Table 5.<sup>75</sup> In addition, CMC Chapter 9.38, Noise, establishes noise regulations for residential, commercial, industrial, and public property uses, as well as for construction activity noise.<sup>76</sup>

**Table 5 General Plan Noise Element Maximum Allowable Noise Levels**

Land Use	Outside Areas (CNEL, dB)
Residential (Single-family, multi-family)	65
Transient Lodging	--
Hospitals, Nursing Homes	65
Theaters, Auditoriums, Music Halls	--
Churches, Meeting Halls	65
Office Buildings	--
Schools, Libraries, Museums	65
Playgrounds, Neighborhoods, Parks	70
Source: City of Chico General Plan Noise Element	

The CAP Update is a policy document containing programs that are consistent with the General Plan. Some of the proposed measures of the CAP would support small scale construction projects. These include CAP Measures E-3 and E-4 that promote building electrification of existing buildings and installation of solar PV systems and battery storage facilities, CAP Measures T-1, T-2, and T-3 that support the installation of new bicycle, pedestrian, electric vehicle and public transit infrastructure, CAP Measure W-1 that could result in new or expanded organic waste processing facilities, and CAP Actions T-4-3, S-1-1, and S-1-2 that encourage increasing parklet, greenspace, and the planting of urban trees within the community. However, CAP projects and actions would be reviewed for consistency with the General Plan and Municipal Code and construction activities would be required to comply with the provisions of CMC Chapter 9.38, including the permitted construction hours and maximum noise limits. Therefore, the CAP Update would not result in significant construction noise related impacts.<sup>77</sup>

<sup>75</sup> Chico, City of. 2011. Chico 2030 General Plan Noise Element. Available: <<https://chico.ca.us/post/chico-2030-general-plan>>. Accessed March 29, 2021.

<sup>76</sup> Chico, City of. 2021. City Municipal Code Chapter 9.38. Available: <[https://codelibrary.amlegal.com/codes/chico/latest/chico\\_ca/0-0-0-1](https://codelibrary.amlegal.com/codes/chico/latest/chico_ca/0-0-0-1)>. Accessed May 18, 2021.

<sup>77</sup> Chico, City of. 2021. City Municipal Code Chapter 9.38. Available: <[https://codelibrary.amlegal.com/codes/chico/latest/chico\\_ca/0-0-0-1](https://codelibrary.amlegal.com/codes/chico/latest/chico_ca/0-0-0-1)>. Accessed May 18, 2021.

The CAP Update does not include future projects that would result in substantial operational noise. Rather, the CAP Update encompasses a suite of GHG-reduction opportunities that affect the transportation sector and its associated noise. For example, CAP Measure T-1 facilitate bike lanes, bike parking, and pedestrian infrastructure to increase active transportation and decrease VMT. CAP Measure T-3 intends to increase public transit infrastructure and ridership, while Measures T-4 and T-5 would encourage mode shifts to active and public transit and infill development to reduce urban sprawl and associated VMT. In addition, Measure T-2 encourages the adoption of EVs within the City, which produce less traffic noise than standard vehicles. These measures would reduce VMT and traffic-related noise in Chico. Therefore, the CAP Update would not generate excessive noise levels and, therefore, would result in a ***less-than-significant impact*** related to noise exposure.

*13b. Would the project result in exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?*

While people have varying sensitivities to vibrations at different frequencies, in general they are most sensitive to low-frequency vibration. Vibration in buildings, such as from nearby construction activities, may cause windows, items on shelves, and pictures on walls to rattle. Vibration of building components can also take the form of an audible low-frequency rumbling noise, referred to as groundborne noise.<sup>78</sup> Although groundborne vibration is sometimes noticeable in outdoor environments, it is almost never annoying to people who are outdoors. The primary concern from vibration is that it can be intrusive and annoying to building occupants and vibration-sensitive land uses.

Vibration amplitudes are usually expressed in peak particle velocity (PPV) or Root Mean Square (RMS) vibration velocity. The PPV and RMS velocity are normally described in inches per second (in/sec). PPV is defined as the maximum instantaneous positive or negative peak of a vibration signal. PPV is often used in monitoring of blasting vibration because it is related to the stresses that are experienced by buildings.<sup>79</sup> Vibration significance ranges from approximately 50 vibration decibels (VdB), which is the typical background vibration-velocity level, to 100 VdB, the general threshold where minor damage can occur in fragile buildings.<sup>80</sup> The general human response to different levels of groundborne vibration velocity levels is described in Table 6.

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<sup>78</sup> California Department of Transportation (Caltrans). 2020. Transportation and Construction Vibration Guidance Manual (CT-HWANP-RT-13-069.25.3). Available: <<https://dot.ca.gov/-/media/dot-media/programs/environmental-analysis/documents/env/tcvgm-apr2020-a11y.pdf>>. Accessed May 14, 2021.

<sup>79</sup> Federal Highway Administration (FHWA). 2006. FHWA Highway Construction Noise Handbook. (FHWAHEP-06-015; DOT-VNTSC-FHWA-06-02). Available: <[https://www.fhwa.dot.gov/Environment/noise/construction\\_noise/handbook/handbook00.cfm](https://www.fhwa.dot.gov/Environment/noise/construction_noise/handbook/handbook00.cfm)>. Accessed May 14, 2021.

<sup>80</sup> Federal Transit Administration (FTA). 2018. Transit Noise and Vibration Impact Assessment Manual. Available: <[https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/research-innovation/118131/transit-noise-and-vibration-impact-assessment-manual-fta-report-no-0123\\_0.pdf](https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/research-innovation/118131/transit-noise-and-vibration-impact-assessment-manual-fta-report-no-0123_0.pdf)>. Accessed May 14, 2021.

**Table 6 Human Response to Different Levels of Groundborne Vibration**

Vibration Velocity Level	Human Reaction
65 VdB	Approximate threshold of perception for many people
75 VdB	Approximate dividing line between barely perceptible and distinctly perceptible. Many people find that transportation-related vibration at this level is unacceptable.
85 VdB	Vibration acceptable only if there are an infrequent number of events per day

VdB = vibration decibels  
 Source: Federal Transit Administration. Transit Noise and Vibration Impact Assessment Manual. 2018.  
[https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/research-innovation/118131/transit-noise-and-vibration-impact-assessment-manual-fta-report-no-0123\\_0.pdf](https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/research-innovation/118131/transit-noise-and-vibration-impact-assessment-manual-fta-report-no-0123_0.pdf) <sup>81</sup>

The CAP Update is a policy document containing programs that are consistent with the General Plan. Some of the proposed CAP measures would support small-scale construction projects, such as electric vehicle charging station, bike lane, and public transit facility construction that may result in a temporary increase in groundborne vibration. However, CAP projects and actions would be reviewed for consistency with the General Plan and Municipal Code and construction activities would be required to comply with applicable local, State, and federal regulations to ensure that temporary construction impacts related to groundborne vibration would not occur. Furthermore, CAP projects would not include operational sources of groundborne vibration. Therefore, the CAP Update would result in a **less-than-significant impact** related to groundbourne vibration.

*13c. For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?*

The Chico Municipal Airport is located in the northern portion of the City. The location as well as goals and policies associated with the airport area are included in the Chico General Plan Safety Element and Butte County Airport Land Use Commission Airport Compatibility Plan for the Chico Municipal Airport.<sup>82,83</sup> The CAP Update is a policy document that would not increase airport activity or result in additional habitable development or commercial development that could increase potential exposure of residents and employees to aircraft-related noise. Therefore, the CAP Update would result in **no impact** related to aviation-related noise exposure.

### Cumulative Impacts

The cumulative projects scenario is overall General Plan buildout for Chico in 2030. The CAP Update is a policy document containing programs that are consistent with the City of Chico General Plan, including the Noise Element. Nonetheless, the CAP Update projects, in combination with other cumulative projects anticipated under General Plan buildout, would support construction projects, such as electric vehicle charging station and bicycle lane construction that may result in a temporary

<sup>81</sup> Federal Transit Administration. 2018. Transit Noise and Vibration Impact Assessment Manual. <[https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/research-innovation/118131/transit-noise-and-vibration-impact-assessment-manual-fta-report-no-0123\\_0.pdf](https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/research-innovation/118131/transit-noise-and-vibration-impact-assessment-manual-fta-report-no-0123_0.pdf)>. Accessed May 14, 2021.

<sup>82</sup> Chico, City of. 2011. 2030 General Plan Safety Element. Available: <[https://chico.ca.us/sites/main/files/file-attachments/12\\_safety\\_element.pdf?1594855037](https://chico.ca.us/sites/main/files/file-attachments/12_safety_element.pdf?1594855037)>. Accessed April 14, 2021.

<sup>83</sup> Butte County Airport Land Use Commission. 2017. Airport Land Use Compatibility Plan: Chico Municipal, Oroville Municipal, Paradise, and Ranchoero Airports. Available: <[https://www.buttecounty.net/Portals/10/Docs/ALUC/BCALUCP\\_11-15-17/Butte\\_County\\_Airport\\_Land\\_Use\\_Compatibility\\_Plan\\_2017-11-15.pdf](https://www.buttecounty.net/Portals/10/Docs/ALUC/BCALUCP_11-15-17/Butte_County_Airport_Land_Use_Compatibility_Plan_2017-11-15.pdf)>. Accessed April 14, 2021.

increase in groundborne vibration or noise levels. However, cumulative projects, including CAP projects, would be subject to review by the City for compliance with the General Plan and Municipal Code and would be required to comply with applicable State and federal regulations governing construction noise and vibration. Additionally, the CAP Update encompasses a suite of GHG-reduction opportunities that would decrease traffic and traffic-related noise. As such, implementation of the CAP Update would not generate excessive groundborne vibration or noise levels. Therefore, the CAP Update would result in a ***less-than-significant cumulative impact*** related to noise.

# 14 Population and Housing

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

*14a, 14b. Would the project induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)? Would the project displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?*

The CAP Update does not include measures, policies, or programs that would result in new housing or jobs or that would displace existing residents or housing. In addition, bike lane and public transit facility infrastructure construction that could result from CAP implementation would be for purposes of replacing existing single-occupancy vehicle use rather than extending infrastructure to support a growth in population. Therefore, the CAP Update would not directly increase the population, indirectly induce additional unplanned population growth, or displace people or housing. Therefore, the CAP Update would result in **no impact** related to population and housing.

## Cumulative Impacts

The cumulative projects scenario is overall General Plan buildout for Chico in 2030. CAP Update projects, in combination with other cumulative projects anticipated under General Plan buildout, are not anticipated to displace people or housing nor induce substantial unplanned population growth in the City. Specifically, the CAP Update would not contribute to person or housing displacement in the City of Chico nor result in population growth beyond that already assumed and planned for in the General Plan. Therefore, the CAP Update would result in **no cumulative impact** related to population and housing.

# 15 Public Services

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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a. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:

1. Fire protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2. Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
3. Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
4. Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
5. Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

*15a. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:*

- *Fire protection?*
- *Police protection?*
- *Schools?*
- *Parks?*
- *Other public facilities?*

The CAP Update is a policy document containing programs that are consistent with the Chico General Plan. Implementation of the CAP and the proposed measures would not result in increases in population or new employment opportunities that could induce population growth. As such, the CAP Update would not require the construction of new or physically altered governmental facilities to serve additional population, the construction of which could cause significant environmental impacts. Furthermore, CAP Update projects and actions would be reviewed for consistency with the Chico General Plan and other applicable local and State regulations related to public services. Therefore, the CAP Update would result in **no impact** related to public services in terms of need for the construction of new or altered governmental facilities.



## Cumulative Impacts

The cumulative projects scenario is overall General Plan buildout for Chico in 2030. Implementation of CAP Update projects, in combination with other cumulative projects anticipated under General Plan buildout, would not result in increases in population or induce additional population growth beyond that assumed under the Chico General Plan. Therefore, implementation of the CAP Update would not result in substantial cumulative need to expand public services facilities. Therefore, the CAP Update would result in a ***less-than-significant cumulative impact*** related to public services.

# 16 Recreation

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

*16a, 16b. Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated? Would the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?*

Chico is a primarily urbanized community with parks and recreational spaces incorporated throughout the City, including the 3,670-acre Bidwell Park and 28 other public parks for a total of 4,176 acres of parkland.<sup>84</sup> The General Plan Parks, Public Facilities, and Services Element incorporate goals and policies to protect open space/recreational resources in the City. The CAP Update is a policy document containing programs that are consistent with Chico’s General Plan. CAP Action T-4-3 encourages the development of parklets throughout the City and Measure S-1 seeks to increase greenspace and trees within the City, which align with the goals of the Parks, Public Facilities, and Services Element. Additionally, as described in Section 14, *Population and Housing*, the CAP Update would not result in substantial population growth or direct land use changes. As such, implementation of the CAP Update would not result in a substantial physical deterioration of parks or other recreational facilities or result in the need to expand recreational facilities. Therefore, the CAP Update would result in **no impact** related to the need for construction of new or altered recreational facilities.

## Cumulative Impacts

The cumulative projects scenario is overall General Plan buildout for Chico in 2030. Implementation of CAP Update projects, in combination with other cumulative projects anticipated under General Plan buildout, would not result in increases in population or induce additional population growth beyond that assumed under the General Plan. Therefore, implementation of the CAP would not result in increased demand for parks or substantial cumulative physical deterioration of parks or

<sup>84</sup> Chico, City of. 2011. Chico 2030 General Plan Parks, Public Facilities, and Services Element. Available: <<https://chico.ca.us/post/chico-2030-general-plan>>. Accessed March 29, 2021.

other recreational facilities or result in the cumulative need to expand recreational facilities. In addition, the CAP Update includes measures to increase the number of trees, parklets, and greenspace within the community, which aligns with the General Plan goals. Therefore, implementation of the CAP Update would result in ***no cumulative impact*** related to recreation.

# 17 Transportation

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c. Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible use (e.g., farm equipment)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d. Result in inadequate emergency access?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

*17a, 17b. Would the project conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities? Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?*

The City of Chico General Plan Circulation Element includes the following goals:

- Goal CIRC-1: Provide a comprehensive multimodal circulation system that serves the build-out of the Land Use Diagram and provides for the safe and effective movement of people and goods.
- Goal CIRC-2: Enhance and maintain mobility with a complete streets network for all modes of travel.
- Goal CIRC-3: Expand and maintain a comprehensive, safe, and integrated bicycle system throughout the City that encourages bicycling.
- Goal CIRC-4: Design a safe, convenient, and integrated pedestrian system that promotes walking.
- Goal CIRC-5: Support a comprehensive and integrated transit system as an essential component of a multimodal circulation system.
- Goal CIRC-6: Plan for and promote a full range of aviation services and facilities that meet the present and future needs of residents and the business community.
- Goal CIRC-7: Increase rail services and improve rail freight movement facilities.

- Goal CIRC-8: Provide parking that supports the Citywide goals for economic development, livable neighborhoods, sustainability, and public safety.
- Goal CIRC-9: Reduce the use of single-occupant motor vehicles.<sup>85</sup>

Additionally, the City adopted the Chico Bicycle Plan Update in 2019 to implement the bicycle implement the General Plan goals related to bicycling, complete streets, sustainability, and reducing transportation GHG emissions. The Bicycle Plan includes guidance for establishing and maintaining a network of bicycle facilities that encourages active transportation within the City.<sup>86</sup>

The CAP Update is a policy document containing measures that are consistent with the City General Plan Circulation Element, including many that are aimed at facilitating the implementation of the local transportation programs and improvements. CAP Measure T-1 facilitates bike lanes, bike parking, public outreach, and new transportation planning to increase active transportation and decrease VMT within the City. CAP Measure T-3 promotes active transportation, public transit ridership, shared mobility solutions, and TDM strategies to reduce VMT and improve sustainable transportation practices within the community. CAP Measure T-4 seeks to implement parking and curb management practices within the City to further incentivize alternate modes of transportation. Additionally, CAP Measure T-5 encourages infill development to reduce suburban sprawl and associated VMT.

These CAP measures would be consistent with the General Plan Circulation Element goals and the Bicycle Plan related to improving multi-modal facilities within the City, reducing VMT and single-occupancy vehicles, and encouraging active transportation. Implementation of some of the CAP Update transportation measures may require future infrastructure development or improvements, such as bike paths and sidewalks. However, CAP projects and actions would be reviewed for consistency with the General Plan and Municipal Code and be required to comply with applicable local, State, and federal regulations to reduce any potential construction-related impacts to the circulation system. Furthermore, the CAP Update would seek to reduce VMT within the City, consistent with CEQA Guidelines section 15064.3, subdivision (b). Therefore, the CAP would result in **no impact** related to consistency with plans addressing the transportation circulation system and CEQA Guidelines section 15064.3, subdivision (b).

*17c, 17d. Would the project substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible use (e.g., farm equipment) or result in inadequate emergency access?*

The CAP Update is a policy document containing measures that are consistent with the City General Plan and would not facilitate development beyond that allowed under the General Plan. CAP Measures T-1 and T-3 would result in new bike lanes, sidewalks/pedestrian paths, and public transit infrastructure, which may result in temporary lane closures on local roadways. However, CAP projects involving work within the public right-of-way would be required to comply with the provisions of CMC Chapter 14.08, Encroachments and Permits, which include compliance with a traffic control plan, safety signage, and project review by the Chico Public Works Department to ensure that significant impacts to the circulation system, including safety impacts and emergency

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<sup>85</sup> Chico, City of. 2011. Chico 2030 General Plan Circulation Element. Available: <<https://chico.ca.us/post/chico-2030-general-plan>>. Accessed March 29, 2021.

<sup>86</sup> Chico, City of. 2019. Chico Bicycle Plan Update. Available: <[https://www.csuchico.edu/sustainability/\\_assets/documents/2019-city-of-chico-bike-plan.pdf](https://www.csuchico.edu/sustainability/_assets/documents/2019-city-of-chico-bike-plan.pdf)>. Accessed April 27, 2021.

access would not occur.<sup>87</sup> As such, construction of CAP Update projects would not create transportation hazards or result in inadequate emergency access. Furthermore, the CAP Update would facilitate increased active transportation and public transit use and decreased VMT within the City, which in turn would reduce potential transportation hazards and congestion conditions that can hinder emergency response. Therefore, the CAP Update would result in a ***less-than-significant impact*** related to transportation hazards and emergency access.

## Cumulative Impacts

The cumulative projects scenario is overall General Plan buildout for Chico in 2030. The CAP Update is a policy document containing programs that are consistent with the City's General Plan, and, similar to the other cumulative projects anticipated under General Plan buildout, the CAP Update does not propose development beyond that anticipated under the General Plan that would require the provisioning of new roadways. The goals, policies, objectives, measures, and actions included in the CAP Update promote alternative modes of transportation and reduction of VMT throughout the City. In addition, the CAP measures would not conflict with the objectives and policies of the General Plan or Chico Bicycle Plan but would rather be consistent with and promote those plans. Therefore, the CAP Update would result in a ***less-than-significant cumulative impact*** related to transportation.

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<sup>87</sup> Chico, City of. City Municipal Code Chapter 14.08. Available: <[https://codelibrary.amlegal.com/codes/chico/latest/chico\\_ca/0-0-0-1](https://codelibrary.amlegal.com/codes/chico/latest/chico_ca/0-0-0-1)>. Accessed May 18, 2021.

# 18 Tribal Cultural Resources

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

<p>a. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or</p>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<p>b. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 2024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significant of the resource to a California Native American tribe?</p>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

*18a, 18b. Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in a Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe and that is:*

- *Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code § 5020.1 (k)?*
- *A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code § 5024.1.*

*In applying the criteria set forth in subdivision (c) of Public Resources Code § 5024.1, the lead agency shall consider the significance of the resource to a California Native American Tribe.*

On May 24, 2021, the eight following Native American Heritage Commission (NAHC)-identified local Native American tribal groups were formally notified that the City initiated environmental review of the CAP Update and were invited to provide consultation:

- Berry Creek Rancheria of Maidu Indians

- Estom Yumeka Maidu Tribe of the Enterprise Rancheria
- Greenville Rancheria of Maidu Indians
- KonKow Valley Band of Maidu
- Mechoopda Indian Tribe
- Mooretown Rancheria of Maidu Indians
- Tsi Akim Maidu
- Washoe Tribe of Nevada and California

Under AB 52, Native American tribes typically have 30 days to respond and request further project information and formal consultation. No responses were received to the mailings. No responses have been received, and no formal consultation has been requested. Accordingly, the requirements of AB 52 have been met for the project.

The CAP Update would not involve land use or zoning changes that would increase development within the City but would instead promote sustainable infrastructure development within the urbanized area of the City. As a policy document, the CAP Update would also not directly entail ground disturbing activities. Implementation of the CAP Measures related to building electrification, renewable energy production and storage, transportation, organic waste processing, and greenspace/tree planting may promote infrastructure development and minor construction activities.

CAP Actions E-3-2, E-3-3, E-3-7, and E-4-1 through E-4-4 promote building electrification of existing buildings and installation of solar PV systems and battery storage facilities to provide greener renewable electricity within the City. Electrification retrofits may change the physical environment through the need for upgraded service and electrical panels, branch circuit upgrades, and installation of condensate drains to facilitate the installation of electric heat pumps for water and space heating. The physical changes these upgrades and additions would entail are dependent on the year of building construction and location of electrical and service panels and plumbing connection of condensate drains, which sometimes may include modifications to the interior and/or exterior of buildings for wiring and panel replacement and minor excavation for connection of drainage to sewer systems.

CAP Actions T-2-1 through T-2-3, T-2-5, and T-2-8 encourage the installation of electric vehicle charging stations and supporting infrastructure, CAP Actions T-1-1, T-1-3 through T-1-5, T-3-1, T-3-5, and T-3-8 support the installation of new bicycle, pedestrian, and public transit infrastructure throughout the City to increase the use of public transit and active transportation. These projects would primarily impact previously disturbed areas within the public right-of-way or within existing parking lots and developments. However, the physical changes these installations and enhancements would entail are dependent on the location of construction for the electric vehicle charging connections, active transportation pathways, and public transit facilities, which in some cases may include minor temporary excavation.

In addition, CAP Measure W-1 seeks to increase organic waste diversion within the City and could potentially result in new or expanded organic waste processing facilities, while CAP Actions T-4-3, S-1-1, and S-1-2 encourage increasing parklet, greenspace, and the planting of urban trees within the community. These measure and actions could result in ground disturbance related to the



construction of new facilities and planting new trees. However, the physical changes these installations and enhancements would entail are dependent on the location of construction.

Implementation of these CAP Measures and Actions could impact unknown tribal cultural resources during construction that involves below-grade activities in previously undisturbed soils. However, CAP projects would be required to comply with the General Plan Cultural Resources and Historic Preservation Element, including Action CRHP-1.16 that requires the City to implement the Best Management Practices Manual to include standard conditions of approval for the protection of tribal cultural resources and Action CRHP-3.1.1 that encourages consultation with the Mechoopa Indian Tribe.<sup>88</sup> As such, tribal cultural resources would be protected prior to and/or upon discovery and, thus, impacts would be reduced to a minimal level. Therefore, the CAP Update would result in a ***less-than-significant impact*** related to tribal cultural resources.

### Cumulative Impacts

The cumulative projects scenario is overall General Plan buildout for Chico in 2030. CAP Update projects, in combination with other cumulative projects anticipated under General Plan buildout, could increase the potential for adverse effects to unknown tribal cultural resources in the City. Impacts to tribal cultural resources are site-specific; accordingly, as required under applicable laws and regulations, potential impacts associated with cumulative developments would be addressed on a case-by-case basis as cumulative project details and locations become known. Therefore, the CAP Update would result in a ***less-than-significant cumulative impact*** related to tribal cultural resources.

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<sup>88</sup> Chico, City of. 2011. Chico 2030 General Plan Cultural Resources and Historic Preservation Element. Available: <<https://chico.ca.us/post/chico-2030-general-plan>>. Accessed March 29, 2021.

# 19 Utilities and Service Systems

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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Would the project:

a. Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c. Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d. Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e. Comply with federal, State, and local management and reduction statutes and regulations related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

*19a. Would the project require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?*

The CAP Update is a policy document aimed at reducing solid waste production and energy consumption, amongst other issues, and the related GHG emissions throughout the City of Chico and does not include site-specific infrastructure designs or project proposals. Implementing the CAP Update would not result in an increase in population and housing nor would it facilitate growth beyond that anticipated by the General Plan. As such, implementing the CAP would not create new

demand related to water, wastewater, stormwater drainage, electric power, natural gas power, or telecommunications utilities.

However, projects resulting from implementation of the CAP Update could include redevelopment and/or restructuring of electricity and natural gas power facilities and infrastructure, as well as new local renewable energy generation and storage projects. For example, CAP Actions E-3-2, E-3-3, E-3-7, and E-4-1 through E-4-4 promote building electrification of existing buildings and installation of solar PV systems and battery storage facilities to provide greener renewable electricity within the City. CAP Actions T-2-1 through T-2-3, T-2-5, and T-2-8 encourage the installation of electric vehicle charging stations and supporting infrastructure. Additionally, CAP Measure S-1 facilitates planting shade trees that could reduce cooling needs.

## Water Supply Facilities/Infrastructure

The City of Chico obtains its municipal water supply from the California Water Service Company (Cal Water) and is within the Chico-Hamilton City District of Cal Water's services. Cal Water's sources its supply in the Chico-Hamilton City District entirely from groundwater from the Vina Subbasin and the Corning Subbasin of the Sacramento Valley Basin. These subbasins are not adjudicated and are not identified as in critical overdraft condition.<sup>89</sup> Cal Water addresses issues of water supply in its Urban Water Management Plan (UWMP), which is a long-range planning document used to assess current and projected water usage, water supply planning, and conservation and recycling efforts. The most recently adopted UWMP is the 2015 UWMP; however, Cal Water is currently working on the 2020 UWMP and has released a public draft document for public review.<sup>90</sup> According to the UWMP, Cal Water has analyzed three different hydrological conditions to determine the reliability of water supplies: average/normal water year, single dry water year, and multiple, dry water year periods. The 2015 UWMP and Draft 2021 UWMP indicate that water supplies under the three hydrological conditions will be sufficient to meet demand through 2040 and 2045, respectively. In addition, both the 2015 UWMP and Draft 2021 UWMP include a Water Shortage Contingency Plan.<sup>89,90</sup>

~~CAP Actions WW-1-1 and WW-1-3 promote water efficiency through encouraging the use of greywater and rainwater systems, as well as continued implementation of the MWELQ requirements. In addition, CAP Action WW-1-2 and CAP Measure S-1 encourages~~ the use of permeable surfaces and the provisioning of new urban greenspace throughout the City and CAP Actions T-4-3, S-1-1, and S-1-2 would increase parklet, greenspace, urban trees, and permeable surfaces within the community, which would aid in improving water infiltration and groundwater recharge. Furthermore, the CAP Update would not result in new land uses, such as increased residential or commercial development, that would contribute to an increase in water use compared to existing conditions or that would require relocation or construction of new water infrastructure. ~~The CAP Update measures are intended to reduce water use within the City.~~ Therefore, the CAP Update would have **no impact** related to the need for construction or expansion of water supply facilities and infrastructure.

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<sup>89</sup> California Water Service Company (Cal Water). 2021. Draft 2020 Urban Water Management Plan: Chico-Hamilton City District. Available: <[https://www.calwater.com/docs/uwmp2021/CH\\_2020\\_UWMP\\_Public\\_Draft-2021-04-09.pdf](https://www.calwater.com/docs/uwmp2021/CH_2020_UWMP_Public_Draft-2021-04-09.pdf)>. Accessed April 28, 2021.

<sup>90</sup> California Water Service Company (Cal Water). 2016. 2015 Urban Water Management Plan: Chico-Hamilton City District. Available: <[https://www.calwater.com/docs/uwmp2015/ch/2015\\_Urban\\_Water\\_Management\\_Plan\\_Final\\_\(CH\).pdf](https://www.calwater.com/docs/uwmp2015/ch/2015_Urban_Water_Management_Plan_Final_(CH).pdf)>. Accessed April 28, 2021.

## Wastewater Treatment Facilities/Infrastructure

Chico maintains a system of wastewater conveyance and treatment infrastructure for wastewater generated within the City. The City's gravity sewer system consists of over 1,000,000 linear feet of pipeline and 15 lift stations that convey wastewater to the City of Chico Water Pollution Control Plant (WPCP).<sup>91,92</sup> The WPCP is located 4 miles southwest of the City and also provides wastewater treatment services for development in the surrounding unincorporated areas. The WPCP is designed for a wet-weather peak capacity of 12 million gallons daily (MGD).<sup>91</sup> The City disposes of its treated effluent in the Sacramento River.

The CAP Update would not result in new land uses that would generate sanitary wastewater or otherwise contribute to an increase in wastewater treatment requirements. The amount or characteristics of wastewater treated at the WPCP would not change compared to existing conditions with implementation of the proposed plan. Furthermore, the CAP Update would not require relocation or construction of new wastewater treatment infrastructure. Therefore, **no impact** related to need for construction or expansion of wastewater treatment facilities and infrastructure would occur.

## Stormwater Drainage Facilities/Infrastructure

The City of Chico maintains a system of storm drains, gutters, and ditches to convey stormwater generated during rain events. As discussed in Section 10, *Hydrology and Water Quality*, implementation of CAP Measures related to building electrification, renewable energy production and storage, transportation, organic waste diversion, and urban greenspace/trees may promote infrastructure development that would involve small-scale construction. CAP Measures E-3 and E-4 promote building electrification of existing buildings and installation of solar PV systems and battery storage facilities to provide greener renewable electricity within the City. CAP Measures T-1 and T-3 support the installation of new bicycle, pedestrian, and public transit infrastructure throughout the City to increase the use of public transit and active transportation. CAP Measure T-2 encourages the installation of electric vehicle charging stations and supporting infrastructure. CAP Measure W-1 relates to increasing organic waste diversion and facility capacities for organic waste collection. Additionally, CAP Actions T-4-3, S-1-1, and S-1-2 encourage increasing parklet, greenspace, and the planting of urban trees within the community.

Construction of projects implemented in accordance with the CAP Update could result in erosion and potential changes to drainage patterns. However, as described in Section 7, *Geology and Soils*, and Section 10, *Hydrology and Water Quality*, CAP projects would be required to comply with local, State, and federal requirements during construction that would control erosion and potential impacts to the stormwater drainage system. Furthermore, CAP Actions T-4-3, S-1-1, and S-1-2 encourage increasing parklet, greenspace, urban trees, and permeable surfaces within the

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<sup>91</sup> Chico, City of. 2021. Water Pollution Control Plant. Available: <<https://chico.ca.us/post/water-pollution-control-plant>>. Accessed April 28, 2021.

<sup>92</sup> Chico, City of. 2010. 2030 General Plan Update Draft Environmental Impact Report. Available: <[https://chico.ca.us/sites/main/files/file-attachments/chicodeir\\_combined\\_noappendices.pdf?1577755314](https://chico.ca.us/sites/main/files/file-attachments/chicodeir_combined_noappendices.pdf?1577755314)>. Accessed March 29, 2021.

community, which would help to reduce impermeable groundcover and stormwater flows to the City's drainage facilities. Therefore, **no impact** related to need for construction or expansion of stormwater drainage facilities and infrastructure would occur.

### **Electric Power Facilities/Infrastructure**

Electric power service in the City is provided by Pacific Gas & Electric (PG&E). CAP Actions E-3-2, E-3-3, E-3-7, and E-4-1 through E-4-4 promote building electrification of existing buildings and installation of solar PV systems and battery storage facilities to provide greener renewable electricity within the City. In addition, CAP Measure E-1 would implement electricity policy changes to automatically enroll accounts in a 100 percent renewable electricity option by 2024, with an opt-out option available to customers. In addition, CAP Measure T-2 encourages new electric vehicle infrastructure throughout the City. These measures may slightly alter electricity demand within the City. However, the CAP Update would serve as a pathway to reduce GHG emissions, including emissions related to energy consumption, and other beneficial environmental and sustainability effects. These benefits include a reduction in energy consumption. Therefore, the CAP Update would result in a **less-than-significant impact** related to construction, expansion, or relocation of electric power facilities and infrastructure.

### **Natural Gas Power Facilities/Infrastructure**

PG&E provides natural gas services to the City. The CAP would not involve new land uses that require new or additional natural gas service that could require the construction of new or expanded natural gas facilities. CAP Measures E-2 and E-3 would encourage building electrification in new and existing buildings to reduce natural gas consumption within the City. Implementation of these measures could involve minor alterations to existing natural gas infrastructure as natural gas use is reduced. However, the CAP Update would serve as a pathway to reduce GHG emissions, including emissions related to energy consumption, and other beneficial environmental and sustainability effects. These benefits include a reduction in natural gas consumption. Therefore, the CAP Update would result in a **less-than-significant impact** related to construction, expansion, or relocation of natural gas facilities and infrastructure.

### **Telecommunications Facilities/Infrastructure**

The City is served by existing telecommunications companies such as AT&T and Comcast. The CAP Update would not alter existing telecommunications facilities and infrastructure and would not involve new land uses or development that would require new telecommunications infrastructure. Therefore, the CAP would result in **no impact** related to need for construction or expansion of telecommunication facilities and infrastructure.

*19b, 19c. Would the project have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years? Would the project result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?*

The CAP Update is a policy-level document that does not include site-specific infrastructure designs or project proposals, nor does it grant entitlements for development that would have the potential to increase demand for water supply or other utility services. Implementing the CAP Update would not result in new residential, commercial, agricultural, or industrial construction and would have no

effect on water demand and wastewater treatment demand. Thus, the CAP Update would result in **no impact** related to water supply and wastewater treatment.

*19d, 19e. Would the project generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals? Would the project comply with federal, State, and local management and reduction statutes and regulations related to solid waste?*

North Valley Waste Management and Recology Butte Colusa Counties provide solid waste services within the City. The City maintains a compost facility that accepts commercial and residential green waste. Municipal solid waste generated in Chico is primarily disposed of at the Neal Road Recycling and Sanitary Waste Landfill operated by Butte County. The Neal Road Recycling and Sanitary Waste Landfill has a maximum permitted throughput of 1,500 tons of solid waste per day and has a remaining capacity of 20,847,970 cubic yards.<sup>93</sup>

The CAP Update focuses on sustainable infrastructure development and does not include land use or other policy changes that would result in increased residential, commercial, or other development that would increase solid waste generation within the City. CAP Measure W-1 seeks to increase participation in organic waste recovery and diversion to achieve a 75 percent reduction in organic waste by 2025, as well as generally decreasing the amount of waste produced within the City. Action W-1-1 would require residential and commercial organic waste generators to participate in organic waste collection programs. Action W-1-2 would require the City to pass an edible food recovery ordinance. Actions W-1-3 through W-1-5 would involve pilot programs and capacity planning exercises to better understand how organic waste and edible waste recovery can be increased within the City. These CAP Measures and Actions align with federal, State, and local regulations aimed at reducing solid waste disposal and increase organic waste diversion, such as Senate Bill 1383. While these measures may result in changes to local solid waste recovery services, the CAP would not facilitate habitable development and, thus, would not result in increased solid waste collection and disposal demand. Additionally, because the CAP is a policy document that would not facilitate growth beyond that anticipated by the General Plan, it would not generate solid waste in excess of State or local standards. Therefore, the CAP Update would result in **no impact** related to solid waste.

## Cumulative Impacts

The cumulative projects scenario is overall General Plan buildout for Chico in 2030. CAP Update projects, in combination with other cumulative projects anticipated under General Plan buildout within the City, could result in increases in population and additional use of or need for utilities and service systems. However, implementation of the CAP Update and related infrastructure projects would not result in increases in population or induce additional population growth that would require additional use of existing City utilities or service systems. Rather, implementation of the CAP Update would result in reduced energy consumption and solid waste production. Therefore, implementation of the CAP Update would result in a **less-than-significant cumulative impact** related to utilities and service systems.

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<sup>93</sup> California Department of Resources Recovery and Recycling (CalRecycle). 2021. WIS Facility/Site Activity Details: Neal Road Recycling and Waste Facility. Available: <<https://www2.calrecycle.ca.gov/SolidWaste/SiteActivity/Details/110?siteID=108>>. Accessed April 28, 2021.

## 20 Wildfire

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:				
a. Substantially impair an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Due to slope, prevailing winds, and other factors, exacerbate wildfire risks and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c. Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d. Expose people or structures to significant risks, including downslopes or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

20a-20d. *If located in or near State responsibility areas or lands classified as very high fire hazard severity zones, would the project:*

- *Substantially impair an adopted emergency response plan or emergency evacuation plan?*
- *Due to slope, prevailing winds, and other factors, exacerbate wildfire risks and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?*
- *Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?*
- *Expose people or structures to significant risks, including downslopes or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?*

According to CalFIRE, the majority of the City of Chico is not located in designated California Fire Hazard Severity Zones, and the City is not located in a State Responsibility Area.<sup>94</sup> There is an area of moderate fire hazard in the northwestern portion of the City, adjacent to the Chico Municipal Airport, as well as areas of very high fire hazard in the northeastern portion of the City within Upper Bidwell Park located within the Sierra Nevada foothills. In addition, areas surrounding the City limits to the east of State Route 99 are categorized as between moderate to very high fire hazard risk.<sup>92</sup>

Though there are areas within and surrounding the City that are at risk of wildfires, the CAP is a policy-level document that does not propose new residential, commercial, or institutional development that could be at risk from wildfire, nor does it grant entitlements for development that would have the potential to directly cause wildfire. In addition, the CAP Update includes measures to promote infill development and reduce urban sprawl at the urban-wildland interface and reduce natural gas infrastructure that poses wildfire risk if damaged during seismic events. Thus, the CAP Update would result in **no impact** related to wildfire.

### Cumulative Impacts

The cumulative projects scenario is overall General Plan buildout for Chico in 2030. CAP Update projects, in combination with other cumulative projects anticipated under General Plan buildout, that include new habitable development would not be located in areas designated as very high fire hazard severity zones, given that such designations only exist within Bidwell Park, which is designated or zoned for development. In addition, the CAP Update does not include new habitable development that could be at risk from wildfire, nor does it grant entitlements for development that would have the potential to cause wildfire. Therefore, the CAP Update would result in **no cumulative impact** related to wildfire.

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<sup>94</sup> California Department of Forestry and Fire Protection (CalFIRE). 2021. Fire Hazard Severity Zone Viewer. Available: <<https://egis.fire.ca.gov/FHSZ/>>. Accessed April 14, 2021.



## 21 Mandatory Findings of Significance

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Does the project:				
a. Have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Have impacts that are individually limited, but cumulatively considerable? (“Cumulatively considerable” means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. Have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

*21a. Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?*

The intent of the CAP Update is to reduce GHG emissions from Chico community operations through implementation of measures and actions related to energy use, transportation, solid waste, carbon sequestration, and community education and outreach. The CAP measures are consistent with the Chico General Plan and encourage residents, businesses, and the City to reduce energy, fuel use, VMT, and solid waste generation and the associated GHG emissions. The CAP Update would not facilitate development that would eliminate or threaten wildlife habitats or eliminate important examples of the major periods of California history or prehistory. Therefore, as discussed in more detail in Section 4, *Biological Resources*, Section 5, *Cultural Resources*, and Section 18, *Tribal Cultural*

*Resources*, the CAP Update would result in a **less-than-significant impact** related to biological and cultural resources.

*21b. Does the project have impacts that are individually limited, but cumulatively considerable? (“Cumulatively considerable” means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?*

Implementation of the CAP Update would result in a cumulatively beneficial reduction of GHG emissions across the City. In addition, as discussed throughout the respective cumulative impacts discussions within this document, the CAP Update would not result in significant cumulative impacts. Rather, implementation of the CAP Update would be consistent with General Plan policies aimed at reducing emissions of GHGs and air pollutants, reducing VMT, reducing energy supply demands on utilities, and decreasing solid waste generation. Therefore, the CAP Update would result in an overall **less-than-significant cumulative impact** related to all CEQA topics addressed within this document.

*21c. Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?*

In general, impacts to human beings are associated with air quality, greenhouse gas emissions and climate change, hazards and hazardous materials, and noise impacts. As detailed in the preceding sections, the project would not result, either directly or indirectly, in substantial adverse effects related to air quality, greenhouse gas emissions, hazards, and noise. As discussed in more detail in Section 3, *Air Quality*, Section 13, *Noise*, and Section 17, *Transportation*, the CAP Update could cause temporary construction impacts related to transportation, air quality, and noise that could, in turn, affect human beings but would not result in a substantial adverse effects. Rather, as discussed throughout this document, the CAP would serve as a pathway to reduce GHG emissions and would result in other positive environmental and sustainability effects. These benefits include reduction in building energy consumption and VMT, and solid waste generation and would improve air quality. Therefore, the CAP Update would result in a **less-than-significant impact** related to potential for adverse effects on human beings.

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Climate Action Plan Update

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# Appendix A

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Sources, Health Effects, and Typical Controls Associated with Criteria Pollutants

### Sources, Health Effects, and Typical Controls Associated with Criteria Pollutants

Pollutant	Sources	Health Effects	Typical Controls
Ozone (O <sub>3</sub> )	Formed when reactive organic gases (ROG) and nitrogen oxides react in the presence of sunlight. ROG sources include any source that burns fuels (e.g., gasoline, natural gas, wood, oil); solvents; petroleum processing and storage.	Breathing difficulties, lung tissue damage, vegetation damage, damage to rubber and some plastics.	Reduce motor vehicle reactive organic gas (ROG) and nitrogen oxide (NO <sub>x</sub> ) emissions through emission standards, reformulated fuels, inspections programs, and reduced vehicle use. Limit ROG emissions from commercial operations, gasoline refueling facilities, and consumer products. Limit ROG and NO <sub>x</sub> emissions from industrial sources such as power plants and manufacturing facilities.
Carbon monoxide (CO)	Any source that burns fuel such as automobiles, trucks, heavy construction and farming equipment, residential heating.	Chest pain in heart patients, headaches, reduced mental alertness.	Control motor vehicle and industrial emissions. Use oxygenated gasoline during winter months. Conserve energy.
Nitrogen dioxide (NO <sub>2</sub> )	See Carbon Monoxide.	Lung irritation and damage. Reacts in the atmosphere to form ozone and acid rain.	Control motor vehicle and industrial combustion emissions. Conserve energy.
Sulfur dioxide (SO <sub>2</sub> )	Coal or oil burning power plants and industries, refineries, diesel engines.	Increases lung disease and breathing problems for asthmatics. Reacts in the atmosphere to form acid rain.	Reduce use of high sulfur fuels (e.g., use low sulfur reformulated diesel or natural gas). Conserve energy.
Respirable particulate matter (PM <sub>10</sub> )	Road dust, windblown dust, agriculture and construction, fireplaces. Also formed from other pollutants (NO <sub>x</sub> , SO <sub>x</sub> , organics).	Increased respiratory disease, lung damage, cancer, premature death, reduced visibility, surface soiling.	Control dust sources, industrial particulate emissions, woodburning stoves and fireplaces. Reduce secondary pollutants which react to form PM <sub>10</sub> . Conserve energy.
Fine particulate matter (PM <sub>2.5</sub> )	Fuel combustion in motor vehicles, equipment, and industrial sources; residential and agricultural burning. Also formed from reaction of other pollutants (NO <sub>x</sub> , SO <sub>x</sub> , organics, and NH <sub>3</sub> ).	Increases respiratory disease, lung damage, cancer, and premature death, reduced visibility, surface soiling. Particles can aggravate heart diseases such as congestive heart failure and coronary artery disease.	Reduce combustion emissions from motor vehicles, equipment, industries, and agricultural and residential burning. Precursor controls, like those for ozone, reduce fine particle formation in the atmosphere.
Lead	Metal smelters, resource recovery, leaded gasoline, deterioration of lead paint.	Learning disabilities, brain and kidney damage. Control metal smelters.	No lead in gasoline or paint.
Sulfur Dioxide (SO <sub>2</sub> )	Coal or oil burning power plants and industries, refineries, diesel engines.	Increases lung disease and breathing problems for asthmatics. Reacts in the atmosphere to form acid rain.	Reduce use of high sulfur fuels (e.g., use low sulfur reformulated diesel or natural gas). Conserve energy.
Sulfates	Produced by reaction in the air of SO <sub>2</sub> , (see SO <sub>2</sub> sources), a component of acid rain.	Breathing difficulties, aggravates asthma, reduced visibility.	See SO <sub>2</sub>

Pollutant	Sources	Health Effects	Typical Controls
Hydrogen Sulfide	Geothermal power plants, petroleum production and refining, sewer gas.	Nuisance odor (rotten egg smell), headache and breathing difficulties (higher concentrations).	Control emissions from geothermal power plants, petroleum production and refining, sewers, and sewage treatment plants.
Visibility Reducing Particulates	See PM <sub>2.5</sub>	Reduced visibility (e.g., obscures mountains and other scenery), reduced airport safety.	See PM <sub>2.5</sub>
Vinyl Chloride	Exhaust gases from factories that manufacture or process vinyl chloride (construction, packaging, and transportation industries).	Central nervous system effects (e.g., dizziness, drowsiness, headaches), kidney irritation, liver damage, liver cancer.	Control emissions from plants that manufacture or process vinyl chloride, installation of monitoring systems.
Toxic Air Contaminant (TAC)	Combustion engines (stationary and mobile), diesel combustion, storage and use of TAC-containing substances (i.e., gasoline, lead smelting, etc.)	Depends on TAC, but may include cancer, mutagenic and/or teratogenic effects, other acute or chronic health effects.	Toxic Best Available Control Technologies (T-BACT), limit emissions from known sources.

Source: Compiled by Rincon Consultants, Inc. in May 2021

# Appendix B

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Description of Greenhouse Gases of California Concern



### Description of Greenhouse Gases of California Concern

Greenhouse Gas	Physical Description and Properties	Global Warming Potential (100 years)	Atmospheric Residence Lifetime (years)	Sources
Carbon dioxide (CO <sub>2</sub> )	Odorless, colorless, natural gas.	1	50–200	Burning coal, oil, natural gas, and wood; decomposition of dead organic matter; respiration of bacteria, plants, animals, and fungus; oceanic evaporation; volcanic outgassing; cement production; land use changes
Methane (CH <sub>4</sub> )	Flammable gas and is the main component of natural gas.	28 <sup>95</sup>	12	Geological deposits (natural gas fields) extraction; landfills; fermentation of manure; and decay of organic matter
Nitrous oxide (N <sub>2</sub> O)	Nitrous oxide (laughing gas) is a colorless GHG.	298	114	Microbial processes in soil and water; fuel combustion; industrial processes
Chloro-fluoro-carbons (CFCs)	Nontoxic, nonflammable, insoluble, and chemically unreactive in the troposphere (level of air at the Earth's surface); formed synthetically by replacing all hydrogen atoms in methane or ethane with chlorine and/or fluorine atoms.	3,800–8,100	45–640	Refrigerants aerosol propellants; cleaning solvents
Hydro-fluoro-carbons (HFCs)	Synthetic human-made chemicals used as a substitute for CFCs and contain carbon, chlorine, and at least one hydrogen atom.	140 to 11,700	1–50,000	Automobile air conditioners; refrigerants
Per-fluoro-carbons (PFCs)	Stable molecular structures and only break down by ultraviolet rays about 60 kilometers above Earth's surface.	6,500 to 9,200	10,000–50,000	Primary aluminum production; semiconductor manufacturing
Sulfur hexafluoride (SF <sub>6</sub> )	Human-made, inorganic, odorless, colorless, and nontoxic, nonflammable gas.	22,800	3,200	Electrical power transmission equipment insulation; magnesium industry, semiconductor manufacturing; a tracer gas

<sup>95</sup> The City of Chico used a 20-year Global Warming Potential for methane.

Greenhouse Gas	Physical Description and Properties	Global Warming Potential (100 years)	Atmospheric Residence Lifetime (years)	Sources
Nitrogen trifluoride (NF <sub>3</sub> )	Inorganic, is used as a replacement for PFCs, and is a powerful oxidizing agent.	17,200	740	Electronics manufacture for semiconductors and liquid crystal displays

Source: Compiled by Rincon Consultants, Inc. in May 2021





# Chico Climate Action Plan Update

## Draft Initial Study – Negative Declaration

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Appendix A Sources, Health Effects, and Typical Controls Associated with Criteria Pollutants

Appendix B Description of Greenhouse Gases of California Concern

# Initial Study

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## Proposed Plan Title

Chico Climate Action Plan (CAP) Update

## Lead Agency/Plan Sponsor and Contact

### Lead Agency/Plan Sponsor

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Community Development Department  
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## Plan Location and Physical Setting

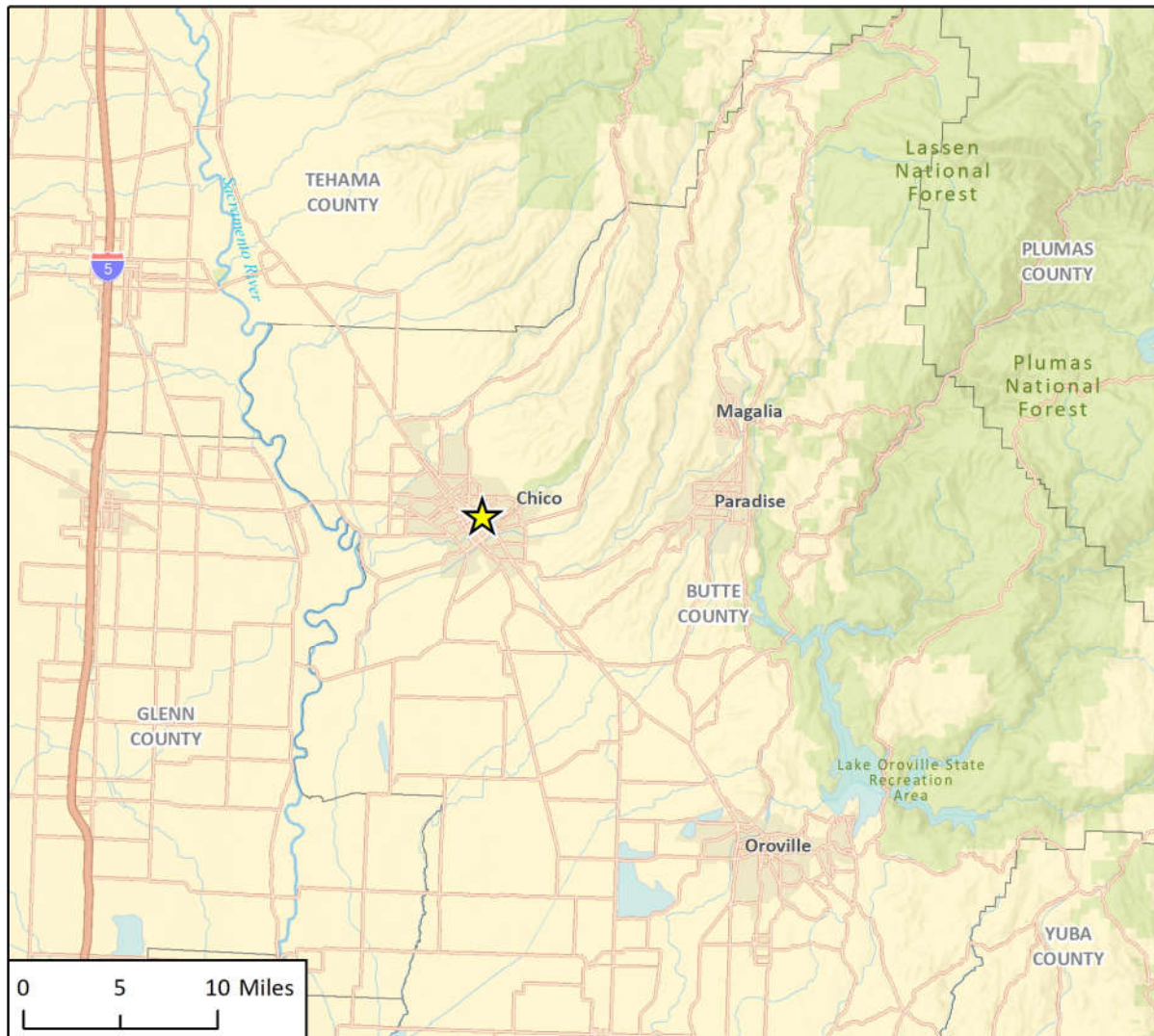
The City of Chico CAP Update applies to all areas and plans/projects within the City of Chico limits. Figure 1 shows the regional location, and Figure 2 shows the plan location. The plan location includes all of Chico's incorporated lands.

### Regional Location and Setting

The City of Chico is approximately 34 square miles within the northwestern portion of Butte County and the larger Sacramento Valley. The City primarily sits on the Sacramento Valley floor with a small eastern portion of the City paralleling Big Chico Creek down from the Sierra Nevada foothills into the flatter portions of the City. The City is bordered by unincorporated Butte County on all sides and is near the boundaries of Tehama County and Glenn County. Immediately to the north of the City lies predominantly agricultural and undeveloped lands, to the east are the Sierra Nevada Foothills and the City of Paradise, to the south is predominantly agricultural land and the community of Durham, and to the west is predominantly agricultural lands and the community of Hamilton City. The nearest major cities are Sacramento and Redding, which are approximately 80 miles to the south and 60 miles to the north of Chico, respectively.

Vehicular access to Chico is primarily provided by State Route (SR) 32 (Deer Creek Highway) and SR 99 (Golden State Highway). The City is served by several public transit facilities including the Butte County Regional Transit B-Line bus, the Plumas County Transit System bus, the Glenn Ride bus, Amtrak passenger rail, and Greyhound Lines Inc motorcoach services. In addition, the City is accessible by the Chico Municipal Airport and Sacramento International Airport.

Figure 1 Regional Location



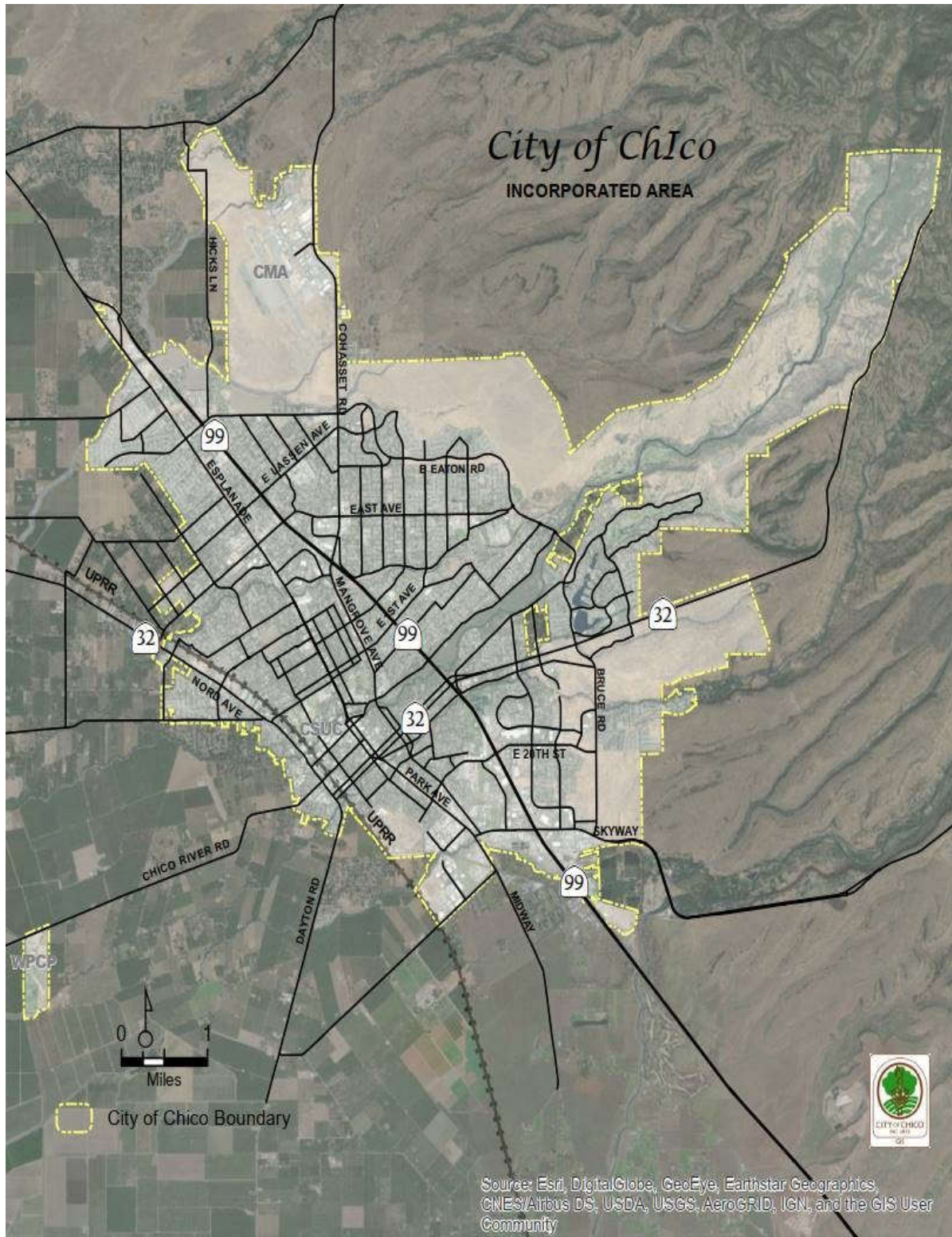
Imagery provided by Esri and its licensors © 2021.

★ City of Chico (Plan Location) 



Fig. 1 Regional Location

Figure 2 Plan Location



## Local Setting

Chico is the most populous city in Butte County.<sup>1</sup> The City supports a diverse range of industries, including agriculture, recreation, tourism, healthcare manufacturing, and education. The City is home to California State University at Chico, Enloe Medical Center, which serves as the regional medical hospital and level II Trauma Center, and Bidwell Park, which covers 17 percent of the City's geographical extent. Residential uses comprise the largest portion of existing land uses within the City and its Sphere of Influence, with parks, open space and public/quasi-public land uses accounting for the second largest portion of existing land uses.<sup>2</sup>

The City is located primarily on the Sacramento Valley floor, near the foothills of the Sierra Nevada mountain range. The City is located approximately 230 feet above mean sea level, and its topography is generally flat with some areas of hilly terrain near the eastern city limits. Eight creeks and waterways run through the City and drain westward from the Sierra Nevada foothills toward the Sacramento River, including the Big Chico Creek, Little Chico Creek, and Lindo Channel (or Sandy Gulch).<sup>2,3</sup> The City is characterized by a warm, temperate climate with dry summers and rainier winters. The warmest months of the year in Chico are July and August, and the coldest months of the year are December and January. The annual average daily maximum temperature is 75.2 degrees Fahrenheit (°F), while the annual average daily minimum temperature is 47.0°F. Average monthly rainfall measured in the local area since 1973 varies from 0.02 inch in July to 4.86 inches in January.<sup>4</sup>

## Existing Setting

### Sustainability and GHG Reduction Efforts Setting

#### City of Chico Sustainability and GHG Reduction Efforts

The City has implemented a variety of environmental programs since 2007 contributing to GHG reductions. The following is a list of the City's primary sustainable and climate protection programs:

- Sustainability Task Force established (2007)
- 2030 General Plan adopted (2011)
- 2020 Climate Action Plan adopted (2012)
- Hazard Mitigation Plan prepared (2013)
- Sustainable Solutions Turnkey Initiative begins (2016)
- Vulnerability Assessment conducted (2018)
- Climate Action Commission established (2019)
- Wastewater Treatment Plant upgrades (2018)
- Chico Bicycle Plan adopted (2019)
- Community Choice Aggregation authorized (2019)

---

<sup>1</sup> California Department of Finance. 2021. E-5 Population and Housing Estimates for Cities, Counties, and the State, 2011-2020 with 2010 Census Benchmark. Available: <<https://www.dof.ca.gov/Forecasting/Demographics/Estimates/e-5/>>. Accessed May 14, 2021.

<sup>2</sup> Chico, City of. 2010. General Plan Update Draft Environmental Impact Report. Available: <<https://chico.ca.us/sites/main/files/file-attachments/4.1landuse.pdf?1577755464>>. Accessed March 23, 2021.

<sup>3</sup> Butte County. 2019. Local Hazard Mitigation Plan. Available: <<https://www.buttecounty.net/oem/mitigationplans>>. Accessed March 23, 2021.

<sup>4</sup> Iowa State University. 2021. Iowa Environmental Mesonet: Chico Municipal Station. Available: <[https://mesonet.agron.iastate.edu/sites/monthlysum.php?station=CIC&network=CA\\_ASOS](https://mesonet.agron.iastate.edu/sites/monthlysum.php?station=CIC&network=CA_ASOS)>. Accessed March 23, 2021.



## Regional Sustainability and GHG Reduction Efforts

In coordination with Butte County, the State of California, and the federal government, the City of Chico has committed to implementing regional and State policies related to GHG emissions reduction. As follows is a summary of the regional GHG emissions reduction efforts, which the City of Chico CAP Update is intended to be consistent with or exceed.

### *2020 Regional Transportation Plan/Sustainable Communities Strategy*

The Butte County Association of Governments (BCAG) adopted the 2020 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) in December 2020. The RTP/SCS outlines policies, projects, and programs required to improve the County's transportation system over the next 20 years and demonstrates how the region will integrate transportation and land use planning to meet the greenhouse gas reduction targets established by Senate Bill (SB) 375 and air quality requirements established by the State Implementation Plan. The 2020 RTP/SCS maintains 14 policies from the 2016 RTP/SCS related to topics such as roadways, public transit, goods movement, and land use, and adds an emergency preparedness policy in light of recent climate change-driven disasters, such as the Camp Fire.<sup>5</sup>

### *Butte County Transit and Non-Motorized Transportation Plan*

In 2015, BCAG adopted the Transit and Non-Motorized Transportation Plan (Plan) to provide the County with a long-range plan for enhancing and expanding public transit, bicycle facilities, and pedestrian access to transit within the County. The Plan's goals are to support the sustainable growth targets contained within the RTP/SCS, improve quality of life for residents, reduce GHG emissions, and reduce congestion.<sup>6</sup>

### *State Sustainability and GHG Reduction Efforts*

As follows is a summary of the State GHG emissions reduction efforts, which the City of Chico CAP is intended to be consistent with or exceed.

### *California Senate Bill 375*

In 2008, Senate Bill 375 (SB 375) enhanced the State's ability to reach AB 32 targets by directing CARB to develop regional GHG emissions reduction targets to be achieved from passenger vehicles for 2020 and 2035. In addition, SB 375 directs each of the State's 18 major Metropolitan Planning Organizations (MPO) to prepare a sustainable community's strategy (SCS) that contains a growth strategy to meet such regional GHG emissions reduction targets for inclusion in the respective regional transportation plan (RTP).

On March 22, 2018, CARB adopted updated regional targets for reducing GHG emissions from 2005 levels by 2020 and 2035. BCAG was assigned targets of a six percent reduction in per capita GHG emissions from passenger vehicles by 2020 and a seven percent reduction in per capita GHG

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<sup>5</sup> Butte County Association of Governments (BCAG). 2020. Butte County Regional Transportation Plan/Sustainable Communities Strategy. Available: <<http://www.bcag.org/documents/planning/RTP%20SCS/2020%20RTP%20SCS/Document%20Chapters/2020%20RTP%20SCS%20Document-ALL%20REVISED.pdf>>. Accessed March 23, 2021.

<sup>6</sup> Butte County Association of Governments (BCAG). 2015. Transit and Non-Motorized Transportation Plan. Available: <<http://www.bcag.org/Planning/Transit--Non-Motorized-Transportation-Plan/index.html>>. Accessed March 23, 2021.

emissions from passenger vehicles by 2035. On December 10, 2020, BCAG formally adopted the 2020 RTP/SCS, which meets the requirements of SB 375.

#### *California Executive Order S-3-05*

In 2005, the California governor issued Executive Order (EO) S-3-05, which identifies Statewide GHG emissions reduction targets to achieve long-term climate stabilization as follows:

- Reduce GHG emissions to 1990 levels by 2020
- Reduce GHG emissions to 80 percent below 1990 levels by 2050

In response to EO S-3-05, California Environmental Protection Agency (CalEPA) created the Climate Action Team (CAT), which in March 2006 published the Climate Action Team Report (the “2006 CAT Report”). The *2006 CAT Report* identified a recommended list of strategies that the State could pursue to reduce GHG emissions. These are strategies that could be implemented by various State agencies to ensure that the emission reduction targets in EO S-3-05 are met and can be met with existing authority of the State agencies. The strategies include the reduction of passenger and light duty truck emissions, the reduction of idling times for diesel trucks, an overhaul of shipping technology/infrastructure, increased use of alternative fuels, increased recycling, and landfill methane capture, among others.

#### *California Assembly Bill 32*

In 2006, the California legislature signed Assembly Bill (AB) 32 – the Global Warming Solutions Act – into law, requiring a reduction in Statewide GHG emissions to 1990 levels by 2020 and California Air Resources Board (CARB) preparation of a Scoping Plan that outlines the main State strategies for reducing GHGs to meet the 2020 deadline. In addition, AB 32 required CARB to adopt regulations to require reporting and verification of Statewide GHG emissions. Based on this guidance, CARB approved a 1990 Statewide GHG level and 2020 limit of 427 MT of CO<sub>2</sub>e.

#### *California Climate Change Scoping Plan*

In 2008, CARB approved the original California Climate Change Scoping Plan, which included measures to address GHG emission reduction strategies related to energy efficiency, water use, and recycling and solid waste, among other measures. Many of the GHG reduction measures included in the Scoping Plan (e.g., Low Carbon Fuel Standard, Advanced Clean Car standards, and Cap-and-Trade) have been adopted and implemented since approval of the Scoping Plan.

#### *California Climate Change Scoping Plan Update (2013)*

In 2013, CARB approved the first update to the California Climate Change Scoping Plan. The 2013 Scoping Plan Update defined CARB climate change priorities for the next five years and set the groundwork to reach post-2020 Statewide GHG emissions reduction goals. The 2013 Scoping Plan Update highlighted California’s progress toward meeting the “near-term” 2020 GHG emission reduction goals defined in the original Scoping Plan. It also evaluated how to align the State’s longer-term GHG reduction strategies with other State policy priorities, including those for water, waste, natural resources, clean energy, transportation, and land use.

### *California Executive Order B-30-15*

In 2015, the California governor issued Executive Order B-30-15, which established a Statewide mid-term GHG reduction target of 40 percent below 1990 levels by 2030.

### *California Senate Bill 32*

In 2016, the California legislature signed Senate Bill 32 (SB 32) into law, extending AB 32 by requiring further reduction in Statewide GHG emissions to 40 percent below 1990 levels by 2030 (the other provisions of AB 32 remain unchanged). On December 14, 2017, CARB adopted the 2017 Scoping Plan, which provides a framework for achieving the 2030 target. The 2017 Scoping Plan relies on the continuation and expansion of existing policies and regulations, such as the Cap-and-Trade Program, as well as implementation of recently adopted policies and policies, such as SB 350 and SB 1383 (see below).

### *California Climate Change Scoping Plan Update (2017)*

In 2017, CARB approved the second update to the California Climate Change Scoping Plan. The 2017 Scoping Plan put an increased emphasis on innovation, adoption of existing technology, and strategic investment to support its strategies. As with the 2013 Scoping Plan Update, the 2017 Scoping Plan Update does not provide project-level thresholds for land use development. Instead, it recommends that local governments adopt policies and locally-appropriate quantitative thresholds consistent with Statewide per-capita goals of six MT of CO<sub>2</sub>e by 2030 and two MT of CO<sub>2</sub>e by 2050. As stated in the 2017 Scoping Plan Update, these goals may be appropriate for plan-level analyses (city, county, subregional, or regional level), but not for specific individual projects, because they include all GHG emissions sectors in the State.<sup>7</sup>

### *California Executive Order B-55-18*

In 2018, the California governor issued Executive Order B-55-18, which established a new Statewide goal of achieving carbon neutrality by 2045 and maintaining net negative emissions thereafter. This goal is in addition to the existing Statewide GHG reduction targets established by SB 32.

For more information on the Senate and Assembly Bills, Executive Orders, and Scoping Plans discussed above, and to view reports and research referenced above, please refer to the following websites: [www.climatechange.ca.gov](http://www.climatechange.ca.gov) and [www.arb.ca.gov/cc/cc.htm](http://www.arb.ca.gov/cc/cc.htm).

### *Assembly Bill 197, State Air Resources Board Greenhouse Gases Regulations*

In 2016, the California legislature approved AB 197, a bill linked to SB 32, which increases legislature oversight over the California Air Resources Board and directs the California Air Resources Board to prioritize disadvantaged communities in its climate change regulations, and to evaluate the cost-effectiveness of measures it considers. AB 197 requires the ARB to “protect the State’s most impacted and disadvantaged communities [and] consider the social costs of the emissions of greenhouse gases” when developing climate change programs. The bill also adds two new legislatively appointed non-voting members to the ARB, increasing the Legislature’s role in the ARB’s decisions.

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<sup>7</sup> California Air Resources Board (CARB). 2017. California’s 2017 Climate Change Scoping Plan. Available: <[https://ww2.arb.ca.gov/sites/default/files/classic/cc/scopingplan/scoping\\_plan\\_2017.pdf](https://ww2.arb.ca.gov/sites/default/files/classic/cc/scopingplan/scoping_plan_2017.pdf)>. Accessed March 23, 2021.

*Senate Bill 350, Clean Energy and Pollution Reduction Act of 2015*

In October 2015, SB 350 was signed into law, establishing new clean energy, clean air, and GHG reduction goals for 2030 and beyond. SB 350 codifies Governor Jerry Brown's aggressive clean energy goals and establishes California's 2030 GHG reduction target of 40 percent below 1990 levels. To achieve this goal, SB 350 increases California's renewable electricity procurement goal from 33 percent by 2020 (legislation originally enacted in 2002) to 50 percent by 2030. Renewable resources include wind, solar, geothermal, wave, and small hydroelectric power. In addition, SB 350 requires the State to double State-wide energy efficiency savings in electricity and natural gas end uses by 2030 from a base year of 2015.

*Senate Bill 100, The 100 Percent Clean Energy Act of 2018*

In September 2018, Governor Brown signed SB 100, requiring that the State's load serving entities (including energy utilities and community choice energy programs) must procure energy generated 100 percent from Renewables Portfolio Standard (RPS) for eligible renewable resources by 2045.

*California Energy Efficiency Strategic Plan of 2008*

In September 2008, the California Public Utilities Commission (CPUC) adopted California's first Long Term Energy Efficiency Strategic Plan, presenting a single roadmap to achieve maximum energy savings across all major groups and sectors in California. The Strategic Plan was subsequently updated in January 2011 to include a lighting chapter. The Strategic Plan sets goals of all new residential construction and all new commercial construction in California to be zero net energy (ZNE) by 2020 and 2030, respectively. In 2018, the California Energy Commission voted to adopt a policy requiring all new homes in California to incorporate rooftop solar. This change will go into effect in January 2020 with the adoption of the 2019 Title 24 Code and is a step towards the State achieving its goal of all residential new construction being ZNE by 2020. Additionally, the Strategic Plan sets goals of 50 percent of existing commercial building to be retrofit to ZNE by 2030 and all new State buildings and major renovations to be ZNE by 2025.

*Senate Bill 1275, Charge Ahead Initiative*

In September 2014, Senate Bill 1275 was signed into law, establishing a State goal of one million zero-emissions and near-zero-emissions vehicles in service by 2020 and directing the Air Resources Board to develop a long-term funding plan to meet this goal. SB 1275 also established the Charge Ahead California Initiative requiring planning and reporting on vehicle incentive programs and increasing access to and benefits from zero-emissions vehicles for disadvantaged, low-income, and moderate-income communities and consumers.

*Assembly Bill 1493, the Pavley Bill*

In 2002, the California State Legislature enacted Assembly Bill 1493 (aka "the Pavley Bill"), which directs the Air Resources Board to adopt standards that will achieve "the maximum feasible and cost-effective reduction of greenhouse gas emissions from motor vehicles," taking into account environmental, social, technological, and economic factors. In September 2009, the ARB adopted amendments to the "Pavley" regulations to reduce GHG emissions in new passenger vehicles from 2009 through 2016. The Pavley Bill is considered to be the national model for vehicle emissions standards. In January of 2012, the ARB approved a new emissions control program for vehicle model years 2017 through 2025. The program combines the control of smog, soot, and greenhouse gases

and the requirement for greater numbers of zero emission vehicles into a single package of standards called Advanced Clean Cars.

#### *Assembly Bill 117, Community Choice Aggregation*

Assembly Bill 117 establishes the creation of Community Choice Aggregation (CCA) that fosters clean and renewable energy markets. CCA allows cities and counties to aggregate the buying power of individual jurisdictions. The California CCA markets were created as an answer to the brownouts and energy shortages of the early 2000's. AB 117 was passed in 2002 as an answer to California's increased energy independency by incorporating more alternative and renewable energy sources into its energy portfolio. With AB 117, municipalities can provide alternative energy choices to their local carrier (e.g., the Pacific Gas and Electric Company [PG&E]). Marin Clean Energy was the first CCA in the State of California to go online with a 50 percent to 100 percent clean energy portfolio in 2010. Peninsula Clean Energy (PCE) was created in February 2016 when all 20 towns/cities in San Mateo County, plus the County of San Mateo, voted unanimously to form a Joint Powers Authority to administer the program. PCE is a public, locally controlled electricity provider that gives PG&E customers in San Mateo County the choice of having 50 percent to 100 percent of their electricity supplied from clean, renewable sources at competitive rates. CCAs are governed by the California Public Utilities Commission (CPUC). SB 790 further ensures fair and transparent competition by creating a code of conduct and guiding principles for entrants into the CCA field.

#### *Senate Bill 97, CEQA Guidelines for Addressing GHG Emissions*

The California Environmental Quality Act (CEQA) requires public agencies to review the environmental impacts of proposed projects, including General Plans, Specific Plans, and specific kinds of development projects. In February 2010, the California Office of Administrative Law approved the recommended amendments to the State CEQA Guidelines for addressing GHG emissions. The amendments were developed to provide guidance to public agencies regarding the analysis, mitigation, and effects of GHG emissions in draft CEQA documents.

#### *Butte County Air Quality Management District CEQA Guidelines*

The Butte County Air Quality Management District (BCAQMD) published the *CEQA Air Quality Handbook* in October 2014, which provides guidelines for the assessment of air quality and GHG emissions impacts for projects subject to CEQA review. The *CEQA Air Quality Handbook* notes that BCAQMD has not adopted a threshold for GHG emissions impacts and recommends that projects are assessed based on compliance with an approved GHG Emissions Reduction Plan, the Lead Agency's adopted threshold, or consistency with the goals of AB 32. According to the BCAQMD, if a plan or project is consistent with an adopted GHG Emissions Reduction Plan, then it can be presumed that the plan or project would not result in significant impacts related to GHG emissions. This approach is consistent with State CEQA Guidelines, Section 15183.5, which states that:

“Lead agencies may analyze and mitigate the significant impacts of greenhouse gas emissions at a programmatic level, such as...a plan to reduce greenhouse gas emissions. Later project-specific environmental documents may tier from and/or incorporate by reference that existing programmatic review. Project-specific environmental documents may rely on an [Environmental Impact Report] containing a programmatic analysis of greenhouse gas emissions.”

## General Plan Designation and Zoning

The CAP would be implemented throughout the City and would occur in all Chico General Plan designations and zoning designations. The plan would not alter any existing designations.

## Description of the CAP Update

The Chico CAP Update incorporates the many climate protection programs noted above that the City of Chico has in place and will continue to reduce GHG emissions. The City has developed the CAP Update in order to achieve a number of objectives, including a safer future and enhanced quality of life for the community, new economic opportunities through green jobs, enhanced social equity and citizen engagement on the issue of climate change, and reduced obstacles for building affordable housing. The CAP Update provides a foundation for future development efforts in the City of Chico. It is anticipated that environmental documents for future development projects will identify and incorporate applicable GHG reduction measures from the CAP Update.

In 2021, Chico is actively engaged in addressing climate change, sustainability, and reductions in GHG emissions. The CAP Update addresses communitywide GHG emissions and includes a target to reduce communitywide GHG emissions output to 2.71 metric tons of carbon dioxide equivalent (MT of CO<sub>2</sub>e) per person (or 292,437 MT of CO<sub>2</sub>e in total emissions) by 2030. This corresponds to an 80 percent reduction in per capita emissions (or a 46 percent reduction in total emissions) below 1990 levels by 2030, exceeding the California Senate Bill 32 target for 2030 to reduce total GHG emissions 40 percent below 1990 levels. In order to meet the 2030 City emissions target, the City has specifically proposed an 80 percent per capita emissions reduction target of 2.71 MT of CO<sub>2</sub>e per person for 2030 (a 46 percent emissions reduction target of 292,437 MT of CO<sub>2</sub>e in total emissions) compared to 1990 levels as the reference year. The Chico CAP Update assessed herein is based upon the 2005 and 2017 community-level inventories and formulates a list of actions or “measures” to achieve the City’s sustainability goals.

The 2005 GHG emissions inventory provides an important foundation for the CAP, providing the basis for an emissions back-cast to 1990 to serve as the reference year from which the City’s target to reduce per capita emissions 80 percent below 1990 levels by 2030 has been developed. Approximately 8.8 MT of CO<sub>2</sub>e per person (637,518.7 MT of CO<sub>2</sub>e total) were emitted in Chico in 2005. The 2017 inventory also provided the basis for the GHG emissions forecast, against which progress toward the City’s 2030 target can be measured. Approximately 5.07 MT of CO<sub>2</sub>e per person (466,366.2 MT of CO<sub>2</sub>e total) were emitted in Chico in 2017. GHG emissions in the 2005 and 2017 inventories were emitted from the residential and commercial energy, transportation, and waste sectors. The residential and commercial energy sector represents emissions that result from electricity and natural gas used in both private and public sector buildings and facilities. The transportation sector includes emissions from gasoline and diesel sales within the City. The transportation sector was the largest contributor to Chico’s GHG emissions in both 2005 and 2017, followed by energy and waste. Table 1 provides the Chico community GHG emissions in 2017 by sector as well as each sector’s percentage of communitywide emissions.

**Table 1 Chico 2017 Communitywide GHG Emissions by Sector**

Sector	GHG Emissions (MT of CO <sub>2</sub> e)	Percentage of GHG Emissions
Gasoline Sales	181,031.0	39%
Diesel Sales	101,854.1	22%
Commercial Electricity	32,657.6	7%
Residential Electricity	30,757.0	7%
Commercial Gas	31,925.8	7%
Residential Gas	64,768.9	14%
Waste to Landfill	23,371.8	5%
<b>Total</b>	<b>466,366.2</b>	<b>100%</b>
<b>Population</b>	<b>92,022</b>	<b>N/A</b>
<b>Per Capita Emissions (MT of CO<sub>2</sub>e/person)</b>	<b>5.07</b>	<b>N/A</b>

MT of CO<sub>2</sub>e = metric tons of carbon dioxide equivalent

As shown in Table 1, the largest sectors of GHG emissions are related to transportation (specifically gasoline and diesel sales) and building energy use (specifically residential and commercial electricity and natural gas use). As part of the CAP Update, Chico is committed to a per capita emissions reduction target of 80 percent below 1990 levels by 2030 and an interim target of 73 percent below 1990 levels by 2025. This 2030 GHG emissions goal is selected to be consistent with SB 32 State emissions targets and BCAG regional passenger vehicle emissions targets, to be consistent with CEQA for a qualified GHG emissions reduction strategy, and to be achievable by City-supported measures identified in the CAP Update. The CAP Update includes a business-as-usual (BAU) forecast of GHG emissions, based on the 2017 inventory, that will enable the City of Chico to estimate the amount of emissions reductions needed to meet its per capita reduction targets.

The CAP Update includes measures to make residential, commercial, and municipal buildings more energy efficient and increase the amount of locally produced renewable energy. It recommends development patterns that reduce urban sprawl and emphasize complete streets that allow people to go about their business on foot, by bicycle, or via public transportation. It also offers ways to divert organic waste that would otherwise go to landfills. In addition, the CAP update includes measures to increase urban greenspace and trees for carbon sequestration and to provide community education and outreach regarding the CAP and local sustainability efforts. Table 2 includes a complete list of the CAP Update measures and descriptions of respective supporting actions as well as anticipated annual GHG reductions by 2030.

**Table 2 Chico CAP Update Measures and Actions**

ID #	Measure and Respective Supporting Actions	Anticipated GHG Emissions Reduction (MT of CO <sub>2</sub> e)
<b>Measure E-1</b>	<b>Procure Carbon-Free Electricity for the Community Through a CCA by 2024 and Maintain Opt-Out Rates of 5% for Residential and 15% for Commercial Through 2030 and 2045</b>	
Action E-1-1	<b>Provide carbon neutral electricity to the community:</b> Procure carbon neutral electricity for the community through Butte Choice Energy Community Choice Aggregation (CCA), in accordance with the ordinance authorizing the implementation of a CCA Program through a Joint Powers Agreement with Butte County, amending Title 15 of the Municipal Code. Automatically enroll community and municipal accounts in the 100% renewable energy option by 2024 (or as market conditions prove favorable) with an opt-out option	2030: 39,170 2045: 0
Action E-1-2	<b>Partner with Butte Choice Energy to conduct community outreach and track opt-out rates:</b> Work with Butte Choice Energy to conduct targeted community outreach with the aim of maintaining low opt-out rates (5% or less for residential accounts and 15% or less for commercial accounts). Track opt-out rates through Butte Choice Energy and share results publicly on an annual basis.	Supportive
<b>Measure E-2</b>	<b>Eliminate Natural Gas in All New Building Construction Starting in 2025 to Reduce Natural Gas 6% by 2030 and 16% by 2045 Compared to the Adjusted Forecast</b>	
Action E-2-1	<b>Require new construction to be all-electric:</b> Adopt a new ordinance which bans the installation of natural gas in new residential and commercial construction by 2025 if not already required by the State’s 2025 cycle update to the Building Energy Efficiency Standards (California Code of Regulations Title 24, Parts 6 and 11). The ordinance will only apply for building types where electrification is shown to be cost-effective. Implementation will consist of the following: <ol style="list-style-type: none"> <li>1. Engage and educate the community and stakeholders</li> <li>2. Conduct a Cost-effective study</li> <li>3. Develop and draft the new building ordinance for public process and revisions</li> <li>4. Formally adopt the new building ordinance</li> <li>5. Apply to the California Energy Commission for final ordinance approval</li> </ol>	2030: 6,730 2045: 19,560



ID #	Measure and Respective Supporting Actions	Anticipated GHG Emissions Reduction (MT of CO <sub>2</sub> e)
Measure E-3	<p><b>Electrify Existing Residential Buildings Starting in 2027 to Reduce Overall Residential Natural Gas Consumption to 100 Therms/Person by 2030 and 30 Therms/Person by 2045</b></p>	
Action E-3-1	<p><b>Electrify existing residential buildings:</b> If not already required by the State’s Building Energy Efficiency Standards (California Code of Regulations Title 24, Parts 6 and 11), adopt an electrification ordinance for existing residential buildings to transition natural gas to electric in two phases, to be implemented through the building permit process.</p> <p>PHASE I: Limit expansion of natural gas lines in existing buildings by 2025.</p> <p>PHASE II: Require HVAC system replacements and hot water heaters replacements to be all-electric by 2027.</p> <p>Implementation will consist of the following:</p> <ol style="list-style-type: none"> <li>1. Engage and educate the community and stakeholders</li> <li>2. Conduct a Cost-effective study</li> <li>3. Develop and draft the new building ordinance for public process and revisions</li> <li>4. Formally adopt the new building ordinance</li> <li>5. Apply to the California Energy Commission for final ordinance approval</li> </ol>	<p>2030: 13,47020</p> <p>2045: 50,36049</p>
Action E-3-2	<p><b>Update RECO to support electrification :</b> Expand the City’s Residential Energy Conservation Ordinance (RECO), Title 16 of the Municipal Code, to cover substantial remodels (over 50%). Amend RECO to require electrification and/or energy conservation improvements for substantial remodels (over 50%) in the same way that RECO currently requires these types of upgrades upon transfer/sale of homes and apartments. The amendment will include electrification options such as installation of a 200 amp panel and/or installation of electric heat pump appliances for HVAC and hot water heaters as well as the option to go beyond the base requirements for energy conservation set forth in the State’s Building Energy Efficiency Standards (California Code of Regulations Title 24, Part 6).</p>	
Action E-3-3	<p><b>Electrify municipal buildings:</b> Adopt decarbonization plan to decarbonize municipal buildings by 2045. This plan would include a new building electrification policy as well as an existing building natural gas phase-out policy. Decarbonization of municipal buildings will be driven by the PG&amp;E Sustainable Solutions Turnkey Program, which aims to achieve net neutrality in electricity usage by 2030, and work towards full decarbonization by 2045.</p>	<p>2030: 460</p> <p>2045: 1,150</p>
Action E-3-4	<p><b>Perform an electrification feasibility study:</b> Conduct a feasibility study/existing building analysis to understand the costs associated with electrifying existing residential and commercial buildings in the City of Chico.</p>	Supportive
Action E-3-5	<p><b>Track electrification progress:</b> Develop a permit tracking program for existing building electrification to track annual progress in achieving the City’s electrification goals.</p>	Supportive

ID #	Measure and Respective Supporting Actions	Anticipated GHG Emissions Reduction (MT of CO <sub>2</sub> e)
Action E-3-6	<p><b>Identify and partner with stakeholders to conduct electrification outreach, promotion, and education:</b> Leverage partnerships with stakeholders to conduct outreach, promotion, and education around new and existing building electrification, including:</p> <ul style="list-style-type: none"> <li>▪ Induction/electric stove cooking competition to demonstrate the competitiveness of electric stoves for replacing gas stoves</li> <li>▪ Information sessions/events that educate the public on safety concerns around gas stoves and health/cost benefits of replacing water heaters and space heaters with electric heat pumps</li> <li>▪ Develop financial and technical resources, including hosting workforce development trainings for installers and building owners/operators to discuss benefits and technical requirements of electrification and move towards all-electric requirements</li> <li>▪ Conduct internal trainings with planners and building officials on state decarbonization goals and incentives available for electric homes</li> <li>▪ Establish a comprehensive, coordinated electrification education campaign for property owners and occupants, including an updated list of rebates and incentives available for residents wanting to electrify their homes</li> </ul>	Supportive
Action E-3-7	<p><b>Partner with stakeholders to develop resident-level funding pathways for implementing electrification ordinance:</b> Leverage partnerships with stakeholders and establish funding pathways to ease community members' costs when complying with an electrification ordinance or meeting State standards, including:</p> <ul style="list-style-type: none"> <li>▪ Investigation of a transfer tax rebate for electric panels and/or other upgrades</li> <li>▪ Partner with PG&amp;E, Butte Choice Energy, and/or other stakeholders to create or expand electrification/retrofit programs and incentives, especially for low-income residents. These could include the PACE program, PG&amp;E's low-income weatherization program, tariffed on-bill financing, metered energy efficiency, or others.</li> </ul>	Supportive
<b>Measure E-4</b>	<b>Increase Generation and Storage of Local Renewable Energy</b>	
Action E-4-1	<p><b>Coordinate with stakeholders to provide local energy generation support and incentives for the community:</b> Partner with PG&amp;E and/or other stakeholders to support and incentivize local on-site energy generation and storage resources within the community with a focus on underserved communities. This could include a co-located community solar and storage project.</p>	Supportive
Action E-4-2	<p><b>Streamline battery storage building permit requirements:</b> Coordinate City departments to establish and streamline battery storage building permit requirements to allow for easier implementation of these technologies within the community.</p>	Supportive
Action E-4-3	<p><b>Conduct an energy generation feasibility study:</b> Conduct a feasibility study through the PG&amp;E Sustainable Solutions Turnkey (SST) program to assess cost and applicable locations for installation of battery back-up systems, generators, or a micro-grid throughout the City. Engage with the community to determine how local energy generation systems can support community infrastructure as well as critical public infrastructure</p>	Supportive

ID #	Measure and Respective Supporting Actions	Anticipated GHG Emissions Reduction (MT of CO <sub>2</sub> e)
Action E-4-4	<p><b>Install renewable energy technology at municipal facilities:</b> Implement the comprehensive PG&amp;E Sustainable Solutions Turnkey Program to install renewable energy technology at municipal facilities. Key energy conservation measures include:</p> <ul style="list-style-type: none"> <li>▪ Increasing backup generation capacity and adding battery storage at City facilities</li> <li>▪ Upgrading aeration systems at the Wastewater Treatment Plan to reduce energy consumption by 11%</li> <li>▪ Upgrading and automating all City HVAC systems</li> <li>▪ Installing solar PV at the Municipal Services Parking Lot to create 290 kW energy savings</li> <li>▪ Replacing aging 1MW solar PV system at the Wastewater Treatment Plan, and adding an additional 738 kW of solar PV within the existing footprint to create a total of 1.75 MW energy savings</li> <li>▪ Updating City-operated irrigation control system design and development City-wide.</li> </ul>	Supportive
<b>Measure T-1</b>	<b>Improve Active Transportation Infrastructure to Achieve Greater Than 6% Bicycle Mode Share by 2030 and 12% Bicycle Mode Share by 2045</b>	
Action T-1-1	<p><b>Implement Chico Bicycle Master Plan:</b> Implement the Chico Bicycle Plan 2019 Update in accordance with the Plan’s goals, objectives, and policies. Implementation of the Plan may include:</p> <ul style="list-style-type: none"> <li>▪ Adding additional miles to the bikeway network</li> <li>▪ Implementing new end-of-trip facilities and enforcement protocols to reduce bicycle theft</li> <li>▪ Conducting road repairs and road maintenance</li> <li>▪ Improving/expanding wayfinding, safety, and comfort</li> <li>▪ Integrating with transit and other transport modes</li> <li>▪ Conducting promotion and education around biking in Chico</li> <li>▪ Identifying and competing for funding sources</li> </ul>	<p>2030: 1,530</p> <p>2045: 1,500</p>
Action T-1-2	<p><b>Require shaded and convenient bike parking:</b> Require shaded Park-a-Bike style rack or equivalent when installing bike parking in new developments.</p>	Supportive
Action T-1-3	<p><b>Require major road upgrades to include bicycle infrastructure:</b> Require major road upgrades to include bicycle infrastructure and its maintenance unless a significant cost/feasibility issue is shown. Update Title 18 Standard Details on each roadway section type to include the applicable bikeway modifications such as Type II lanes and buffered bikeway.</p>	Supportive
Action T-1-4	<p><b>Perform a street/intersection study:</b> Conduct a street/intersection study to identify streets and intersections that can be improved for pedestrians and bicyclists through traffic calming measures and/or where multi-use pathway opportunities exist to increase active transportation.</p>	Supportive

ID #	Measure and Respective Supporting Actions	Anticipated GHG Emissions Reduction (MT of CO <sub>2</sub> e)
Action T-1-5	<p><b>Complete an Active Transportation Plan:</b> Develop and implement an Active Transportation Plan (consistent with the General Plan) that identifies funding strategies and policies for development of pedestrian, bicycle, and other modes of alternative transportation projects. Work with the City’s bike/ped working group to identify high priority areas. Example improvements include:</p> <ul style="list-style-type: none"> <li>▪ Pave shoulders of streets that have high traffic counts</li> <li>▪ Separate bike lanes from motor traffic with concrete bumper blocks or better</li> <li>▪ Establish a safe east-west connection over highway 99</li> </ul>	Supportive
Action T-1-6	<p><b>Identify and partner with stakeholders to conduct outreach, promotion, and education:</b> Leverage partnerships with stakeholders to conduct ongoing outreach, promotion, and education around active transportation in Chico. This could include:</p> <ul style="list-style-type: none"> <li>▪ Establishing City-wide events or programs that promote active transportation in the community</li> <li>▪ Regularly updating the City’s Bicycle and Pedestrian Network Map and sharing through City and stakeholder partnership platforms</li> <li>▪ Supporting Chico Velo in hosting workshops and classes on bike riding, safety, and maintenance by certified instructors</li> <li>▪ Instituting car-free days downtown, potentially coupled with Farmer’s Market or other large and regular events</li> <li>▪ Consolidating a list of local employer-provided bicycle parking, lockers, showers, and incentives as a demonstration tool for other interested employers</li> </ul>	Supportive
Action T-1-7	<p><b>Create a Bike/Ped/Parking Coordinator Position:</b> Create a Bike/Ped/Parking Coordinator position for the City to ensure implementation of active and shared mobility measures.</p>	Supportive
<b>Measure T-2</b>	<b>Improve EV Infrastructure to Achieve Greater Than 23% EV Share of Car Registrations by 2030, and 90% by 2045</b>	
Action T-2-1	<p><b>Increase privately owned EV charging infrastructure:</b> If not already required by the State’s Building Energy Efficiency Standards, consistent with the Final Butte PEV Readiness Plan, amend the City’s Building Code by 2023 to require the following:</p> <ul style="list-style-type: none"> <li>▪ EV capable private garages for new single-family and duplex residential development</li> <li>▪ 20% EV charging capable spaces and panel capacity for new multi-family residential development</li> <li>▪ 20% EV charging capable spaces for new commercial development</li> <li>▪ At least 1% working EV charging spaces for all new development and major retrofits</li> </ul>	<p>2030: 28,620</p> <p>2045:105,500</p>
Action T-2-2	<p><b>Increase publicly accessible EV charging infrastructure:</b> Work with public and private partners to ensure there are at least 942 publicly accessible DCFC and Level 2 EV chargers with the City’s Sphere of Influence, with a focus on providing access to low-income households and affordable housing by 2030. Prioritize locations based on analysis in the Final Butte PEV Readiness Plan.</p>	

ID #	Measure and Respective Supporting Actions	Anticipated GHG Emissions Reduction (MT of CO <sub>2</sub> e)
Action T-2-3	<b>Increase City-owned EV charging infrastructure:</b> Install new publicly accessible EV chargers at City-owned facilities. Develop and implement a fee for use of City-owned chargers to encourage efficient use and turnover, especially for those without home charging capability. Allocate parking fee revenue towards projects that support EV infrastructure, alternative fuel projects, and active transportation projects.	
Action T-2-4	<b>Identify and partner with stakeholders to develop ZEV-related rebates:</b> Investigate partnerships with public and private stakeholders to develop rebates on at-home electric circuits, panel upgrades, and Level 2 chargers.	Supportive
Action T-2-5	<b>Encourage EV adoption and infrastructure improvements:</b> Conduct outreach, promotion, and education to encourage EV adoption and infrastructure improvements. This could include the following: <ul style="list-style-type: none"> <li>▪ Providing education and outreach to the community on the benefits of ZEVs, availability of public charging, and relevant rebates and incentives available for businesses and residents</li> <li>▪ Working with major employers (e.g., CSUC, Fifth Sun, Build.com, Enloe) to provide EV charging for employees and encourage EV adoption among employees</li> </ul>	Supportive
Action T-2-6	<b>Establish electrical and technical standards for electric vehicle supply equipment (EVSE).</b> EVSE standards to be established include construction of equipment, wiring methods, and safety protection, consistent with the California Electrical Code and the Underwriter’s Laboratories guidance on EVSE.	Supportive
Action T-2-7	<b>Establish universal EV signage:</b> Establish universal signage and marking requirements for EV parking spaces.	Supportive
Action T-2-8	<b>Streamline the EVSE permitting and inspection processes:</b> Streamline both the EVSE permitting and inspection processes, which may include: <ul style="list-style-type: none"> <li>▪ Prioritizing EVSE permitting for faster turnaround times</li> <li>▪ Establishing flat fees for standard installations</li> <li>▪ Enabling homeowners and licensed contractors to submit EVSE permit applications online</li> <li>▪ Allowing EVSE across different zoning classifications</li> <li>▪ Considering simple EVSE installations as exempt from CEQA on a case-by-case basis</li> <li>▪ Allowing installation of EVSE as a mitigation measure for large projects</li> <li>▪ Condensing inspections for more complex installations that do not include panel upgrades or underground conduit</li> <li>▪ Establishing a 24-hour flexible inspection request program online</li> <li>▪ Providing shorter inspection windows</li> <li>▪ Removing requirement for electrician to be present during inspection to decrease consumer costs</li> </ul>	Supportive
Measure T-3	<b>Improve Shared Mobility and Transit Programs and Infrastructure</b>	

ID #	Measure and Respective Supporting Actions	Anticipated GHG Emissions Reduction (MT of CO <sub>2</sub> e)
Action T-3-1	<p><b>Partner with BCAG to improve and expand transit within the City:</b> This could include:</p> <ul style="list-style-type: none"> <li>▪ Expanded transit service, especially along transit priority corridors, and more frequent and reliable transit service. More frequent transit can begin to act as a shuttle, especially since downtown employees and CSUC students and faculty are eligible for free transit passes</li> <li>▪ Improved and/or more efficient transit technology</li> <li>▪ Improved service/communication through interactive service maps, app payments, and real time arrival info</li> <li>▪ Increased active transportation access to transit stops</li> <li>▪ Enhanced, comfortable stops and stations</li> <li>▪ Education and outreach to the community on new and existing shared transit options</li> <li>▪ Subsidized transit passes</li> <li>▪ New electric hop-on hop-off trolley service through major points of interest (e.g., downtown, Bidwell Park, Bidwell Mansion, Sierra Nevada, fair grounds, Chico State)</li> </ul>	Supportive
Action T-3-2	<p><b>Prepare for shared bike programs:</b> Conduct an active transportation share (e.g., bike-share, scooter-share) feasibility study. Update municipal ordinances to prepare the City for shared mobility programs in accordance with the Bicycle Master Plan and the Downtown Access Plan. Consider starting a bike share pilot program in Downtown, ideally with docked e-bikes.</p>	Supportive
Action T-3-3	<p><b>New employer trip reduction programs:</b> Implement General Plan Action CIRC 9.1.2 to reduce single occupancy vehicle trips associated with work commutes. As a condition of project approval, require new non-residential projects that will employ more than 100 people to submit a Travel Demand Management Plan that identifies strategies to reduce single-occupancy vehicle trips, including encouraging employers to provide transit subsidies, bicycle facilities, alternative work schedules, telecommuting and preferential parking for carpool/vanpools.</p>	Supportive
Action T-3-4	<p><b>Conduct a transportation equity study:</b> Partner with CSUC to conduct a transportation equity study to investigate current barriers for minority, low-income, and senior populations in disadvantaged communities to take transit, walk, bike, use rideshare, or carshare.</p>	Supportive
Action T-3-5	<p><b>Conduct a local transportation survey:</b> Support BCAG in conducting local transportation surveys every five years to better understand the community's needs and motivation for traveling by car versus other alternatives such as by bike or bus. Use survey results to inform transit expansion and improvement projects.</p>	Supportive
Action T-3-6	<p><b>Encourage and facilitate carsharing services:</b> Perform ongoing outreach to carsharing companies about the potential to implement a carsharing program in Chico, preferably electric.</p>	Supportive
Action T-3-7	<p><b>Encourage use of local transit:</b> Promote use of B-Line for Downtown transit especially. This could include bus open houses and promotion of DoubleMap app</p>	Supportive

ID #	Measure and Respective Supporting Actions	Anticipated GHG Emissions Reduction (MT of CO <sub>2</sub> e)
Action T-3-8	<b>Invest in TDM strategies:</b> In accordance with the Downtown Access Plan, designate and use a portion of paid parking revenue to invest in TDM strategies including Actions T-3-1 to T-3-7 that will ensure cost-effective Downtown access by improving transit, bicycle facilities, and create incentives for people to avoid driving	Supportive
<b>Measure T-4</b>	<b>Implement Parking and Curb Management Procedures that Support the Mode Shift Goals of the Overall Transportation Strategy</b>	
Action T-4-1	<b>Utilize dynamic parking pricing Downtown:</b> In accordance with the Downtown Access Plan, utilize dynamic pricing for Downtown area parking, increasing costs of parking during times of high usage and special events.	Supportive
Action T-4-2	<b>Improve curbside management:</b> Improve curbside management in accordance with the Downtown Access Plan. This may include updating the Municipal Code to require active loading only, prohibit double parking, define locations for additional loading zones, and design loading zone signage.	Supportive
Action T-4-3	<b>Encourage parklets downtown:</b> Identify opportunities for development of parklets throughout the City's Downtown, to replace parking spaces with bike parking or outdoor restaurant seating.	Supportive
Action T-4-4	<b>Establish carpool/vanpool/shuttle parking minimums:</b> Update the Zoning Code to establish minimums for carpool/vanpool/shuttle parking requirements in new non-residential development.	Supportive
<b>Measure T-5</b>	<b>Support Implementation of the City's General Plan that Promotes Sustainable Infill development and Mixed-use development in New Growth Areas to Reduce Vehicle Miles Traveled (VMT)</b>	
Action T-5-1	<b>Support infill growth:</b> Continue to support infill growth and thoughtful mixed-use development in new growth areas consistent with the Chico 2030 General Plan and the regional Sustainable Communities Strategy.	Supportive
<b>Measure W-1</b>	<b>Update Waste Hauler Franchise Agreements to Implement Requirements of SB 1383 and Achieve 75% Reduction Below 2014 Levels in Organic Waste to 0.4 Tons of Waste/Person by 2025 and Maintain Through 2045</b>	
Action W-1-1	<b>Require residential and commercial organic waste collection through updated waste hauler contracts:</b> Update waste hauler contracts to include expanded organic waste collection. Pass an ordinance by 2022 requiring residential and commercial organics generators to subscribe to organics collection programs or alternatively report organics self-hauling and/or backhauling. Allow limited waivers and exemptions to generators for de minimis volumes and physical space constraints and maintain records for waivers/exemptions	2030: 7,693 2045: 7,693
Action W-1-2	<b>Require edible food recovery:</b> Adopt an edible food recovery ordinance or similarly enforceable mechanism to ensure edible food generators, food recovery services, and food recovery organizations comply with State requirements to increase recovery rates.	Supportive
Action W-1-3	<b>Partner with North State Rendering to expand use of the digester:</b> Work with North State Rendering to expand use of organics in the digester. Conduct a pilot to demonstrate effectiveness and identify funding sources for a larger expansion.	Supportive

ID #	Measure and Respective Supporting Actions	Anticipated GHG Emissions Reduction (MT of CO <sub>2</sub> e)
Action W-1-4	<p><b>Conduct capacity planning for organic waste collection:</b> Engage in organic waste collection capacity planning by executing the following:</p> <ul style="list-style-type: none"> <li>▪ Estimate Chico’s disposal of organic waste in tons</li> <li>▪ Identify and verify amount of available organics waste recycling infrastructure</li> <li>▪ Estimate the amount of new or expanded capacity needed to process organic waste</li> <li>▪ Work with the City of Chico’s Recycling and Solid Waste Division and waste haulers to coordinate organic waste delivery to Recology’s Oroville Transfer Station and Ostrom Road organics facility</li> <li>▪ Develop and submit an implementation schedule highlighting planning effort to provide enough new or expanded organics capacity, including timelines and relevant milestones by the end of the report period</li> <li>▪ Identify proposed new or expanded facilities that could be used for additional capacity</li> </ul>	Supportive
Action W-1-5	<p><b>Conduct capacity planning for edible food recovery:</b> Engage in edible food recovery capacity planning by executing the following actions:</p> <ul style="list-style-type: none"> <li>▪ Estimate the amount of edible food that will be disposed by organics generators in Chico</li> <li>▪ Work with commercial food generators to reduce excess edible food generation</li> <li>▪ Work regionally to establish a full list of food recovery organizations that can receive edible food from Chico businesses</li> <li>▪ Identify proposed new or expanded food recovery capacity</li> <li>▪ Identify the minimum capacity required to recover 20% of edible food that is estimated to be disposed</li> <li>▪ If existing and planned capacity is insufficient based on the above process, the City of Chico must develop and submit an implementation schedule highlighting the planning effort to provide enough new or expanded capacity for increasing edible food donations and identify proposed new or expanded facilities to be used to for additional capacity</li> </ul>	Supportive
Action W-1-6	<p><b>Develop and implement a partnered education and outreach program:</b> Update waste hauler contracts and partner with stakeholders (e.g., Recology, CSUC, Chico State, BEC) to develop and implement an education and outreach program around SB 1383:</p> <ul style="list-style-type: none"> <li>▪ Coordinate with Recology’s education and outreach personnel to expand on existing community outreach</li> <li>▪ Conduct outreach and education at schools on composting, recycling, and waste reduction</li> <li>▪ Provide education to the community on home composting techniques</li> <li>▪ Inform organics generators/edible food generators on requirements to properly separate materials, organic waste prevention and on-site recycling, methane reduction benefits of composting, and information related to edible food donation</li> <li>▪ Hold a compost give-away event for Chico residents</li> <li>▪ Identify percentage of organics generators who are “limited English-Speaking households” or “linguistically isolated.” If more than five percent (5%) of Chico’s organics generators are defined as “limited English-speaking households” or linguistically isolated,” provide education and outreach in a language or languages that will assure the information is understood by that community</li> </ul>	Supportive



ID #	Measure and Respective Supporting Actions	Anticipated GHG Emissions Reduction (MT of CO <sub>2</sub> e)
Action W-1-7	<b>Develop and implement an inspection and compliance program:</b> Update waste hauler contracts to implement an inspection and compliance program for the edible food recovery program and organics procurement program with defined enforcement mechanisms and penalties, to begin prior to 2024. Maintain records of compliance in accordance with SB 1383.	Supportive
<b>Measure S-1 Increase Carbon Sequestration by Increasing urban Canopy Cover at Least 10% by 2030 Through New Greenscaping Programs</b>		
Action S-1-1	<b>Implement Chico’s Urban Forest Revitalization Program:</b> Implement the Urban Forest Revitalization Program to plant 700 trees by March 2022 (adopted) and 4,500 trees by 2030 (new goal). Focus on areas of the City with low tree canopy cover based on canopy map and optimize carbon sequestration through management of the existing urban forest.	2030: 260 2045: 260
Action S-1-2	<b>Increase greenspace in Chico:</b> Identify and participate in partnership opportunities necessary to convert public and private spaces into water efficient greenspace and increase the City’s carbon sequestering greenspace by 2030.	Supportive
Action S-1-3	<b>Improve greenspace management to maximize carbon sequestration:</b> Improve management of public open space and park lands, including use of compost, to maximize carbon sequestration. Through permit review, evaluate and ensure that landscaping plans utilize native species identified in the Urban Forest Management Plan where feasible.	Supportive
Action S-1-4	<b>Require shade trees in new major developments:</b> Require new development to include shade trees for enhanced energy savings, provided it would not interfere with solar installation. Tree species and location would be determined in coordination with the City’s Urban Forester. Street tree planting shall also be required for all new single-family subdivisions	Supportive
<b>Measure S-2 Develop and Implement the urban Forest Master Plan</b>		
Action S-2-1	<b>Develop, adopt and implement the urban Forest Master Plan:</b> Create an actionable strategic plan for the City’s urban forest that will guide it to its vision of a healthy, robust and resilient urban forest over the next 40 years. The plan shall include sections on work programs, policies, ordinances, sustainable urban forest management, design, planting, staffing, stewardship, carbon offset, storm water management, creek, open space and natural resource management, public tree inventory, and community participation and education.	Supportive
Action S-2-2	<b>Conduct a canopy cover analysis:</b> Conduct a tree canopy coverage analysis that includes all trees within the city limits, including public and private property trees, open space, natural resources area, creek and riparian areas, and golf courses. The resulting study should provide information on the number of trees and tree density on all identified areas and provide analysis if trees are equitably distributed throughout the city and present a clear picture on where city should strategically invest resources.	Supportive

ID #	Measure and Respective Supporting Actions	Anticipated GHG Emissions Reduction (MT of CO <sub>2</sub> e)
Action S-2-3	<b>Conduct citywide tree planting analysis:</b> Conduct a tree planting analysis to gain a better understanding of the urban forest’s overall condition. The resulting information should be used to develop management recommendations associated with tree removal, tree planting, trimming cycle adjustments and related maintenance activities. Additionally, the results of this analysis should be used to develop a list of recommended tree species that will be suitable for the city’s current environmental conditions as well as anticipated conditions caused by climate change.	
<b>Measure O-1</b>	<b>Conduct a wholistic community outreach and education program to optimize CAP implementation</b>	
Action O-1-1	<b>Conduct partnered community outreach and education:</b> Develop a plan for ongoing community outreach strategies to maintain education and promotion of the CAP. This includes regular maintenance of the City’s CAP webpage and ongoing PR, working with CUSD to create K-12 lesson plans, and partnering with CSUC and non-profits.	Supportive

Note: MT of CO<sub>2</sub>e = metric tons of carbon dioxide equivalent  
Source: Compiled by Rincon based on information contained in the Chico Draft CAP Update.

The measures included in the CAP Update (shown above in Table 2), combined with Statewide legislation, will enable Chico to meet its per capita GHG emissions reduction target of 80 percent below 1990 levels by 2030 and the interim target of 73 percent below 1990 levels by 2025. Table 3 shows the contribution of the Statewide initiatives in conjunction with the CAP Update measures to reduce Chico projected total emissions in 2030.

**Table 3 Chico 2030 GHG Reduction Target by Sector**

State Initiative	Sector	2030 Reduction in per Capita Emissions (MT of CO <sub>2</sub> e/person)	2030 Reduction in Total Emissions (MT of CO <sub>2</sub> e)
Advanced Clean Cars Program	On-road Transportation	1.06	113,662
Renewable Portfolio Standard	All electricity	0.26	28,021
Title 24	Residential Energy	0.01	1,282
A. Total State Initiative Emissions Reductions		1.33	142,965
B. Total CAP Update Emissions Reductions		0.91	97,931
C. Total Expected Emissions Reductions (A+B)		2.24	240,896
D Chico Emissions Reduction Requirement		2.24	240,896
E. Meets/exceeds State Goals? (C > D)		Yes	Yes
MT of CO <sub>2</sub> e = metric tons of carbon dioxide equivalent			

Table 4 shows the 2025 and 2030 GHG emissions and targets for Chico, including the expected emissions once the measures listed in Table 2 are implemented. Figure 3 and

**Figure 4** illustrate, for total and per capita emissions respectively, how the BAU forecast emissions are estimated to increase (in gray), thus widening the emissions reductions needed by 2025 and 2030. Figure 3 and

**Figure 4** also show the adjusted forecast emissions (in blue), after State-level initiatives are accounted for, as well as the emissions target/goal pathway trajectory chosen by the City of Chico (in orange), and the emissions reductions after all State-level actions and Chico CAP Update measures are applied (in green).

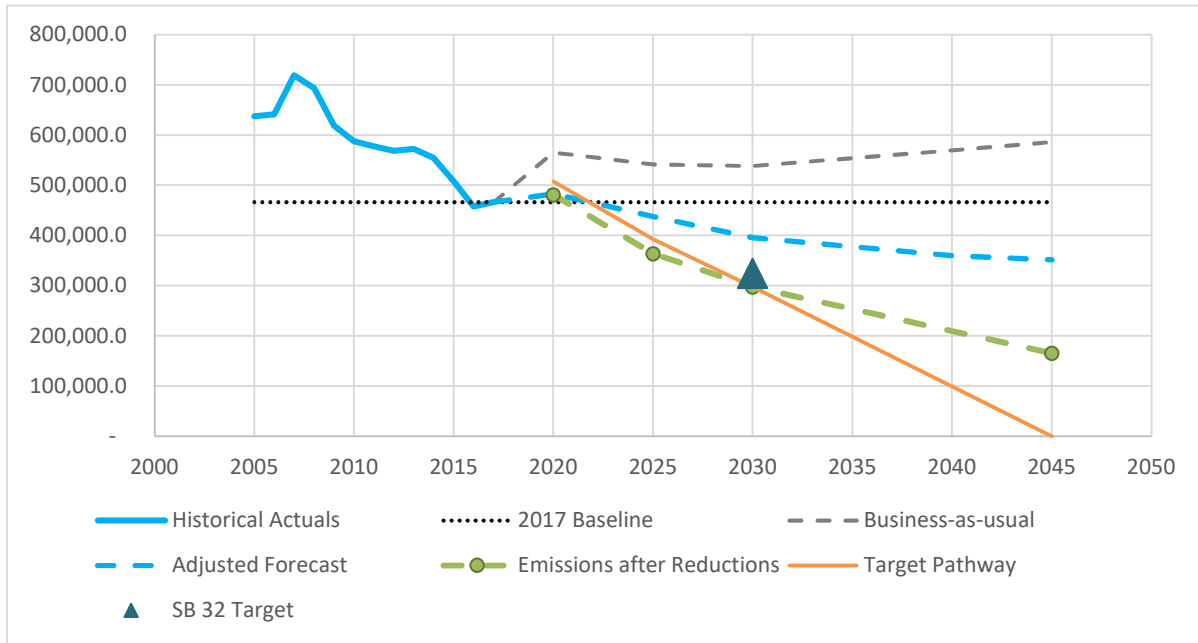
**Table 4 Chico GHG Emissions Projections and Targets**

Description	Emissions (MT of CO <sub>2</sub> e/person)	Emissions (MT of CO <sub>2</sub> e total)
1990 Emissions	13.56	541,891
2025 BAU Emissions	5.04	541,754
2025 Target Emissions (73% below 1990)	3.65	392,528
2025 Expected Emissions with Implementation of CAP Measures and Actions	3.38	363,535
2030 BAU Emissions	5.00	538,282
2030 Target Emissions (80% below 1990)	2.76	297,386
2030 Expected Emissions with Implementation of CAP Measures and Actions	2.76	297,386

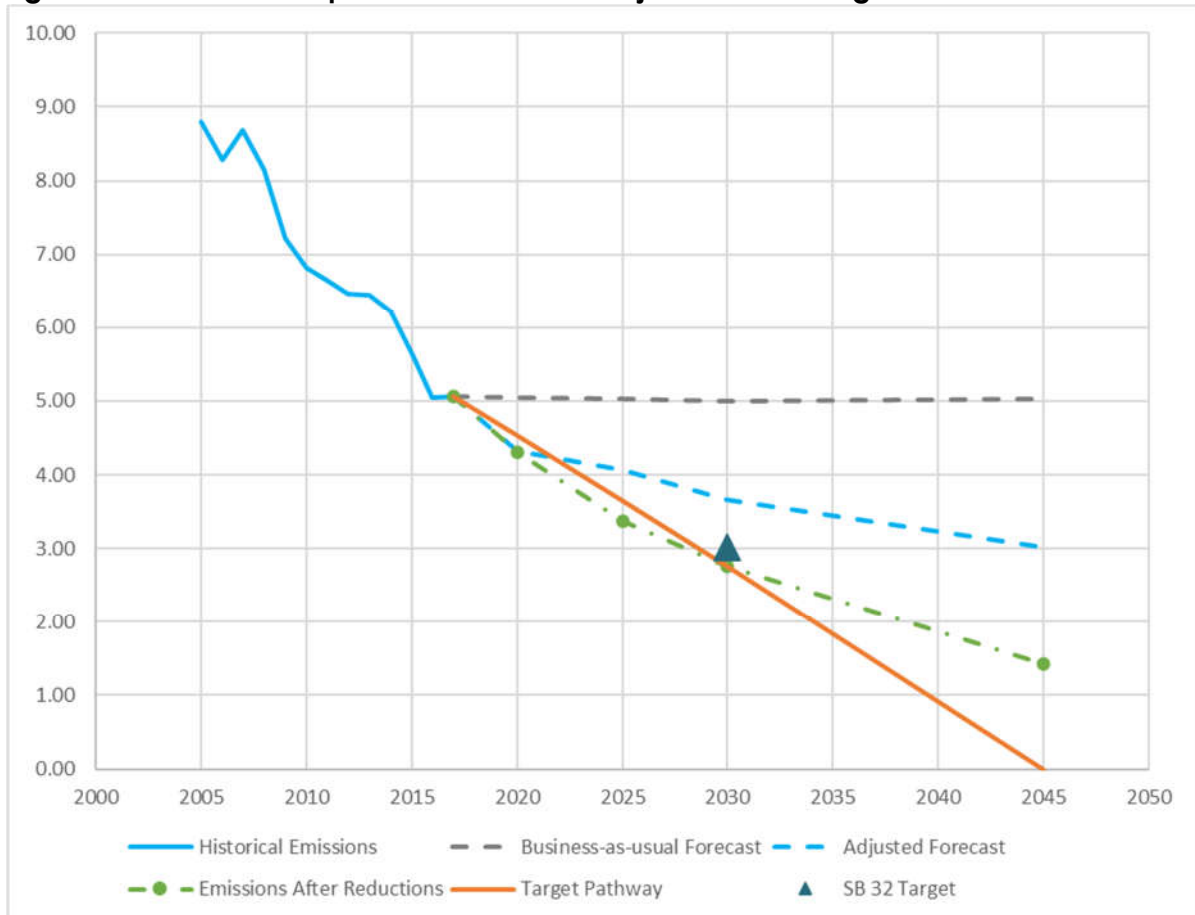
MT of CO<sub>2</sub>e = metric tons of carbon dioxide equivalent

Implementation of the CAP Update measures listed in Table 2 could result in physical changes to the environment that could potentially have an impact on the environment. While individual projects resulting from these measures have not been identified for the purposes of this document, the types of actions that could result from realization of the CAP measures are taken into account in considering potential environmental impacts that could occur through implementation of the CAP Update. For example, projects or actions requiring ministerial approval, such as installation of electric vehicle charging stations and supporting infrastructure, as well as new bicycle or pedestrian facilities, would introduce physical changes related to the temporary presence and operation of construction vehicles and equipment during installation of required facilities and the long-term presence of new facilities such as bike and pedestrian facilities, solar arrays, and electric vehicle charging stations, which could alter pedestrian and vehicular traffic patterns. Future plans or projects requiring discretionary approval would be subject to environmental review under CEQA, and individual impact analyses will identify required plan- or project-specific mitigation measures where applicable.

**Figure 3 Chico Total GHG Emissions Projections and Targets**



**Figure 4 Chico Per Capita GHG Emissions Projections and Targets**



## Cumulative Projects Scenario

For purposes of CEQA cumulative impacts analysis of the Chico CAP Update, the cumulative projects scenario is buildout of the 2030 Chico General Plan . The Chico 2030 General Plan Land Use Element assumes a total of 21,495 housing units and 15,762,360 gross square feet of non-residential development by the horizon year in 2030.<sup>8</sup> In addition, BCAG projects a Chico population of 107,712 persons by 2030.<sup>9</sup>

## Required Approvals

### City of Chico

Required approvals include:

- certification of the CAP Update Initial Study-Negative Declaration; and
- approval of the CAP Update.

Although individual plans or projects may be implemented later under the umbrella of the CAP Update, each individual plan or project would be subject to separate environmental review under CEQA.

### Other Public Agencies

The City of Chico has sole approval authority over the CAP. There are no other public agencies whose approval is required.

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<sup>8</sup> Chico, City of. 2011. Chico 2030 General Plan Land Use Element. Available: <[https://chico.ca.us/sites/main/files/file-attachments/3.\\_land\\_use\\_element\\_updated.pdf?1593458892](https://chico.ca.us/sites/main/files/file-attachments/3._land_use_element_updated.pdf?1593458892)>. Accessed March 29, 2021.

<sup>9</sup> Butte County Association of Governments (BCAG). 2019. Provisional Long-Term Regional Growth Forecasts 2018-2040. Available: <[http://www.bcag.org/documents/demographics/pop\\_emp\\_projections/Growth\\_Forecasts\\_2018-2040\\_draft\\_v2.pdf](http://www.bcag.org/documents/demographics/pop_emp_projections/Growth_Forecasts_2018-2040_draft_v2.pdf)>. Accessed May 26, 2021.

## Environmental Factors Potentially Affected

This project would potentially affect the environmental factors checked below, involving at least one impact that is “Potentially Significant” or “Less than Significant with Mitigation Incorporated” as indicated by the checklist on the following pages.

- |  |   |   |
|--|---|---|
| <input type="checkbox"/> Aesthetics                | <input type="checkbox"/> Agriculture and Forestry Resources | <input type="checkbox"/> Air Quality                        |
| <input type="checkbox"/> Biological Resources      | <input type="checkbox"/> Cultural Resources                 | <input type="checkbox"/> Energy                             |
| <input type="checkbox"/> Geology/Soils             | <input type="checkbox"/> Greenhouse Gas Emissions           | <input type="checkbox"/> Hazards & Hazardous Materials      |
| <input type="checkbox"/> Hydrology/Water Quality   | <input type="checkbox"/> Land Use/Planning                  | <input type="checkbox"/> Mineral Resources                  |
| <input type="checkbox"/> Noise                     | <input type="checkbox"/> Population/Housing                 | <input type="checkbox"/> Public Services                    |
| <input type="checkbox"/> Recreation                | <input type="checkbox"/> Transportation                     | <input type="checkbox"/> Tribal Cultural Resources          |
| <input type="checkbox"/> Utilities/Service Systems | <input type="checkbox"/> Wildfire                           | <input type="checkbox"/> Mandatory Findings of Significance |

## Determination

Based on this initial evaluation:

- I find that the proposed project **COULD NOT** have a significant effect on the environment, and a **NEGATIVE DECLARATION** will be prepared.
- I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions to the project have been made by or agreed to by the project proponent. A **MITIGATED NEGATIVE DECLARATION** will be prepared.
- I find that the proposed project **MAY** have a significant effect on the environment, and an **ENVIRONMENTAL IMPACT REPORT** is required.
- I find that the proposed project **MAY** have a “potentially significant impact” or “less than significant with mitigation incorporated” impact on the environment, but at least one effect (1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and (2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An **ENVIRONMENTAL IMPACT REPORT** is required, but it must analyze only the effects that remain to be addressed.

- I find that although the proposed project could have a significant effect on the environment, because all potential significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

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Lead Agency Representative Signature

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Date

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Lead Agency Representative Printed Name

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Title

# Environmental Checklist

## 1 Aesthetics

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Have a substantial adverse effect on a scenic vista?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Substantially damage scenic resources, including but not limited to, trees, rock outcroppings, and historic buildings within a State scenic highway?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c. In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from a publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d. Create a new source of substantial light or glare that would adversely affect daytime or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

*1a, 1b, Would the project have a substantial adverse effect on a scenic vista? Would the project substantially damage scenic resources, including but not limited to, trees, rock outcroppings, and historic buildings within a State scenic highway?*

The 2030 General Plan and its Environmental Impact Report (EIR) identify scenic resources within and nearby the City as the Sierra Nevada Foothills to the east of the City, agricultural landscapes, major creeks (e.g., Mud Creek, Sycamore Creek, Lindo Channel [Sandy Gulch], Big Chico Creek, Little Chico Creek, Butte Creek, Dead Horse Slough, and Comanche Creek), and Bidwell Park. Scenic vistas are available from within Bidwell Park and from publicly accessible roadways including Manzanita Avenue, Vallombrosa Avenue, East 8th Street, the Esplanade, Chico Canyon Road, Centennial Avenue, Humboldt Road, Bidwell Avenue, North Park Drive, and South Park Drive.<sup>10,11</sup> The nearest designated California Scenic Highway is California State Route 49, which is approximately 42 miles southeast of Chico and is a north-south state highway that runs through many historic mining communities from the California Gold Rush. The nearest State Route eligible for designation as a

<sup>10</sup> Chico, City of. 2011. Chico 2030 General Plan. Available: <<https://chico.ca.us/post/chico-2030-general-plan>>. Accessed March 29, 2021.

<sup>11</sup> Chico City of. 2010. 2030 General Plan Update Draft Environmental Impact Report. Available: <[https://chico.ca.us/sites/main/files/file-attachments/chicodeir\\_combined\\_noappendices.pdf?157775314](https://chico.ca.us/sites/main/files/file-attachments/chicodeir_combined_noappendices.pdf?157775314)>. Accessed March 29, 2021.



California Scenic Highway is a portion of State Route 70, located approximately 15 miles east of Chico in Plumas County.<sup>12</sup>

As a policy document, the CAP Update would not result in impacts related to scenic vistas and scenic highways. However, implementation of some CAP measures and actions may promote infrastructure development and redevelopment through policies and programs. CAP Measure E-4 and Actions E-4-1 and E-4-4 promote installation of solar PV systems and associated battery energy storage facilities to provide greener renewable electricity within the City. CAP Measure T-1 and Actions T-1-1, T-1-3, and T-1-5 and CAP Measure T-3 and Actions T-3-1 through T-3-3 involve the installation of new bicycle, pedestrian, and public transit infrastructure such as new bike lanes, bike sharing stations in the downtown area, and a new electric trolley service. CAP Measure T-2 and Actions T-2-1 through T-2-3 and Action T-2-5 encourage the installation of electric vehicle charging stations and supporting infrastructure. CAP Actions W-1-4 and W-1-5 may result in new or expanded organic waste recycling facilities. Additionally, CAP Measure S-1 and Actions S-1-1, S-1-2, and S-1-4 facilitate the expansion of greenspace and the planting of native shade trees within the City.

The CAP would promote infrastructure development and redevelopment that is complimentary to existing development and land uses. Though the implementation of the CAP may result in future development, CAP-related projects and actions, including those identified above, would be required to adhere to City development zoning and regulations, including Chico Municipal Code (CMC) Chapter 19.18, which establishes the City's Design Review process, and the City's Design Guidelines Manual.<sup>13</sup> The Design Guidelines Manual establishes criteria for the aesthetic qualities of new development in the city including design, architecture, lighting, and signage.<sup>14</sup> Compliance with the CMC and Design Guidelines Manual would ensure that potential future infrastructure development and redevelopment related to the CAP would be carefully integrated with the existing character of the, minimizing potential aesthetic impacts. In addition, CAP projects or actions would be reviewed for consistency with the General Plan policies related to scenic resources prior to approval. As such, the CAP would not result in adverse impacts related to scenic vistas within the City. Furthermore, given the distance from the nearest eligible and officially designated State scenic highways and the presence of intervening structures and topography, future site-specific CAP projects would not be visible from State Route 49 or State Route 70. Therefore, the CAP Update would not substantially damage scenic resources and historic buildings within a designated or eligible State scenic highway. Therefore, the CAP Update would result in ***less-than-significant impacts*** related to scenic vistas and ***no impact*** to scenic highways.

*1c. In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from a publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?*

The City of Chico is an urbanized area with the following applicable visual character/quality goals and policies from the City General Plan Land Use (LU), Community Design (CD), and Open Space and Environment Elements (OS):

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<sup>12</sup> California Department of Transportation (Caltrans). 2021. California State Scenic Highway System Map. Available: <<https://www.arcgis.com/apps/webappviewer/index.html?id=2e921695c43643b1aaf7000dfcc19983>>. Accessed March 29, 2021.

<sup>13</sup> Chico, City of. 2021. City Municipal Code Chapter 19.18. Available: <[https://codelibrary.amlegal.com/codes/chico/latest/chico\\_ca/0-0-0-1-](https://codelibrary.amlegal.com/codes/chico/latest/chico_ca/0-0-0-1-)>. Accessed May 18, 2021.

<sup>14</sup> Chico, City of. 2009. City of Chico Design Guidelines Manual. Available: <<https://chico.ca.us/general-plan-other-planning-documents>>. Accessed March 29, 2021.

- **LU 1.2 – Growth Boundaries/Limits:** Maintain long-term boundaries between urban and agricultural uses in the west and between urban uses and the foothills in the east, and limit expansion north and south to produce a more compact urban form.
- **LU 2.4 – Land Use Compatibility:** Promote land use compatibility through use restrictions, development standards, and special design considerations.
- **LU 2.5 – Open Space and Resource Conservation:** Protect open space areas with known sensitive resources.
- **LU 2.6 – Agricultural Buffers:** Require buffering for new urban uses along the City’s Sphere of Influence adjacent to commercial crop production. Landscaping, trails, gardens, solar arrays, and open space uses are permitted within the buffer. Design criteria for buffers are as follows:
  - A minimum 100-foot-wide physical separation, which may include roadways and creeks, between the agricultural use and any habitable structure.
  - Incorporate vegetation, as may be needed to provide a visual, noise, and air quality buffer.
- **LU 3.3 – Neighborhood Services:** Recognize existing neighborhoods and continue to facilitate the development of neighborhood plans in partnership with residents and property owners to preserve and enhance neighborhood character, identity, and livability.
- **CD 1.1 – Natural Features and Cultural Resources:** Reinforce the City’s positive and distinctive image by recognizing and enhancing the natural features of the City and protecting cultural and historic resources.
- **CD 2.4 – Context Sensitive Foothill Development:** Minimize disruption of viewsheds from foothill development, through the careful location and design of roads, buildings, lighting, landscaping and other infrastructure.
- **CD 3.1 – Lasting Design and Materials:** Promote architectural design that exhibits timeless character and is constructed with high quality materials.
- **CD 4.1 – Distinctive Character:** Reinforce the distinctive character of neighborhoods with design elements reflected in the streetscape, landmarks, public art, and natural amenities.
- **OS 2.4 – Visual Resources:** Preserve the foothills as a natural backdrop to the urban form.
- **OS 2.5 – Creeks and Riparian Corridors:** Preserve and enhance Chico’s creeks and riparian corridors as open space for their aesthetic, drainage, habitat, flood control, and water quality values.
- **OS 5.1 – Urban/Rural Boundary:** Protect agriculture by maintaining the Greenline boundary between urban and rural uses.
- **OS 6.1 – Healthy Urban Forest:** Ensure the protection and management of the urban forest.<sup>15</sup>

The CAP Update would not involve land use or zoning changes but would instead promote sustainable infrastructure development and redevelopment through policies and programs. Implementation of some CAP measures related to transportation, renewable energy, and GHG sequestration may result in physical changes that could impact scenic resources. CAP Measure E-4 and Actions E-4-1 and E-4-4 promote installation of solar PV systems and associated battery energy storage facilities to provide renewable electricity within the City. CAP Measure T-1 and Actions T-1-

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<sup>15</sup> Chico, City of. 2011. Chico 2030 General Plan Land Use, Community Design, and Open Space and Environment Elements. Available: <<https://chico.ca.us/post/chico-2030-general-plan>>. Accessed March 29, 2021.

1, T-1-3, and T-1-5 and CAP Measure T-3 and Actions T-3-1 through T-3-3 involve the installation of new bicycle, pedestrian, and public transit infrastructure such as new bike lanes and a new electric trolley service. CAP Measure T-2 and Actions T-2-1 through T-2-3 and Action T-2-5 encourage the installation of electric vehicle supporting infrastructure. Additionally, CAP Measure S-1 and Actions S-1-1, S-1-2, and S-1-4 facilitate the expansion of greenspace and the planting of native shade trees within the City.

Implementation of solar panels and battery storage, introduction of active transportation and public transit infrastructure, and planting additional trees may slightly change the scenic character of the City. However, future CAP-related projects would be located and designed to be complimentary to existing land uses and would be required to adhere to City development zoning and regulations, including the Chico Design Manual Guidelines, that seek to preserve the character of the City and minimize environmental impacts. In addition, CAP Update projects and actions would be reviewed for consistency with the General Plan policies highlighted above and other applicable regulatory land use actions prior to approval. Therefore, the CAP Update would not conflict with applicable zoning and other regulations governing scenic quality and would result in a ***less than significant impact***.

*1d. Would the project create a new source of substantial light or glare that would adversely affect daytime or nighttime views in the area?*

The CAP Update would not involve land use or zoning changes. Rather the CAP Update would promote sustainable infrastructure development and redevelopment that is complimentary to existing development and land uses. As a policy document, the CAP Update would not directly result in impacts related to light and glare. However, implementation of CAP measures E-4, T-1, T-2, T-3, and S-1 may promote new active transportation and public transit infrastructure, solar panels, and tree planting throughout the City, as discussed in *Responses 1a., 1b., and 1c.*, above.

CAP Action E-4-4 includes ten potential programs to increase renewable energy generation, including expanding the existing solar array at the Water Treatment Plant and installing solar panels at municipal facilities. Solar panels have the potential to result in new sources of glare within the City if not thoughtfully designed and located. The design and location of proposed solar infrastructure would be complimentary to existing development in the City, such as the expansion of existing solar arrays and addition of small-scale rooftop solar panels, in order to reduce potential glare impacts. Furthermore, CAP projects and actions would be reviewed for consistency with the CMC, including Section 19.60.050, which establishes exterior lighting standards, and the Design Guidelines Manual.<sup>16</sup> In addition, CAP projects or actions would be reviewed for consistency with the General Plan and other applicable regulatory land use actions prior to approval. Compliance with these regulations would minimize environmental impacts related to light and glare by limiting the use of highly reflective materials and requiring the shielding of exterior lighting. Thus, the CAP would result in a ***less-than-significant impact*** related to light and glare.

## Cumulative Impacts

The cumulative projects scenario is overall General Plan buildout for Chico in 2030. Cumulative impacts related to scenic resources, visual character, and increased light and glare would generally be site-specific, and cumulative projects are not anticipated to contribute to cumulative aesthetic

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<sup>16</sup> Chico, City of. 2021. City Municipal Code Section 19.16.050. Available: <[https://codelibrary.amlegal.com/codes/chico/latest/chico\\_ca/0-0-0-1](https://codelibrary.amlegal.com/codes/chico/latest/chico_ca/0-0-0-1)>. Accessed May 18, 2021.

impacts with adherence to General Plan policies and the Municipal Code. Because of the developed nature of Chico, future infrastructure projects under the CAP, in combination with other cumulative projects anticipated under General Plan buildout, would not adversely impact the visual character of the City. In addition, future development in the City would be required to comply with the City's Design Review process and be reviewed against applicable General Plan policies and City's design standards for design quality and compatibility with adjacent land uses. Therefore, implementation of the CAP Update would result in a ***less-than-significant cumulative impact*** related to aesthetics.

## 2 Agriculture and Forestry Resources

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Conflict with existing zoning for agricultural use or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)); timberland (as defined by Public Resources Code Section 4526); or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d. Result in the loss of forest land or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e. Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

2a, 2b, 2e. *Would the project:*

- *Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?*
- *Conflict with existing zoning for agricultural use or a Williamson Act contract?*
- *Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use?*

The City of Chico is characterized primarily by urban and suburban development; however, the City does contain some areas of active agricultural use. The largest agricultural land use within the City is the Vanella Orchard, which is located on 8th Avenue. There are also several small agricultural

operations and orchards throughout the City.<sup>17</sup> According to the Farmland Mapping and Monitoring Program, the majority of land within the City is classified as urban and built-up land, with five scattered areas mapped as Prime Farmland or Unique Farmland.<sup>18</sup> There are no Williamson Act contracts within the City.<sup>19</sup> Areas of unincorporated Butte County surrounding the City, particularly to the west of the City, are largely agricultural.<sup>19</sup>

The majority of CAP Update measures focus on electrification of buildings, improving active transportation, zero emission vehicle and public transit infrastructure, increasing organic waste diversion, and increasing urban greenspace and trees. These measures would not involve projects or policies that would result in impacts related to conversion or loss of farmland. CAP Measure E-4 seeks to increase generation and storage of local renewable energy. There is the potential for new renewable energy incentives to result if solar panels are placed on agricultural lands. However, the use of solar panels on agricultural land would not preclude continued or future agricultural use and productivity of sites. Furthermore, the CAP Update includes Measure T-5, which supports infill development and the reduction of urban sprawl, which could help to preserve existing agricultural lands within the City and within the agricultural areas adjacent to the City. Therefore, the CAP Update would result in a **less-than-significant impact** related to degradation of agricultural resources or conversion of agricultural land to non-agriculture uses, nor would there be a conflict with existing zoning or general plan land use designations.

*2c, 2d, 2e. Would the project:*

- *Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)); timberland (as defined by Public Resources Code Section 4526); or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?*
- *Result in the loss of forest land or conversion of forest land to non-forest use?*
- *Involve other changes in the existing environment which, due to their location or nature, could result in conversion of forest land to non-forest use?*

The City contains approximately 265 acres of natural areas that are not developed as well as a number of parks and greenways that contain trees.<sup>20,19</sup> However, there are no lands zoned for Timberland Production within the City.<sup>21,22</sup> The CMC Chapter 16.66, Tree Preservation Regulations, establishes policies, regulations and standards necessary to ensure tree protection within the City.<sup>23</sup> In addition, the General Plan contains a number of goals, policies, and actions such as Goal OS-6,

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<sup>17</sup> Chico, City of. 2010. 2030 General Plan Update Draft Environmental Impact Report. Available: <[https://chico.ca.us/sites/main/files/file-attachments/chicodeir\\_combined\\_noappendices.pdf?1577755314](https://chico.ca.us/sites/main/files/file-attachments/chicodeir_combined_noappendices.pdf?1577755314)>. Accessed March 29, 2021.

<sup>18</sup> California Department of Conservation. 2021. California Important Farmland Finder. Available: <<https://maps.conservation.ca.gov/dlrp/ciff/>>. Accessed March 29, 2021.

<sup>19</sup> Chico, City of. 2010. 2030 General Plan Update Draft Environmental Impact Report. Available: <[https://chico.ca.us/sites/main/files/file-attachments/chicodeir\\_combined\\_noappendices.pdf?1577755314](https://chico.ca.us/sites/main/files/file-attachments/chicodeir_combined_noappendices.pdf?1577755314)>. Accessed March 29, 2021.

<sup>20</sup> Chico, City of. 2019. Park and Recreation Master Plan Update. April 21, 2019. Available: <[https://issuu.com/playcard/docs/master-plan\\_packaged-final-issuu](https://issuu.com/playcard/docs/master-plan_packaged-final-issuu)>. Accessed March 30, 2021.

<sup>21</sup> Chico, City of. 2020. Zoning Map. Available: <[https://chico.ca.us/sites/main/files/file-attachments/citywebmap\\_zoning20170901aug2017.pdf?1594054713](https://chico.ca.us/sites/main/files/file-attachments/citywebmap_zoning20170901aug2017.pdf?1594054713)>. Accessed March 30, 2021.

<sup>22</sup> California Department of Fish and Wildlife. n.d. Forests and Timberlands in the California Department of Fish and Wildlife Region 2. Available: <<https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=111178&inline>>. Accessed March 30, 2021.

<sup>23</sup> Chico, City of. 2021. City Municipal Code Chapter 16.66. Available: <[https://codelibrary.amlegal.com/codes/chico/latest/chico\\_ca/0-0-0-1-](https://codelibrary.amlegal.com/codes/chico/latest/chico_ca/0-0-0-1-)>. Accessed May 18, 2021.

provide a healthy and robust urban forest, that illustrate the City's commitment to managing and preserving Chico's urban forest.<sup>24</sup> The CAP Update aligns with the General Plan by including measures and actions that emphasize the maintenance and expansion of the urban forest and greenspaces within Chico, as well as the control of suburban sprawl that could encroach upon agricultural and forest lands surrounding the City. CAP Measure S-1 and Actions S-1-1 through S-1-4 facilitate the implementation of an urban forest revitalization program and increasing greenspace and native trees throughout the City.

As such, the CAP Update would increase planting of trees within the City and be consistent with the City's Tree Preservation Regulations. Furthermore, the CAP Update seeks to increase trees within the City for the purposes of carbon sequestration and shading. The CAP Update does not include measures that would result in the loss of forest land or the conversion of forest land to non-forest use, nor would it conflict with or cause the rezoning of forest, timber land, or Timberland Production areas. Therefore, the CAP would result in a **no impact** related to degradation of forestry resources or conversion of forest land to non-forest uses, nor would there be a conflict with existing zoning or general plan land use designations.

### Cumulative Impacts

The cumulative projects scenario is overall General Plan buildout for Chico in 2030. As the City's population grows and development intensifies in the future, in combination with other cumulative projects anticipated under General Plan buildout, CAP Measure T-5 would guide the City to direct growth to infill areas, reducing suburban sprawl that could impact agriculture and forestry resources within the surrounding unincorporated Butte County. In addition, CAP Measure S-1 and Actions S-1-1 through S-1-4 would ensure that the urban forest is maintained and that additional trees are planted throughout the City. As discussed above, the CAP Update would not include any measures or actions that would significantly impact agricultural or forest resources. In addition, the CAP would not involve land use or zoning changes that could result in cumulative impacts related to conversion or loss of farmland or forest land. Therefore, implementation of the CAP Update would result in **no cumulative impact** related to agricultural and forestry resources.

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<sup>24</sup> Chico, City of. 2011. Chico 2030 General Plan Open Space and Environment Element. Available: <<https://chico.ca.us/post/chico-2030-general-plan>>. Accessed March 29, 2021.

# 3 Air Quality

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d. Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

**3a. Would the project conflict with or obstruct implementation of the applicable air quality plan?**

The federal Clean Air Act (CAA) governs air quality in the United States and is administered by the U.S. EPA at the federal level. Air quality in California is also governed by regulations under the California CAA, which is administered by CARB at the State level. At the regional and local levels, local air districts typically administer the federal and California CAA. As part of implementing the federal and California CAA, the U.S. EPA and CARB have established ambient air quality standards for major pollutants at thresholds intended to protect public health. Chico is located within the Sacramento Valley Air Basin (the Air Basin), which includes the counties of Butte, Colusa, Glenn, Placer, Sacramento, Shasta, Solano, Sutter, Tehama, Yolo, Yuba. The Air Basin is under the jurisdiction of the Butte County Air Quality Management District (BCAQMD). As the local air quality management agency, BCAQMD is required to monitor air pollutant levels to ensure that State and federal air quality standards are met and, if they are not met, to develop strategies to meet the standards. Depending on whether or not the standards are met or exceeded, the Air Basin is classified as being in “attainment” or “nonattainment.” Under State law, air districts are required to prepare a plan for air quality improvement for pollutants for which the district is in non-attainment. BCAQMD is in non-attainment for the State and federal ozone standards, the State PM<sub>2.5</sub> (particulate matter up to 2.5 microns in size) standards, and the State PM<sub>10</sub> (particulate matter up to 10 microns in size) standards and is required to prepare a plan for improvement.<sup>25</sup> The sources, health effects, and typical controls associated with criteria pollutants are described in Appendix A.

Air districts in the northern portion of the Air Basin (encompassing Shasta, Tehama, Glen, Colusa, Butte, and Feather River air districts), prepared and adopted a uniform Air Quality Attainment Plan

<sup>25</sup> Butte County Air Quality Management District (BCAQMD). 2021. Air Quality Standards and Air Pollutants. Available: <<https://bcaqmd.org/planning/air-quality-standards-air-pollutants/>>. Accessed April 14, 2021.



(AQAP) for the purpose of achieving and maintaining healthful air quality throughout the northern portion of the Air Basin. In December 2018, BCAQMD adopted the 2018 Triennial Air Quality Attainment Plan (2018 AQAP), which assesses the progress made in implementing the previous triennial update and proposes modifications to the strategies necessary to attain the California Ambient Air Quality Standards (CAAQS) by the earliest practicable date.<sup>26</sup> In addition, BCAQMD maintains a PM<sub>2.5</sub> Nonattainment Area Redesignation Request and Maintenance Plan. The purpose of this plan is to demonstrate that the planning area has met requirements established in the CAA, to request redesignation to attainment for the 24-hour PM<sub>2.5</sub> National Ambient Air Quality Standards (NAAQS), and to demonstrate how the area will maintain the NAAQS for the next 10 years.<sup>27</sup>

The Federal Clean Air Act Amendments (CAAA) mandate that states submit and implement a State Implementation Plan (SIP) for areas not meeting air quality standards. The SIP includes pollution control measures to demonstrate how the standards will be met through those measures. The SIP is established by incorporating measures established during the preparation of Air Quality Management Plans (AQMP) and adopted rules and regulations by each local Air Pollution Control District (APCD) and AQMD, which are submitted for approval to CARB and the U.S. EPA.<sup>28</sup> The goal of an AQMP is to reduce pollutant concentrations below the NAAQS through the implementation of air pollutant emissions controls.

The CAP Update would not involve land use or zoning changes but would rather promote sustainable infrastructure development and redevelopment. CAP Update measures and actions focus on electrification of buildings, increasing local renewable energy infrastructure and providing carbon neutral electricity, improving active transportation, zero emission vehicle and public transit infrastructure, increasing organic waste diversion, and increasing urban greenspace and trees. Implementation of proposed measures, such as those aimed at reducing VMT and reducing natural gas use, would have co-benefits to air quality within the Air Basin, would help Chico meet applicable air quality plan goals, and would generally reduce sensitive receptor exposure to pollutant concentrations. Although the purpose and intended effect of the CAP Update is to reduce GHG emissions generated in the City to help reduce the effects of climate change, many of its actions would also reduce criteria pollutant (i.e., air quality) emissions. CAP Measures E-2 and E-3 involve increased energy efficiency and building electrification as part of residential and non-residential land use operations, CAP Measures E-1 and E-4 prioritize decarbonizing electricity within the City by 2025 and increasing the generation of local renewable energy, and CAP Measures T-1 through T-5 seek to reduce VMT in the City, improve active transportation and public transit facilities, and increase the adoption of EVs. These energy- and transportation-related measures would reduce air quality emissions as well as GHG emissions. Therefore, the CAP is consistent with the 2018 AQAP and would have **no impact** related to a conflict with or obstruction of the applicable air quality plan.

*3b. Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or State ambient air*

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<sup>26</sup> Sacramento Valley Air Quality Engineering and Enforcement Professionals (SVAQEPP). 2018. Northern Sacramento Valley Planning Area 2018 Triennial Air Quality Attainment Plan. Available: <<http://www.airquality.org/SVBAPCC/Documents/2018%20Triennial%20Report.pdf>>. Accessed April 14, 2021.

<sup>27</sup> Butte County Air Quality Management District (BCAQMD). 2017. Chico, CA/Butte County PM<sub>2.5</sub> Nonattainment Area Redesignation Request and Maintenance Plan. October 2017. Available: <<http://bcaqmd.org/wp-content/uploads/Butte-County-PM2.5-Redesignation-Request-and-Maintenance-Plan.pdf>>. Accessed April 14, 2021.

<sup>28</sup> CARB. 2017. Proposed 2016 State Strategy for the State Implementation Plan. Available: <<https://ww3.arb.ca.gov/planning/sip/2016sip/2016sip.htm>>. Accessed April 14, 2021.

*quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors)?*

The CAP would not involve land use or zoning changes but would instead promote sustainable infrastructure development and redevelopment. As a policy document, the CAP would not result in impacts related to criteria pollutants. However, implementation of the following CAP measures may promote construction activities that would temporarily generate criteria pollutants during the construction phase.

CAP Actions E-3-2, E-3-3, E-3-7, and E-4-1 through E-4-4 promote building electrification of existing buildings and installation of solar PV systems and battery storage facilities to provide greener renewable electricity within the City. CAP Actions T-1-1, T-1-3 through T-1-5, T-3-1, T-3-5, and T-3-8 support the installation of new bicycle, pedestrian, and public transit infrastructure throughout the City to increase the use of public transit and active transportation. CAP Actions T-2-1 through T-2-3, T-2-5, and T-2-8 encourage the installation of electric vehicle charging stations and supporting infrastructure. CAP Actions W-1-1 and W-1-3 through W-1-5 relate to increasing organic waste diversion and facility capacities for organic waste collection. Additionally, CAP Actions T-4-3, S-1-1, and S-1-2 encourage increasing parklet, greenspace, and the planting of urban trees within the community. Construction-related air quality impacts are generally associated with fugitive dust (PM<sub>10</sub> and PM<sub>2.5</sub>) and exhaust emissions from heavy construction vehicles and soil hauling trucks, in addition to reactive organic gases (ROG) that would be released during the drying phase upon application of architectural coatings. However, implementation of proposed measures would not include large-scale construction within Chico and would involve temporary and short-term criteria pollutant emissions. As such, it would result in low-level criteria pollutant emissions and negligible impacts to air quality. CAP projects or actions would also be reviewed for consistency with BCAQMD air quality regulations and other applicable local, State, and federal regulations once project details and locations are known. Thus, the construction required for implementation of the CAP would result in a less-than-significant impact related to net increase of criteria pollutants.

With respect to operational emissions, many CAP measures and actions would have the secondary benefit of reducing criteria pollutant emissions, such as CAP measures aiming to increase building energy efficiency, promote electric vehicles, reduce on-road gasoline fuel use, and reduce VMT. Implementation of CAP measures would be beneficial by helping Chico meet applicable air quality plan goals. In addition, future CAP projects would be required to comply with local, regional, and State air quality regulations. Therefore, the CAP would result in a **less-than-significant impact** related to criteria pollutant emissions.

*3c. Would the project expose sensitive receptors to substantial pollutant concentrations?*

Implementation of the CAP actions described in *Response 3b.*, above, promote infrastructure development and redevelopment that may result in temporary construction activities. Construction-related air quality impacts are generally associated with fugitive dust (PM<sub>10</sub> and PM<sub>2.5</sub>) and exhaust emissions from heavy construction vehicles and soil hauling trucks, in addition to ROG that would be released during the drying phase upon application of architectural coatings. However, implementation of proposed CAP measures would not include large-scale construction, and construction-related emissions would be temporary. As such, implementation of the CAP Update would result in low-level toxic air contaminant emissions associated with construction.

While the CAP could result in construction-related impacts related to toxic air contaminants and exposure to sensitive receptors, CAP projects or actions would be reviewed for consistency with BCAQMD air quality regulations and other applicable local, State, and federal regulations once

project details and locations are known to ensure compliance. Thus, the construction associated with implementation of the CAP Update would not result in substantial emissions of toxic air contaminants and exposure to sensitive receptors. No operational toxic air contaminant emissions are anticipated with implementation of the CAP measures and actions. Therefore, the CAP would have a **less-than-significant impact** related to exposure of sensitive receptors to toxic air contaminants.

*3d. Would the project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?*

The CARB 2005 *Air Quality Land Use Handbook: A Community Health Perspective* identifies land uses associated with odor complaints which include: sewage treatment plants, landfills, recycling facilities, waste transfer stations, petroleum refineries, biomass operations, auto body shops, coating operations, fiberglass manufacturing, foundries, rendering plants, and livestock operations.<sup>29</sup> CAP Measure W-1 promotes increasing organic waste diversion to achieve a 75 percent reduction in organic waste by 2025. As such, the CAP could result in minor odors related to organic waste processing. However, green waste collection bins are not identified on the list of “Sources of Odor Complaints” (Table 1-4) as provided in the *CARB Air Quality Land Use Handbook* and would not be anticipated to result in other emissions, such as those leading to odors, adversely affecting a substantial number of people.<sup>29</sup> In addition, the design and location of future projects related to new or expanded organic waste collection and processing facilities would be complimentary to existing development in the City would be reviewed for potential odor impacts to ensure that projects implemented in accordance with the CAP Update would not adversely affect a substantial number of people. Therefore, the CAP Update would not facilitate development that could create adverse odors, and there would be a **less-than-significant impact** related to odors exposure.

## Cumulative Impacts

The cumulative projects scenario is overall General Plan buildout for Chico in 2030. The CAP Update projects, in combination with other cumulative projects anticipated under General Plan buildout, could exceed applicable BCAQMD thresholds or be inconsistent with the 2018 AQAP. However, implementation of the CAP Update would have a less-than-significant contribution related to potential cumulative air quality impacts within the air basin and on sensitive receptors within the City of Chico, given that the CAP Update would result in Citywide reduction of GHG emissions, energy use, single-occupancy vehicle travel, and waste generation. As such, implementation of the CAP Update would not result in adverse impacts related to contribution of criteria pollutants to the air basin and exposure of sensitive receptors to toxic air contaminants. Therefore, implementation of the CAP Update would result in a **less-than-significant cumulative impact** related to air quality.

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<sup>29</sup> California Air Resources Control Board (CARB). 2005. *Air Quality and Land Use Handbook: A Community Health Perspective*. Available: <<https://ww3.arb.ca.gov/ch/handbook.pdf>>. Accessed July 24, 2020.

# 4 Biological Resources

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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Would the project:

a. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d. Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f. Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

4a. *Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as candidate, sensitive, or special status in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or the U.S. Fish and Wildlife Service?*

Chico is a primarily urbanized community with neighborhood parks, community parks, and recreational and open spaces incorporated throughout the City. The City's Municipal Code Titles 12 and 12R and Chapter 16.66, as well as the General Plan Parks, Public Facilities, and Services Element and General Plan Open Space and Environment Element incorporate goals and policies to protect biological resources, such as plant habitats, trees, wildlife habitats, and rare and endangered species in the City.<sup>30,31</sup> The City contains critical habitat for Butte County meadowfoam (*Limnanthes floccosa ssp. californica*) plant and vernal pool tadpole shrimp (*Lepidurus packardii*) and vernal pool fairy shrimp (*Branchinecta lynchi*) in undeveloped areas in the northern and eastern portions of the City, near the City's boundaries with unincorporated Butte County.<sup>32</sup>

The CAP Update would not involve land use or zoning changes and would instead promote sustainable infrastructure development and redevelopment. The CAP Update measures would not conflict with the Municipal Code or objectives and policies of the General Plan related to wildlife but would rather be consistent with and promote those plans. CAP Update measures would generally apply to the urbanized areas of the City, with little application to parks, open spaces area, or the undeveloped portions of the City where sensitive habitat and related species may be present. In addition, CAP Measure T-5 would support infill development and the reduction of urban sprawl, which would aid in conserving the undeveloped land present near the boundaries of the City that serve as critical habitat for Butte County Meadowfoam, vernal pool tadpole shrimp, and vernal pool fairy shrimp. In addition, CAP Measure S-1 and Action T-4-3 facilitate the implementation of an urban forest revitalization program and increased greenspace, parklets, and native trees throughout the City that could serve as additional habitat for special status species and migratory and nesting birds. As such, the CAP would not have a substantial adverse effect on candidate, threatened, or endangered wildlife species either directly through individual take or indirectly through species habitat modification.

As a policy document, the CAP Update would not directly result in impacts related to wildlife species of special status. However, implementation of some CAP measures may promote infrastructure development within the urbanized portions of the City and could result in impacts to species through construction activities. CAP Measure E-4 would increase the production and storage of local renewable energy by encouraging the installation of new solar panel and battery energy storage facilities throughout the City. CAP Measure W-1 relates to increasing organic waste diversion and facility capacities for organic waste collection and could result in the construction of new or expanded solid waste processing facilities. Construction has the potential to disturb nesting habitat for birds and raptors protected under Sections 3503, 3503.5, and 3513 of the California Fish and Game Code (CFGF) and under the Migratory Bird Treaty Act (MBTA). However, construction activities for future CAP projects would be required to comply with the provisions of the MBTA and CFGF Sections 3503, 3503.5, and 3513 in order to avoid impacts to protected birds and would be reviewed for consistency with City, State, and Federal policies related to protected species. As such,

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<sup>30</sup> Chico, City of. 2021. City Municipal Code Title 12 and 12R. Available: <[https://codelibrary.amlegal.com/codes/chico/latest/chico\\_ca/0-0-0-1](https://codelibrary.amlegal.com/codes/chico/latest/chico_ca/0-0-0-1)>. Accessed May 18, 2021.

<sup>31</sup> Chico, City of. 2011. General Plan Parks, Public Facilities, and Services and Open Space and Environment Elements. Available: <<https://chico.ca.us/post/chico-2030-general-plan>>. Accessed May 18, 2021.

<sup>32</sup> U.S. Fish and Wildlife Service (USFWS). 2021. Critical Habitat for Threatened and Endangered Species Map. Available: <<https://fws.maps.arcgis.com/home/webmap/viewer.html?webmap=9d8de5e265ad4fe09893cf75b8dbfb77>>. Accessed April 14, 2021.

the CAP Update would not have a substantial adverse effect on special-status wildlife species. Therefore, the CAP would result in a ***less-than-significant impact*** related to special-status wildlife species.

*4b, 4c. Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community (such as State or federally protected wetlands, including, but not limited to, marsh, vernal pool, coastal, etc.) identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service through direct removal, filling, hydrological interruption, or other means?*

The CAP Update would not involve land use or zoning changes but would instead promote sustainable infrastructure development and redevelopment within urbanized areas of the City. According to the General Plan Open Space and Environment Element, special habitat resources in Chico include riparian woodlands, permanent wetlands, vernal pools, and rivers and streams. The General Plan contains Goal OS-1 and its related policies and actions to conserve these sensitive habitats and native species that rely on them, as well as Goal OS-2 to preserve a network of protected open space and Creekside greenways, including riparian corridors and wetlands.<sup>33</sup>

The CAP Update measures would generally apply to the urbanized areas of the City, with little application to parks, open spaces area, or other locations where riparian and wetland habitat is located. CAP Measure S-1 and Action T-4-3 facilitate the implementation of an urban forest revitalization program and increased greenspace, parklets, and native trees throughout the City, which aligns with General Plan goals related to habitat and greenspace conservation. Likewise, CAP Measure T-5 would support infill development and the reduction of urban sprawl, which would aid in conserving undeveloped sensitive habitat areas in the City. Though some CAP-related projects, such as those that involve the installation of new solar panels and battery energy storage facilities and expansion of organic waste processing capacity, could result in the construction of new facilities, it is unlikely that future facilities would be planned for areas with sensitive habitat. Future CAP-related projects would be required to adhere to City development regulations and General Plan policies, including the City of Chico Tree Preservation Ordinance, to retain urban forestry and minimize environmental impacts. In addition, the location and details of future CAP projects would be reviewed for consistency with applicable local, regional, and State regulations related to sensitive habitat prior to approval. As such, the CAP Update would not have a substantial adverse effect on riparian habitat or sensitive natural community, such as wetlands. Therefore, the CAP would have a ***less-than-significant impact*** related to sensitive natural plant communities.

*4d. Would the project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?*

The CAP Update would not involve land use or zoning changes but would instead promote sustainable infrastructure development and redevelopment within urbanized portions of the City. As a policy document, the CAP Update would not result in direct impacts related to interference with species movement or use of wildlife nursery sites. However, implementation of CAP measures such as E-4, T-1, T-3, and W-1 related to improving active transportation facilities, renewable energy production and storage, and organic waste processing may include infrastructure development that could potentially disturb habitat areas. CAP projects would be required to adhere to City development regulations and General Plan policies, including the City of Chico Tree Preservation

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<sup>33</sup> Chico, City of. 2011. General Plan Open Space and Environment Element. Available: <<https://chico.ca.us/post/chico-2030-general-plan>>. Accessed May 18, 2021.

Ordinance, and would be reviewed for consistency with applicable local, regional, and State regulations to retain urban forestry and open space and minimize environmental impacts. In addition, CAP Measure S-1 and Action T-4-3 facilitate implementation of an urban forest revitalization program and increased greenspace, parklets, and native trees throughout the City, while Measure T-5 would support infill development and the reduction of urban sprawl. These measures and actions would aid in conserving habitat areas and habitat connectivity in and near the City. Furthermore, the CAP measures would generally apply to the urbanized areas of the City with little application to parks, open spaces area, or other locations where wildlife corridors or native wildlife nursery sites may be present. Therefore, the CAP would result in a **less-than-significant impact** related to interference with species movement or wildlife nursery use.

*4e. Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?*

Chico is a primarily urbanized community with neighborhood parks, community parks, and recreational spaces throughout the City. The General Plan Parks, Public Facilities, and Services Element and General Plan Open Space and Environment Element incorporate goals and policies resource protection in the City.<sup>34</sup> Additionally, the CMC Chapter 16.66 was established to preserve trees and enhance the ecological benefit to the community by providing for the regulation of planting, management, maintenance, preservation and, where necessary, removal of trees.<sup>35</sup>

The CAP Update would not involve land use or zoning changes but would promote sustainable infrastructure development and redevelopment within the urbanized portion of the City. The purpose and intended effect of the CAP is to reduce GHG emissions generated in the City to help reduce the effects of climate change. Implementation of proposed measures would be beneficial by helping Chico meet applicable local policies and ordinances for protecting biological resources, including Measure S-1 which provides for the planting of additional urban trees. The CAP would not conflict with or obstruct implementation of the applicable policies for preserving biological resources and would not affect the City's ability to attain goals and policies that protect biological resources. Therefore, the CAP would result in **no impact** related to consistency with local biological resources protection policies.

*4f. Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plan?*

The City is not currently subject to a Habitat Conservation Plan or Natural Community Conservation Plan, although the Butte Regional Conservation Plan is currently in preparation and would include the City of Chico upon its final adoption.<sup>36</sup> The CMC and General Plan Parks, Public Facilities, and Services Element include an inventory of open space resources as well as goals and policies to preserve natural resources, such as plant and wildlife habitats in the City. The CAP Update would not facilitate specific development projects, nor would it add or enable new development that would conflict with the adopted Municipal Code, General Plan, or with the Butte Regional Conservation Plan once it is approved. Rather, the CAP Update prioritizes halting urban sprawl and

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<sup>34</sup> Chico, City of. 2011. General Plan Parks, Public Facilities, and Services and Open Space and Environment Elements. Available: <<https://chico.ca.us/post/chico-2030-general-plan>>. Accessed May 18, 2021.

<sup>35</sup> Chico, City of. 2021. City Municipal Code Chapter 16.66. Available: <[https://codelibrary.amlegal.com/codes/chico/latest/chico\\_ca/0-0-0-1](https://codelibrary.amlegal.com/codes/chico/latest/chico_ca/0-0-0-1)>. Accessed May 18, 2021.

<sup>36</sup> California Department of Fish and Wildlife (CDFW). 2021. Natural Community Conservation Plan Summaries. Available: <<https://wildlife.ca.gov/Conservation/Planning/NCCP/Plans>>. Accessed April 14, 2021.

the preservation of greenspace and trees in order to reduce GHG emissions and related impacts to the environment. Therefore, the CAP Update would have **no impact** related to consistency with an adopted habitat or natural community conservation plan.

### **Cumulative Impacts**

The cumulative projects scenario is overall General Plan buildout for Chico in 2030. Implementation of CAP Update projects, in combination with other cumulative projects anticipated under General Plan buildout, Big Chico Creek, Little Chico Creek, and Lindo Channel could result in impacts to biological resources during infrastructure and building construction. However, as described in *Responses 4a. through 4f.*, above, infrastructure development or redevelopment resulting from implementation of the CAP Update would be required to comply with applicable General Plan policies and State and federal regulatory requirements regarding avoidance of special wildlife species and habitat. In addition, the CAP Update contains measures that prioritize the preservation of open space and trees. Therefore, implementation of the CAP Update would result in a **less-than-significant cumulative impact** related to biological resources.



## 5 Cultural Resources

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. Disturb any human remains, including those interred outside of formal cemeteries?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

*5a. Would the project cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?*

The City of Chico (City) has identified 265 historic-aged properties potentially eligible for listing in the National Register of Historic Places (NRHP) as individual resources or contributors to districts, and four California Historical Landmarks.<sup>37,38</sup> The CAP would not involve land use or zoning changes but would promote infrastructure development and redevelopment that would be complimentary to existing development. CAP projects would be required to comply with General Plan Cultural Resources and Historic Preservation Policy, as outlined in the Cultural Resources and Historic Preservation Element.<sup>39</sup> This policy requires the identification and protection of sites and structures within the city of Chico of architectural, historical, archaeological, and cultural significance. This includes sites, structures, and areas that are associated with a historic event, activity, or persons that contribute to the historic character of districts, neighborhoods, landmarks, historic structures, and artifacts. To maintain less than significant adverse impacts, CAP projects and actions should be reviewed for compliance with applicable local, regional, and State regulations regarding cultural resources and the City's General Plan Cultural Resources and Historic Preservation Policy to avoid impacts related to unknown archaeological resources.<sup>38</sup> With these measures, the CAP would result in a **less-than-significant impact** related to historical resources.

*5b. Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?*

The City has not listed known archeological sites within its City limits. However, the City is highly sensitive for prehistoric and historic-era archaeological deposits.<sup>38</sup> Hence, there is a possibility for

<sup>37</sup> Chico, City of. 1983. Chico Historic Resources Inventory. Available: <<https://chico.ca.us/post/historic-resources-inventory>>. Accessed April 27, 2021.

<sup>38</sup> Office of Historic Preservation. 2021. California Historical Landmarks, Butte County. Available: <[https://ohp.parks.ca.gov/?page\\_id=21391](https://ohp.parks.ca.gov/?page_id=21391)>. Accessed April 18, 2021.

<sup>39</sup> Chico, City of. 2011. Chico 2030 General Plan Cultural Resources and Historic Preservation Element. Available: <<https://chico.ca.us/post/chico-2030-general-plan>>. Accessed March 29, 2021.

sites not previously recorded to be present in areas designated for CAP development and/or redevelopment. In particular, CAP Measures E-4, T-1, T2, T-3, T-5 and S-1 would result in small-scale construction projects that may expose previously undiscovered archaeological resources during ground disturbing activities. The CAP projects would be located and designed strategically to reduce ground disturbance to the maximum extent possible. In addition, CAP projects and actions would be reviewed for consistency with applicable local, regional, and State archeological regulations prior to final siting and construction and would be required to implement BMPs in accordance with the General Plan Cultural Resources and Historic Preservation Element and City Best Management Practices Manual policies.<sup>40,41</sup> These policies include a standard requirement during all ground disturbing activities that if potential archaeological resources are unearthed, construction must be halted, the Planning Director must be contacted, and a qualified professional must be hired to investigate and make recommendations. With compliance with the required measures and policies contained in the General Plan and City Best Management Practices Manual, the CAP Update would result in a ***less-than-significant impact*** related to archaeological resources.

5c. *Would the project disturb any human remains, including those interred outside of formal cemeteries?*

There are four formal cemeteries with human interments within the City. Considering there are four known cemeteries, there is a possibility of encountering unknown buried human remains throughout the City. Implementation of the following CAP measures may promote infrastructure development and redevelopment. In particular, CAP Measure E-4, Measures T-1, T2, and T-3, Measure T-5 and Measure S-1 would all result in ground disturbing activities that could result in an impact on unknown human burial sites. To maintain less than significant adverse impacts, CAP projects and actions should be reviewed for compliance with applicable local, regional, and State regulations regarding cultural resources and the City's General Plan Cultural Resources and Historic Preservation Element to avoid impacts related to unknown human interments.<sup>39</sup> In addition, CAP projects would be required to comply with state coroner requirements related to burial findings, including assessment and mitigation incorporation once project details and locations are known. With these measures, the CAP Update would result in a ***less-than-significant impact*** related to human remains.

## Cumulative Impacts

The cumulative projects scenario is overall General Plan buildout for Chico in 2030. Implementation of the CAP Update projects, in combination with other cumulative projects anticipated under General Plan buildout, would include infrastructure and building developments that could have an impact on cultural resources during construction. Impacts to historic and archaeological resources are generally site-specific. Additionally, there is a possibility of encountering buried archaeological deposits and human remains throughout the City. Accordingly, potential impacts associated with cumulative developments would be addressed on a case-by-case basis. In addition, future projects in the City, including those associated with implementation of the CAP, would be required to comply with the City's General Plan Cultural Resources and Historic Preservation Element Policy that requires the identification and protection of sites and structures of architectural, historical, archaeological, and cultural significance, to avoid impacts related to cultural resources. Therefore,

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<sup>40</sup> Chico, City of. 2011. Chico 2030 General Plan Cultural Resources and Historic Preservation Element. Available: <<https://chico.ca.us/post/chico-2030-general-plan>>. Accessed March 29, 2021.

<sup>41</sup> Chico, City of. 1998. Best Management Practices Manual. Available: <[https://chico.ca.us/sites/main/files/file-attachments/complete\\_manual.pdf?1574726222](https://chico.ca.us/sites/main/files/file-attachments/complete_manual.pdf?1574726222)>. Accessed May 26, 2021.

implementation of the CAP Update would result in a ***less-than-significant cumulative impact*** related to cultural resources.

# 6 Energy

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

6a. *Would the project result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?*

California is one of the lowest per-capita energy users in the United States, ranked 46th in the nation, due to its energy efficiency programs and mild climate.<sup>42</sup> California consumed 279,402 gigawatt-hours (GWh) of electricity and 2,154,030 million cubic feet of natural gas in 2019.<sup>43,44</sup> The single largest end-use sector for energy consumption in California is transportation (39.1 percent), followed by industry (23.5 percent), commercial (19.2 percent), and residential (18.3 percent).<sup>42</sup> Adopted in 2018, SB 100 accelerates the State’s Renewable Portfolio Standards Program, codified in the Public Utilities Act, by requiring electricity providers to increase procurement from eligible renewable energy resources to 33 percent of total retail sales by 2020, 60 percent by 2030, and 100 percent by 2045.

The City of Chico has demonstrated its commitment to energy efficiency and renewable energy through many efforts, as described in the Sustainability and GHG Reduction Efforts Setting section above. The City has adopted the California Green Building Standards Code, per CMC Title 16R, that requires efficiency measures to reduce energy use, and provide energy reduction benefits. The City has also completed a communitywide GHG emissions inventory for 2017, which is summarized in Table 1.<sup>45</sup> Gasoline and diesel sales were responsible for the highest emissions of GHGs within the

<sup>42</sup> United States Energy Information Administration (USEIA). 2021. “California - Profile Overview.” Last modified: February 18, 2021. Available: <<https://www.eia.gov/state/?sid=CA>> Accessed April 14, 2021.

<sup>43</sup> California Energy Commission (CEC). 2019. Electricity Consumption by County. Available: <<http://www.ecdms.energy.ca.gov/electbycounty.aspx>>. Accessed March 30, 2021.

<sup>44</sup> United States Energy Information Administration (USEIA). 2021. Natural Gas: Natural Gas Consumption by End Use. February 26, 2021. Available: <[https://www.eia.gov/dnav/ng/ng\\_cons\\_sum\\_dcu\\_sca\\_a.htm](https://www.eia.gov/dnav/ng/ng_cons_sum_dcu_sca_a.htm)>. Accessed March 30, 2021.

<sup>45</sup> Chico, City of. 2021. City Municipal Code Chapter 16R Available: <[https://codelibrary.amlegal.com/codes/chico/latest/chico\\_ca/0-0-0-1](https://codelibrary.amlegal.com/codes/chico/latest/chico_ca/0-0-0-1)>. Accessed May 18, 2021.

Chico community in 2017. According to the California Energy Commission (CEC), Butte County consumed approximately 1,396 GWh of electricity and 39 million therms of natural gas in 2019.<sup>46,47</sup>

The CAP Update is a policy document containing climate action measures to reduce Citywide GHG emissions. The CAP Update would encourage energy efficiency in existing residential, commercial, and municipal building stock through new policies and educational campaigns as well as new requirements for proposed new buildings. The CAP Update would also incentivize increased renewable energy production within the City. Additionally, the CAP Update attempts to reduce transportation-related energy consumption by increasing active transportation and public transit use and reducing VMT. CAP Measures E-2 and E-3 seek to decrease natural gas consumption in new and existing buildings by requiring electrification, while Measure E-4 encourages the production and storage of local renewable energy. Additionally, CAP Measure E-1 would implement electricity policy changes that call for use of electricity from clean, renewable sources and would automatically enroll the community in a 100 percent renewable energy option by 2024. CAP Measures T-1 through T-5 would provide improvements to the active transportation, public transit and EV infrastructure of the City, as well as encourage infill development, to reduce energy consumption and GHG emissions from the transportation sector. CAP Measure W-1 relates to increasing organic waste diversion and facility capacities for organic waste collection. Additionally, CAP Action T-4-3 and Measure S-1 encourage increasing parklet, greenspace, and the planting of urban trees within the community.

Implementation of solar PV, transportation, and organic waste processing infrastructure, as well as new parklets and tree planting, would require small-scale construction. However, energy use for the construction of such projects would be temporary in nature, and construction equipment used would be typical of similar-sized construction projects in the region. In addition, construction contractors would be required to comply with the provisions of California Code of Regulations Title 13 Sections 2449 and 2485, which would minimize unnecessary fuel consumption. Construction equipment would be subject to the United States Environmental Protection Agency (USEPA) Construction Equipment Fuel Efficiency Standard, which would also minimize inefficient, wasteful, or unnecessary fuel consumption. Furthermore, per applicable regulatory requirements such as 2019 California's Green Building Standards Code (CALGreen; California Code of Regulations, Title 24, Part 11), future infrastructure projects would comply with construction waste management practices to divert a minimum of 65 percent of construction and demolition debris. These practices would result in efficient use of energy necessary to construct CAP-related projects. Upon completion of construction for any CAP-related infrastructure development and redevelopment, non-renewable energy use would be reduced by increasing renewable energy production and storage and reducing VMT within the City.

The purpose and intended effect of the CAP Update is to reduce GHG emissions generated in the City to minimize the effects of climate change, including those emissions generated by energy demand and supply. The CAP Update would not result in the use of non-renewable resources in a wasteful or inefficient manner; rather, it would assist in reducing use of non-renewable energy resources and increasing the production of local renewable energy. Therefore, the CAP Update would result in **no impact** related to the wasteful, inefficient, or unnecessary consumption of energy.

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<sup>46</sup> CEC. 2019. Electricity Consumption by County. Available: <<http://www.ecdms.energy.ca.gov/elecbycounty.aspx>>. Accessed March 30, 2021.

<sup>47</sup> CEC. 2019. Natural Gas Consumption by County. Available: <<http://ecdms.energy.ca.gov/elecbycounty.aspx>>. Accessed March 30, 2021.

*6b. Would the project conflict with or obstruct a State or local plan for renewable energy or energy efficiency?*

Relevant plans and policies that aim to increase energy efficiency and the production of renewable energy include Senate Bill (SB) 100, the 2019 California Green Building Standards Code, and the 2019 California Energy Code Part 6 (Title 24). SB 100 supports the reduction of GHG emissions from the electricity sector by accelerating the state's Renewables Portfolio Standard Program and requires electricity providers to increase procurement from eligible renewable energy resources to 33 percent of total retail sales by 2020, 60 percent by 2030, and 100 percent by 2045. The California Green Building Standards Code institutes mandatory minimum environmental performance standards for all ground-up new construction of non-residential and residential structures. In addition, Title 24 establishes energy-efficiency standards for residential and non-residential buildings in order to reduce California's energy demand. Title 24 is updated periodically to incorporate and consider new energy-efficiency technologies and methodologies as they become available. New construction and major renovations must demonstrate their compliance with the current Building Energy Efficiency Standards through submission and approval of a Title 24 Compliance Report to the local building permit review authority and the CEC.

The City of Chico has adopted the California Green Building Standards Code and Title 24 pursuant to CMC Title 16R.<sup>48</sup> Therefore, construction and operation associated with infrastructure projects stemming from the CAP Update would be designed to comply with the energy source standards of the California Green Building Standard Code and Title 24. Future CAP projects would be required to demonstrate compliance with The Green Building Standards Code and Title 24 by implementing sustainability and energy efficiency measures such as high-efficiency lighting and HVAC systems, low-flow water fixtures, dual-paned windows, and water efficient landscaping and irrigation systems. Compliance with these regulations would minimize potential conflicts with adopted energy conservation plans

As discussed under *Response 6a.*, above, CAP Measures E-2 and E-3 propose revisions to the building code in order to mandate that new residential and commercial developments and major remodels be built to an all-electric standard. Measure E-3 also contains Action E-3-3, which requires the electrification of all municipal buildings by 2045. In addition, CAP Measure E-1 would institute a 100 percent renewable electricity option within the City by 2024 and measure E-4 would incentivize the production and storage of local renewable energy through solar projects and battery energy storage. These measures are consistent with the goals and policies established by SB 100, the California Green Building Standards Code, and Title 24. Thus, the CAP Update would not conflict with adopted renewable energy or energy conservation plans and there would be ***no impact***.

## Cumulative Impacts

The cumulative projects scenario is overall General Plan buildout for Chico in 2030. Implementation of the CAP Update would result in reducing use of non-renewable energy resources across the community, in particular with remodeled buildings, new construction, and municipal buildings. Implementation of the CAP Update would also increase the production of renewable energy within the City. Additionally, the CAP Update includes measures to increase the use of active transportation and public transit and reduce VMT within the City, which would reduce transportation fuel use. As the City's population grows and development intensifies in the future, as

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<sup>48</sup> Chico, City of. 2021. City Municipal Code Chapter 16R Available: <[https://codelibrary.amlegal.com/codes/chico/latest/chico\\_ca/0-0-0-1](https://codelibrary.amlegal.com/codes/chico/latest/chico_ca/0-0-0-1)>. Accessed May 18, 2021.

anticipated under General Plan buildout, measures contained within the CAP Update would ensure that new development is constructed to strict energy efficiency standards, the City sources its energy from renewable sources, and that growth is directed to infill areas to reduce suburban sprawl and transportation energy use. As the CAP Update would result in decreased non-renewable energy use within the City and would align with existing plans and policies related to renewable energy and energy efficiency, implementation of the CAP Update would result in ***no cumulative impact*** related to energy.

# 7 Geology and Soils

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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Would the project:

a. Expose people or structures to potentially substantial adverse effects, including the risk of loss, injury, or death involving:				
1. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2. Strong seismic ground shaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
3. Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
4. Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d. Be located on expansive soil, as defined in Table 1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e. Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>



7a. *Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:*

- *Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault?*
- *Strong seismic ground shaking?*
- *Seismic-related ground failure, including liquefaction?*
- *Landslides?*

Chico is located in a seismic hazard zone according to the California Geological Survey (CGS) and there are ten active faults within the vicinity of the City that could cause seismic-related impacts. However, none of these faults are located within or immediately adjacent to the City and there is no known risk of fault rupture within the City. In addition, according to the General Plan Safety Element, Chico has no to low potential for landslides except for in the foothills area.<sup>49</sup> The closest active fault is the Cleveland Hills Fault, located approximately 17 miles south of the City, and is capable of producing a magnitude 6.5 to 6.7 earthquake event.<sup>50</sup> In 2019, Butte County, in coordination with the incorporated cities within the County, adopted an updated Local Hazard Mitigation Plan (LHMP) to assess hazards and reduce risks prior to a disaster event and fully cover the necessity to address seismic and geological hazards. According to the LHMP, the City and surrounding area have relatively low risk from seismic and geologic hazards and may occasionally experience low to medium intensity groundshaking as a result of earthquakes, but the magnitude and intensity are expected to be relatively low.<sup>51</sup>

The CAP Update is a policy document containing climate actions and supporting measures to reduce GHG emissions and is consistent with the Chico General Plan, LHMP, and other regional regulations. CAP Measures E-4 and W-1 may result in new or expanded facilities for the purposes of battery energy storage and organic waste recycling. However, the City has relatively low seismic-related risk and the CAP does not propose habitable development that could result in exposure of people to potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, strong seismic ground shaking, seismic-related ground failure including liquefaction, or landslides. Therefore, the CAP would result in **no impact** related to seismic- and landslide-related hazards.

7b. *Would the project result in substantial soil erosion or the loss of topsoil?*

The CAP Update would not involve land use or zoning changes but would promote sustainable infrastructure development and redevelopment. As a policy document, the CAP would not directly require ground-disturbing activities. However, implementation of several CAP measures may result in construction activities that could cause soil erosion or the loss of topsoil during construction. CAP Actions E-3-2, E-3-3, E-3-7, and E-4-1 through E-4-4 promote building electrification of existing buildings and installation of solar PV systems and battery storage facilities to provide greener renewable electricity within the City. CAP Actions T-1-1, T-1-3 through T-1-5, T-3-1, T-3-5, and T-3-8

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<sup>49</sup> Chico, City of. 2011. Chico 2030 General Plan Safety Element. Available: <<https://chico.ca.us/post/chico-2030-general-plan>>. Accessed March 29, 2021.

<sup>50</sup> Chico, City of. 2010. 2030 General Plan Update Draft Environmental Impact Report. Available: <[https://chico.ca.us/sites/main/files/file-attachments/chicodeir\\_combined\\_noappendices.pdf?1577755314](https://chico.ca.us/sites/main/files/file-attachments/chicodeir_combined_noappendices.pdf?1577755314)>. Accessed March 29, 2021.

<sup>51</sup> Butte County. 2019. Local Hazard Mitigation Plan Update. Available: <<https://www.buttecounty.net/oem/mitigationplans>>. Accessed March 23, 2021.

support the installation of new bicycle, pedestrian, and public transit infrastructure throughout the City to increase the use of public transit and active transportation. CAP Actions T-2-1 through T-2-3, T-2-5, and T-2-8 encourage the installation of electric vehicle charging stations and supporting infrastructure. CAP Actions W-1-1 and W-1-3 through W-1-5 relate to increasing organic waste diversion and facility capacities for organic waste collection. Additionally, CAP Actions T-4-3, S-1-1, and S-1-2 encourage increasing parklet, greenspace, and the planting of urban trees within the community.

As such, the CAP could result in construction-related soil erosion and topsoil loss impacts associated with CAP Measures and Actions. However, CAP projects and actions would be reviewed for consistency with Chico General Plan policies and other local and State geology and soils regulations prior to final siting and construction. Soil erosion caused by strong wind and/or earth-moving operations during construction would be minimized through compliance with BCAQMD Rule 205, Fugitive Dust, which prohibits visible particulate matter from crossing property lines. Standard practices to control fugitive dust emissions include watering of active grading sites, covering soil stockpiles with plastic sheeting, and covering soils in haul trucks with secured tarps.

The potential for CAP project construction activities involving soil disturbance to result in increased erosion and sediment transport by stormwater to surface waters would be minimized because future projects would be required to comply with CMC Chapter 16R.22, Grading Standards, and/or a Construction General Permit, which is issued by the State Water Resources Control Board (SWRCB).<sup>52</sup> These regulations require best management practices (BMPs) to reduce erosion and topsoil loss from stormwater runoff.<sup>53</sup> Compliance with the CMC and/or Construction General Permit would ensure that BMPs are implemented during construction and minimize substantial soil erosion or the loss of topsoil. Therefore, the CAP would result in a **less-than-significant impact** related to soil erosion and loss of topsoil.

*7c., 7d. Would the project be located on a geologic unit or soil that is unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse? Would the project be located on expansive soil, as defined in Table 1-B of the Uniform Building Code, creating substantial risks to life or property?*

According to the LHMP, the City contains areas of generally low potential for liquefaction in the eastern portion and generally moderate potential in the central and western portions. Most of the City is characterized by low to no potential for landslides, with the easternmost foothill areas categorized as moderate risk for landslides.<sup>54</sup> As shown in Figure S-3 of the General Plan Safety Element, the majority of the City is characterized as having either moderately or highly expansive soils, with the eastern portion of the City characterized by low expansion potential.<sup>55</sup> The General Plan Safety Element, CMC, and California Building Code (CBC) regulate hazard development and structural hazards created by residential and commercial development in order to mitigate potential impacts related to unstable soils.

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<sup>52</sup> Chico, City of. 2021. City Municipal Code Chapter 16R.22 Available: <[https://codelibrary.amlegal.com/codes/chico/latest/chico\\_ca/0-0-0-1](https://codelibrary.amlegal.com/codes/chico/latest/chico_ca/0-0-0-1)>. Accessed May 18, 2021.

<sup>53</sup> Chico, City of. 2021. City Municipal Code Chapter 16R.22 Available: <[https://codelibrary.amlegal.com/codes/chico/latest/chico\\_ca/0-0-0-1](https://codelibrary.amlegal.com/codes/chico/latest/chico_ca/0-0-0-1)>. Accessed May 18, 2021.

<sup>54</sup> Butte County. 2019. Local Hazard Mitigation Plan Update. Available: <<https://www.buttecounty.net/oem/mitigationplans>>. Accessed March 23, 2021.

<sup>55</sup> Chico, City of. 2011. Chico 2030 General Plan Safety Element. Available: <<https://chico.ca.us/post/chico-2030-general-plan>>. Accessed March 29, 2021.

The CAP Update is a policy document containing programs that are consistent with the General Plan. Some of the proposed measures in the CAP would support small-scale construction projects, such as electric vehicle charging stations, battery energy storage systems, and new or expanded organic waste processing facilities. However, CAP projects and actions would be reviewed for consistency with local and State geotechnical regulations prior to final siting and construction. New structures would be required to comply with CMC Title 16R, Building Standards, which adopts the latest CBC, including measures to address unstable soil conditions.<sup>56</sup> Therefore, the CAP would result in a **less-than-significant impact** related to risks associated with location on unstable geologic unit or soil or on expansive soils.

*7e. Would the project have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?*

The CAP Update would not involve the development of habitable structures and, thus, no use of septic tanks or alternative wastewater disposal systems. Therefore, **no impact** would occur related to soil capability support of alternative wastewater disposal systems.

*7f. Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?*

The City has identified 126 sites within the City and its vicinity that contain fossilized remains of plants and animals.<sup>57</sup> The General Plan Cultural Resources and Historic Preservation Element includes goals, policies, and actions to protect and preserve cultural and paleontological resources, including Action CRHP-1.16 that requires the City to implement the Best Management Practices Manual to include standard conditions of approval for the protection of paleontological resources.<sup>58</sup>

The CAP Update would not involve land use or zoning changes that would encourage new development but would instead promote infrastructure development and redevelopment. As a policy document, the CAP Update would not directly result in impacts related to paleontological resources or unique geologic features. Most CAP measures that would involve construction activities, such as the transportation measures, would involve work within existing, previously graded and disturbed areas, where the likelihood of encountering intact and previously undiscovered paleontological resources would be minimal. However, implementation of some CAP measures may result in construction activities on previously undisturbed soils. CAP Measure E-4 promotes the installation of solar panels and battery storage facilities to provide renewable electricity within the City and CAP Measure W-1 may result in new or expanded facilities for organic waste collection. These small-scale construction projects may expose paleontological resources during ground disturbing activities. However, CAP projects and actions would be reviewed for consistency with geotechnical and paleontological regulations prior to final siting and construction and would be required to implement BMPs in accordance with the General Plan policies. In addition, the CAP projects would be located and designed strategically to reduce ground disturbance to the

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<sup>56</sup> Chico, City of. 2021. City Municipal Code Chapter 16R Available: <[https://codelibrary.amlegal.com/codes/chico/latest/chico\\_ca/0-0-0-1](https://codelibrary.amlegal.com/codes/chico/latest/chico_ca/0-0-0-1)>. Accessed May 18, 2021.

<sup>57</sup> Chico, City of. 2010. 2030 General Plan Update Draft Environmental Impact Report. Available: <[https://chico.ca.us/sites/main/files/file-attachments/chicodeir\\_combined\\_noappendices.pdf?1577755314](https://chico.ca.us/sites/main/files/file-attachments/chicodeir_combined_noappendices.pdf?1577755314)>. Accessed March 29, 2021.

<sup>58</sup> Chico, City of. 2011. Chico 2030 General Plan Cultural Resources and Historic Preservation Element. Available: <<https://chico.ca.us/post/chico-2030-general-plan>>. Accessed March 29, 2021.

maximum extent possible. Therefore, the CAP would result in a ***less-than-significant impact*** related to paleontological resources or unique geologic features.

### **Cumulative Impacts**

The cumulative projects scenario is overall General Plan buildout for Chico in 2030. CAP Update projects, in combination with other cumulative projects anticipated under General Plan buildout, could expose additional people and property to the low to moderate seismic and geologic hazards that are present in the region. The magnitude of geologic hazards for individual projects, including those associated with implementation of the CAP Update, would depend upon the location, type, and size of development and the specific hazards associated with individual sites. Specific geologic hazards associated with individual project sites would be limited to those sites without affecting other areas. Similarly, potential impacts to paleontological resources associated with each individual site would be limited to that site without affecting other areas, and impacts related to these resources would be minimized on a case-by-case basis. Compliance with existing regulations, including CBC requirements, City-issued permit requirements, the Chico General Plan, and construction general permit requirements, would minimize potential cumulative seismic and geologic impacts. Seismic and geologic hazards would be addressed on a case-by-case basis and would not result in cumulative impacts. Therefore, implementation of the CAP Update would result in a ***less-than-significant cumulative impact*** related to geology and soils.

## 8 Greenhouse Gas Emissions

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Conflict with any applicable plan, policy, or regulation adopted to reduce the emissions of greenhouse gases?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

8a. *Would the project generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment?*

The greenhouse effect is a natural occurrence that helps regulate the temperature of the Earth. The majority of radiation from the Sun hits Earth's surface and warms it. The surface in turn radiates heat back towards the atmosphere, known as infrared radiation. Gases and clouds in the atmosphere trap and prevent some of this heat from escaping into space and re-radiate it in all directions. This process is essential to support life on Earth, because it warms the planet by approximately 60°F. Emissions from human activities since the beginning of the industrial revolution (approximately 270 years ago) have been adding to the natural greenhouse effect by resulting in increased gases in the atmosphere that trap heat and contribute to an average increase in Earth's temperature. Global warming is the observed increase in the average temperature of the Earth's surface, and climate change is the resultant change in wind patterns, precipitation, and storms over an extended period.

GHGs produced by human activities include CO<sub>2</sub>, methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub>O), hydrofluorocarbons (HFCs), perfluorinated compound (PFC), and sulfur hexafluoride (SF<sub>6</sub>) (see Appendix B for more details related to these GHG gases).<sup>59</sup> Combustion of fossil fuels (gasoline, natural gas, and coal), deforestation, and decomposition of waste release carbon into the atmosphere that had been locked underground and stored in oil, gas, and other hydrocarbon deposits or in the biomass of surface vegetation. Since 1750, estimated concentrations of CO<sub>2</sub>, CH<sub>4</sub>, and N<sub>2</sub>O in the atmosphere have increased by over 36 percent, 148 percent, and 18 percent respectively, primarily due to human activity. Emissions of GHGs affect the atmosphere directly by changing its chemical composition.

<sup>59</sup> The proposed CAP Update only considers emissions of CO<sub>2</sub>, CH<sub>4</sub>, and N<sub>2</sub>O, because these are the GHGs most relevant to local government policymaking. These gases comprise a large majority of GHG emissions at the community level. The remaining gases (HFCs, PFC, and SF<sub>6</sub>) are emitted primarily in private sector manufacturing and electricity transmission and are the subject of regulation at the State level. Therefore, these gases were omitted from the proposed CAP Update.

Changes to the land surface also indirectly affect the atmosphere by changing the way in which Earth absorbs gases from the atmosphere. Potential impacts in California due to climate change include sea level rise, more extreme-heat days and high-ozone days, larger and more frequent forest fires, and more drought years.<sup>60</sup> Although GHG emissions do not typically cause direct health impacts at a local level, GHG emissions can result in indirect health impacts by contributing to climate change, which can have public health implications. The primary public health impacts of climate change include the following:

- Increased incidences of hospitalization and deaths due to increased incidences of extreme heat events;
- Increased incidences of health impacts related to ground-level ozone pollution due to increased average temperatures that facilitate ozone formation;
- Increased incidences of respiratory illnesses from wildfire smoke due to increased incidences of wildfires;
- Increased vector-borne diseases due to the growing extent of warm climates; and
- Increased stress and mental trauma due to extreme events and disasters, economic disruptions, and residential displacement.<sup>61</sup>

The City of Chico has completed a communitywide GHG emissions inventory for 2017, which is summarized in Table 1. The transportation sector was the largest contributor to Chico's GHG emissions. Figure 3 and Table 4 summarize the communitywide GHG emissions forecast under three scenarios: 1) business-as-usual projections, 2) business-as-usual projections with State measures, and 3) the City of Chico target reduction path along with State measures. As shown therein, under the business-as-usual scenario, communitywide GHG emissions are forecasted to increase to approximately 538,282MT of CO<sub>2</sub>e (5.00 MT of CO<sub>2</sub>e per capita) by the year 2030, based on anticipated economic and population growth. However, with implementation of State laws and programs, communitywide GHG emissions would decline to approximately 395,317MT of CO<sub>2</sub>e (3.67 MT of CO<sub>2</sub>e per capita) by 2030. Furthermore, implementation of the CAP alongside State laws and programs would reduce communitywide GHG emissions to approximately 297,386 MT of CO<sub>2</sub>e (2.76 MT of CO<sub>2</sub>e per capita) by 2030.

The measures included in the CAP combined with State-wide legislation and initiatives and Countywide transportation programs will enable the City of Chico to meet its per capita emissions reduction target 80 percent below 1990 levels (a 45 percent reduction in communitywide emissions) by 2030 and an interim target of 73 percent below 1990 levels (a 28 percent reduction in communitywide emissions) by 2025. The City needs to achieve a GHG emissions reduction of 97,931 MT of CO<sub>2</sub>e (0.91 MT of CO<sub>2</sub>e per capita) by 2030 to meet its goal. The total estimated GHG reductions that would be achieved by the CAP along with State-wide legislation and initiatives total 240,896 MT of CO<sub>2</sub>e by 2030 (2.24 MT of CO<sub>2</sub>e per capita and 45 percent below 1990 levels). Because SB 32 is considered an interim target toward meeting the 2045 State goal of carbon neutrality, implementation of the CAP would be considered substantial progress toward meeting the State's long-term 2045 goal. Avoiding interference with and making substantial progress toward these long-term State targets are important, because these targets have been set at levels that

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<sup>60</sup> California Air Resources Board (CARB) and California Environmental Protection Agency (CalEPA). 2009. Environmental Health and Equity Impacts from Climate Change and Mitigation Policies in California: A Review of the Literature. Available: <<http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.386.4605&rep=rep1&type=pdf>>. Accessed May 18, 2021.

<sup>61</sup> California Natural Resources Energy. 2018. California's Fourth Climate Change Assessment Statewide Summary Report. Available: <<http://www.climateassessment.ca.gov/state/>>. Accessed July 24, 2020.

achieve California's fair share of international emissions reduction targets that will stabilize global climate change effects and help avoid the associated adverse environmental consequences.

The CAP Update includes a list of 13 measures, each with individual actions, intended to reduce communitywide GHG emissions. Implementation of the CAP Update would result in the reduction of communitywide operational GHG emissions, while only generating temporary GHG emissions during construction of infrastructure such as electric vehicle charging stations, bicycle paths, and public transit facilities. Additionally, the CAP Update would serve as a pathway to reduce GHG emissions and introduce other beneficial environmental and sustainability effects. These benefits include reduction in building energy consumption, vehicle miles traveled (and thus air pollution), and solid waste generation. Therefore, the CAP would result in a **less-than-significant impact** related to generation of GHG emissions.

*8b. Would the project conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?*

The CARB 2017 Climate Change Scoping Plan outlines a pathway to achieving the 2030 reduction targets set under SB 32, which are considered interim targets toward meeting the long-term 2045 carbon neutrality goal established by EO B-55-18. The CAP Update is a policy-level document that sets strategies to reduce GHG emissions within the City in an effort to also comply with State regulations. As discussed under *Response 8a.* above, the CAP Update includes measures to reduce City GHG emissions from forecasted business-as-usual levels to approximately 297,386 MT of CO<sub>2</sub>e (2.76 MT of CO<sub>2</sub>e per capita) by 2030. The purpose of the CAP Update is to meet Chico's proportionate fair share of the Statewide GHG emissions reduction target set by SB 32 and work toward the State's longer-term target of carbon neutrality identified in Executive Order B-55-18. The CAP Update would not conflict with any applicable GHG reduction plans, including the CARB 2017 Climate Change Scoping Plan. The CAP Update identifies how the City would achieve consistency with the Statewide GHG emissions limit.

The CAP Update would serve as a pathway to reduce GHG emissions and introduce other beneficial environmental and sustainability effects. These benefits include reduction in building energy consumption, vehicle miles traveled (and thus air pollution), and solid waste generation. Therefore, the CAP Update would result in a **less-than-significant impact** related to consistency with applicable GHG emissions reduction plans, policies, and regulations.

## Cumulative Impacts

The cumulative projects scenario is overall General Plan buildout for Chico in 2030. Analyses of GHG emissions and climate change are cumulative in nature, as they affect the accumulation of GHG emissions in the atmosphere. Cumulative projects anticipated under General Plan buildout and that exceed the thresholds discussed above would have a significant impact related to GHG emissions and climate change, both individually and cumulatively. The CAP Update creates a GHG emissions reduction strategy (consistent with Section 15183.5 of the CEQA Guidelines) for the City of Chico. The CAP Update also includes a series of measures and actions that are intended to reduce per capita GHG emissions by approximately 80 percent below 1990 levels (a 45 percent reduction in communitywide emissions) by 2030, which provides substantial progress toward the City meeting State goals. As such, the CAP Update would result in the reduction of GHG emissions rather than generating GHG emissions. Some GHG emissions would occur during construction of CAP-specific infrastructure projects; however, these emissions would be temporary and minor in nature.

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Therefore, implementation of the CAP Update would result in a ***less-than-significant cumulative impact*** related to GHG emissions.



## 9 Hazards and Hazardous Materials

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d. Be located on a site that is included on a list of hazardous material sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e. For a project located in an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g. Expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

9a, 9b. *Would the project create a significant hazard to the public or the environment through:*

- *The routine transport, use, or disposal of hazardous materials?*
- *Reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?*

The CAP Update is a policy document containing measures and actions to reduce GHG emissions. The proposed CAP does not involve identified site-specific development and, for the most part, it would not facilitate new development that would involve the routine use of hazardous materials. Implementation of some of the CAP Update measures, such as the installation of bicycle lanes, energy retrofits, and installation of electric vehicle charging stations, would require construction activities. Construction would involve the temporary use of hazardous materials such as vehicle fuels and fluids that could be released should an accidental leak or spill occur. However, these types of materials are not considered acutely hazardous, and storage, handling, and disposal of these materials are regulated by the California Department of Toxic Substances Control (CDTSC), United States Environmental Protection Agency (USEPA), and Occupational Safety & Health Administration (OSHA). In addition, standard construction BMPs for the use and handling of such materials would avoid or reduce the potential for such conditions to occur. Any use of potentially hazardous materials during construction of the project would comply with all local, state, and federal regulations regarding the handling of potentially hazardous materials, including Title 49 of the Code of Federal Regulations and Title 22, Division 4.5 of the California Code of Regulations. Risk of spills would cease after construction is completed. Therefore, construction activities related to CAP Update measures and actions would not be anticipated to create upset and accident conditions involving the release of hazardous materials, and operation of the majority of CAP Update measures would not involve the routine transport, use, or disposal of hazardous materials during operation.

However, CAP Measure E-4 emphasizes increasing local renewable energy production and battery energy storage facilities within the City. Hazardous materials used in battery energy storage facilities would generally consist of the lithium-ion batteries. Lithium ion technology is a common battery storage medium and is considered one of the safest and most efficient methods of energy storage on the market. During normal operation, lithium-ion batteries do not represent a risk to off-site receptors, and safety standards applicable to energy storage facilities and safety certification tests established by independent bodies, such as Underwriters Laboratories, National Fire Protection Association, and International Electrotechnical Commission would prevent any reasonable possibility of a substantial adverse effect on the environment related to the lithium-ion batteries. However, in the unlikely event of a fire, there is a risk of the accidental release of hazardous materials associated with battery energy storage facilities. Any future proposed battery energy storage facilities would therefore be carefully reviewed for appropriate locations, safety measures, and consistency with the General Plan and Municipal Code and applicable local, State, and federal regulations. Therefore, the CAP Update would result in a ***less-than-significant impact*** related to creating a significant hazard through the routine transport, use, or disposal of hazardous materials and reasonably foreseeable upset and accident conditions involving the release of hazardous materials.

9c. *Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school?*

The CAP Update is a policy document containing measures to reduce GHG emissions. The proposed CAP Update does not include site-specific proposals and development, nor would it emit or handle hazardous materials. Implementing some CAP measures may require future development or

improvements, such as bike paths, solar panels and battery energy storage facilities, electric vehicle charging stations, or building improvements related to energy efficiency. However, CAP projects and actions would be reviewed to ensure the appropriate location of projects in relation to existing development in the City and would be reviewed for consistency with the General Plan and Municipal Code and applicable local, State, and federal regulations. Therefore, the CAP Update would result in a **less-than-significant impact** related to handling of hazardous materials.

*9d. Would the project be located on a site included on a list of hazardous material sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?*

The CAP Update is a policy document containing actions and supporting measures to reduce GHG emissions. The proposed CAP Update does not include site-specific proposals and development, but CAP measures and actions could result in projects that could be located on listed hazardous materials site. However, CAP projects and actions would be reviewed for consistency with the General Plan and Municipal Code and would be required to comply with applicable local, State, and federal regulations related to hazardous materials sites. Therefore, the CAP Update would result in a **less-than-significant impact** related to location on a listed hazardous materials site.

*9e. For a project located in an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?*

The Chico Municipal Airport is located in the northern portion of the City. The location as well as goals and policies associated with the airport area are included in the Chico General Plan Safety Element and Butte County Airport Land Use Commission Airport Compatibility Plan for the Chico Municipal Airport.<sup>62,63</sup> The CAP Update is a policy document that would not increase airport activity or result in additional habitable development or commercial development that could increase potential exposure of residents and employees to aircraft-related hazards. Additionally, CAP projects and actions would be reviewed for consistency with the Chico General Plan and other applicable local and State regulations related to the Chico Municipal Airport. Therefore, the CAP Update would result in **no impact** related to risks associated with location proximate to a public airport.

*9f. Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?*

The CAP Update is a policy document intended to reduce GHG emissions. The proposed CAP Update does not involve site-specific development, nor would it facilitate new development that would interfere with adopted emergency plans. Implementation of some CAP measures and actions, such as the addition of new pedestrian, bicycle, and public transit facilities, would require construction on local roadways. Construction activities have the potential to require lane closures and may impact traffic and vehicle speeds on the affected roadways; however, these impacts would be temporary and access to roadways would generally be maintained throughout project construction. Furthermore, future projects involving work in the public right-of-way would be required to

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<sup>62</sup> Chico, City of. 2011. 2030 General Plan Safety Element. Available: <[https://chico.ca.us/sites/main/files/file-attachments/12.\\_safety\\_element.pdf?1594855037](https://chico.ca.us/sites/main/files/file-attachments/12._safety_element.pdf?1594855037)>. Accessed April 14, 2021.

<sup>63</sup> Butte County Airport Land Use Commission. 2017. Airport Land Use Compatibility Plan: Chico Municipal, Oroville Municipal, Paradise, and Ranchoero Airports. Available: <[https://www.buttecounty.net/Portals/10/Docs/ALUC/BCALUCP\\_11-15-17/Butte\\_County\\_Airport\\_Land\\_Use\\_Compatibility\\_Plan\\_2017-11-15.pdf](https://www.buttecounty.net/Portals/10/Docs/ALUC/BCALUCP_11-15-17/Butte_County_Airport_Land_Use_Compatibility_Plan_2017-11-15.pdf)>. Accessed April 14, 2021.

coordinate with the City to ensure appropriate construction staging and adequate vehicular and pedestrian access on adjacent roadways, pursuant to CMC Chapter 14.08.<sup>64</sup> Therefore, the CAP Update would result in **no impact** related to impairment or interference with implementation of an emergency response or evacuation plan.

*9g. Would the project expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires?*

According to California Department of Forestry and Fire Protection (CalFIRE), the majority of the City of Chico is not located in designated California Fire Hazard Severity Zones, and the City is not located in a State Responsibility Area.<sup>65</sup> There is an area of moderate fire hazard in the northwestern portion of the city, adjacent to the Chico Municipal Airport, as well as areas of very high fire hazard in the northeastern portion of the City within Upper Bidwell Park. In addition, areas surrounding the City limits to the east of State Route 99 are categorized as moderate to very high fire hazard risk.<sup>54</sup> Though the City contains some areas of fire risk and is adjacent to areas of fire risk, the CAP Update does not propose specific development or new residential or commercial land uses that could be subject to wildland fire. Therefore, the CAP Update would result in **no impact** related to risks associated with exposure to wildland fires.

## Cumulative Impacts

The cumulative projects scenario is overall General Plan buildout for Chico in 2030. Hazards and hazardous materials impacts are typically site-specific in nature. CAP Update projects, in combination with other cumulative projects anticipated under General Plan buildout, are not anticipated to contribute to cumulative hazards and hazardous materials impacts with adherence to applicable General Plan policies and applicable State and federal regulatory requirements. Therefore, implementation of the CAP Update would result in a **less-than-significant cumulative impact** related to hazards and hazardous materials.

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<sup>64</sup> Chico, City of. 2021. City Municipal Code Chapter 14.08. Available: <[https://codelibrary.amlegal.com/codes/chico/latest/chico\\_ca/0-0-0-1](https://codelibrary.amlegal.com/codes/chico/latest/chico_ca/0-0-0-1)>. Accessed May 18, 2021.

<sup>65</sup> California Department of Forestry and Fire Protection (CalFIRE). 2021. Fire Hazard Severity Zone Viewer. Available: <<https://egis.fire.ca.gov/FHSZ/>>. Accessed April 14, 2021.

# 10 Hydrology and Water Quality

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(i) Result in substantial erosion or siltation on- or off-site;	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(ii) Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(iii) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(iv) Impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d. In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e. Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

*10a. Would the project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?*

The CAP Update is a policy document containing measures intended to reduce GHG emissions in the City. CAP Actions E-3-2, E-3-3, E-3-7, and E-4-1 through E-4-4 promote building electrification of existing buildings and installation of solar PV systems and battery storage facilities to provide greener renewable electricity within the City. CAP Actions T-1-1, T-1-3 through T-1-5, T-3-1, T-3-5, and T-3-8 support the installation of new bicycle, pedestrian, and public transit infrastructure throughout the City to increase the use of public transit and active transportation. CAP Actions T-2-1 through T-2-3, T-2-5, and T-2-8 encourage the installation of electric vehicle charging stations and supporting infrastructure. CAP Actions W-1-1 and W-1-3 through W-1-5 relate to increasing organic waste diversion and facility capacities for organic waste collection. Additionally, CAP Actions T-4-3, S-1-1, and S-1-2 encourage increasing parklet, greenspace, and the planting of urban trees within the community. These measures and actions may result in small scale construction activities in the future that could result in water quality impacts due to soil erosion and ground disturbance, as further discussed under Section 7, *Geology and Soils*, and Topic 10c, below.

However, CAP projects and actions would be reviewed for consistency with local and State regulations, including the National Pollution Discharge Elimination System (NPDES) permitting program which requires implementation of Stormwater Pollution Prevention Plans (SWPPPs) and CMC Chapter 16R.22, Grading Standards.<sup>66</sup> These regulations require BMPs to reduce water quality impacts from construction activities. Compliance with the CMC and/or NPDES permitting program would ensure that BMPs are implemented during construction to minimize potential impacts to surface and groundwater quality. As such, the CAP's related infrastructure projects would not result in new or different wastewater discharge that would violate water quality standards, waste discharge requirements, or otherwise degrade surface or groundwater quality. Therefore, the CAP Update would result in ***less-than-significant impacts*** related to surface or groundwater water quality in Chico.

*10b. Would the project substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?*

The CAP is a policy document containing programs that are consistent with the City's General Plan. CAP Actions T-4-3, S-1-1, and S-1-2 encourage increasing parklet, greenspace, urban trees, and permeable surfaces within the community, which would help to reduce impermeable groundcover within the City and improve groundwater infiltration. Furthermore, implementation of the CAP Update actions related to infrastructure development and redevelopment, such as improving the active transportation and public transit facilities within the City, would not substantially degrade groundwater quality or groundwater recharge. Therefore, the CAP Update would result in ***no impact*** related to impedance of sustainable groundwater management.

*10c. Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:*

- *Result in substantial erosion or siltation on- or off-site?*

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<sup>66</sup> Chico, City of. 2021. City Municipal Code Chapter 16R.22. Available: < [https://codelibrary.amlegal.com/codes/chico/latest/chico\\_ca/0-0-0-1](https://codelibrary.amlegal.com/codes/chico/latest/chico_ca/0-0-0-1)>. Accessed May 18, 2021.

- *Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?*
- *Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?*
- *Impede or redirect flood flows?*

Implementation of several CAP Update measures may promote infrastructure development and small-scale construction activities within the City. CAP Measure E-4 would promote development of battery storage facilities to provide greener renewable electricity within the City. CAP Actions T-1-1, T-1-3 through T-1-5, T-3-1, T-3-5, and T-3-8 support the installation of new bicycle, pedestrian, and public transit infrastructure throughout the City to increase the use of public transit and active transportation. CAP Actions T-2-1 through T-2-3, T-2-5, and T-2-8 encourage the installation of electric vehicle charging stations and supporting infrastructure. CAP Measure W-1 may result in new or expanded organic waste processing facilities. Additionally, CAP Actions T-4-3, S-1-1, and S-1-2 encourage increasing parklet, greenspace, and the planting of urban trees within the community.

Providing new transportation infrastructure, new greenspace and trees, and battery energy storage and organic waste processing facilities may slightly change the City's existing drainage pattern and amount of impervious surface. Construction of CAP projects could also result in erosion as discussed in Section 7, *Geology and Soils*. However, impacts to drainage and water quality during construction would be minimized through the implementation of BMPs as required by the CMC and NPDES Construction General Permit program. In addition, CAP projects would be in accordance with the General Plan, which includes goals and policies for the protection and preservation of creeks, streams, and groundwater within the City.<sup>67</sup> Furthermore, CAP Actions T-4-3, S-1-1, and S-1-2 would increase permeable surfaces within the City, which would improve drainage and water quality. Therefore, the CAP Update would result in a ***less-than-significant impact*** related to the alteration of existing drainage patterns.

*10d. Would the project result in flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?*

The City is not located within designated seiche or tsunami zones. Portions of the City are within the 100- and 500-year flood zones defined by Federal Emergency Management Agency (FEMA) and the City is downstream of three dams.<sup>68,69</sup> Therefore, areas of the City are at risk of flooding. As described in Response 10c., CAP projects would not impede or redirect flood flows, and as discussed in Section 9, *Hazards and Hazardous Materials*, CAP projects would generally not involve the regular use or storage of hazardous materials with the exception of battery energy storage facilities that include the storage of lithium ion batteries. Future CAP projects, such as battery energy storage facilities, would be reviewed for compliance with the applicable local and State regulations related to flooding and hazardous materials use. Furthermore, any projects associated with implementation of the CAP located in flood-prone areas must comply with Chapter 16R.37, Floodplain Standards, Chapter 16.34, Floodplain Regulations- General Provisions, Chapter 16.37, Flood Plain Regulations- Standards, and Chapter 16.38, Floodplain Regulations- Enforcement, of the CMC which provide

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<sup>67</sup> Chico, City of. 2011. Chico 2030 General Plan. Available: <<https://chico.ca.us/post/chico-2030-general-plan>>. Accessed March 29, 2021.

<sup>68</sup> Federal Emergency Management Agency (FEMA). 2021. FEMA Flood Map Service Center. Available: <<https://msc.fema.gov/portal/search?AddressQuery=chico%2C%20ca#searchresultsanchor>>. Accessed April 27, 2021.

<sup>69</sup> Butte County. 2019. Local Hazard Mitigation Plan Update. Available: <<https://www.buttecounty.net/oem/mitigationplans>>. Accessed March 23, 2021.

requirements to mitigate potential flood risks.<sup>70,71,72</sup> Therefore, the CAP Update would result in a **less-than-significant impact** related to flooding and inundation resulting in release of pollutants.

*10e. Would the project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?*

The CAP Update measures would not include activities that would result in the direct extraction of groundwater. Rather, the CAP Update encourages expanded permeable surfaces within the City, which would aid in groundwater recharge and reduced surface water runoff and related water quality issues. The CAP Update would not interfere with or obstruct implementation of water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality. Therefore, the CAP Update would result in **no impact** related to consistency with a water quality control plan or sustainable groundwater management plan.

## Cumulative Impacts

The cumulative projects scenario is overall General Plan buildout for Chico in 2030. CAP Update projects, in combination with other cumulative projects anticipated under General Plan buildout, are not anticipated to contribute to cumulative hydrology and water quality impacts with adherence to applicable General Plan policies and applicable local, State, and federal regulatory requirements. Implementation of the CAP would not contribute to an increase in growth and development in Chico but could result in infrastructure development projects, including renewable energy facilities and alternative transportation thoroughfares. As such, implementation of the CAP and other cumulative projects could have incremental impacts related to hydrology and water quality, with potential minor alterations to existing drainage patterns in the City. Therefore, implementation of the CAP Update would result in a **less-than-significant cumulative impact** related to hydrology and water quality.

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<sup>70</sup> Chico, City of. 2021. City Municipal Code Chapter 16R.37. Available: <[https://codelibrary.amlegal.com/codes/chico/latest/chico\\_ca/0-0-0-1](https://codelibrary.amlegal.com/codes/chico/latest/chico_ca/0-0-0-1)>. Accessed May 18, 2021.

<sup>71</sup> Chico, City of. 2021. City Municipal Code Chapter 16.37. Available: <[https://codelibrary.amlegal.com/codes/chico/latest/chico\\_ca/0-0-0-1](https://codelibrary.amlegal.com/codes/chico/latest/chico_ca/0-0-0-1)>. Accessed May 18, 2021.

<sup>72</sup> Chico, City of. 2021. City Municipal Code Chapter 16.38. Available: <[https://codelibrary.amlegal.com/codes/chico/latest/chico\\_ca/0-0-0-1](https://codelibrary.amlegal.com/codes/chico/latest/chico_ca/0-0-0-1)>. Accessed May 18, 2021.



# 11 Land Use and Planning

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

*11a. Would the project physically divide an established community?*

The CAP Update is a policy document containing measures that are consistent with the Chico General Plan and does not include measures or specific development projects that would divide an established community. CAP Measures T-1 and T-3 facilitate the provisioning of new bike lanes, shared bikes, bike parking, sidewalks and pedestrian infrastructure and would also improve the public transit system. Such measures would help to increase connectivity within the Chico community. Therefore, the CAP Update would result in **no impact** related to division of an established community.

*11b. Would the project cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?*

The CAP Update is a policy document containing measures that are consistent with the Chico General Plan and that are designed to reduce adverse environmental impacts associated with climate change. Nonetheless, implementing the CAP Update would require some modification of existing policies, including developing and implementing new programs, and projects, or modifying existing ones. For example, CAP Measures E-2 and E-3 include adoptions of new building ordinances to require building electrification for new and existing developments, as well as revisions to Residential Energy Conservation Ordinance. CAP Action T-1-3 would require updates to Title 18 of the CMC to require bicycle infrastructure improvements for major road upgrade projects. CAP Measures T-2 through T-4 would require updates to the CMC and zoning code to increase EV charging infrastructure, reduce VMT through TDM strategies, and improve parking and curb management. In addition, CAP Measure W-1 would require the adoption of a food recovery ordinance and organics collection ordinance to increase the diversion of organic waste in the City. In order to implement these measures, the City Municipal Code, General Plan, and other applicable documents may need to be amended to reflect new or modified requirements. However, where modifications of existing policies are needed, such as updates to policies related to energy, solid waste, transit, and active transportation, the CAP measures would result in greater avoidance or

reduction of environmental effects. Therefore, the CAP Update would result in ***no impact*** related to consistency with current land use plans or policies.

### **Cumulative Impacts**

The cumulative projects scenario is overall General Plan buildout for Chico in 2030. The CAP Update is a policy document containing measures that are consistent with the City's General Plan. Nonetheless, implementing the CAP Update projects, in combination with other cumulative projects anticipated under General Plan buildout, would require some modification of existing land use policies, including developing and implementing new programs, and projects, or modifying existing ones. The proposed policy changes are consistent with the intent of the goals and policies established within the City General Plan and Zoning Regulations and would not cumulatively contribute to population growth or the loss of housing. Cumulative projects, including the CAP Update, would be required to adhere to City development regulations and General Plan policies to retain land use character and minimize environmental impacts. Future CAP Update projects and actions would be reviewed for consistency with the General Plan and other applicable regulatory land use actions prior to approval. Therefore, implementation of the CAP Update would result in a ***less-than-significant cumulative impact*** related to land use.

# 12 Mineral Resources

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

12a, 12b. Would the project result in the loss of availability of a:

- Known mineral resource that would be of value to the region and the residents of the State?
- Locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?

The City of Chico General Plan and General Plan Update EIR do not identify any mineral resources or mineral resources recovery sites within the City.<sup>73,74</sup> Furthermore, the CAP Update would not facilitate infrastructure development projects within the City that could result in the loss of availability of known mineral resources. Therefore, the CAP Update would result in **no impact** related to mineral resource.

## Cumulative Impacts

The cumulative projects scenario is overall General Plan buildout for Chico in 2030. The City of Chico General Plan does not identify any mineral resources or mineral resources recovery sites within the City limits. As such, no cumulative impact related to mineral resources could occur. Therefore, implementation of the CAP Update would result in **no cumulative impact** related to mineral resources.

<sup>73</sup> Chico, City of. 2011. Chico 2030 General Plan. Available: <<https://chico.ca.us/post/chico-2030-general-plan>>. Accessed March 29, 2021.

<sup>74</sup> Chico City of. 2010. 2030 General Plan Update Draft Environmental Impact Report. Available: <[https://chico.ca.us/sites/main/files/file-attachments/chicodeir\\_combined\\_noappendices.pdf?1577755314](https://chico.ca.us/sites/main/files/file-attachments/chicodeir_combined_noappendices.pdf?1577755314)>. Accessed March 29, 2021.

# 13 Noise

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project result in:				
a. Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Generation of excessive groundborne vibration or groundborne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

13a. *Would the project result in exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?*

Noise is unwanted sound that disturbs human activity. Environmental noise levels typically fluctuate over time, and different types of noise descriptors are used to account for this variability. Noise level measurements include intensity, frequency, and duration, as well as time of occurrence. Noise level (or volume) is generally measured in decibels (dB) using the A-weighted sound pressure level (dBA). Because of the way the human ear works, a sound must be about 10 dBA greater than the reference sound to be judged as twice as loud. In general, a 3 dBA change in community noise levels is noticeable, while 1-2 dBA changes generally are not perceived. Quiet suburban areas typically have noise levels in the range of 40-50 dBA, while arterial streets are in the 50-60+ dBA range. Normal conversational levels are in the 60-65 dBA range, and ambient noise levels greater than 65 dBA can interrupt conversations.

Noise levels typically attenuate (or drop off) at a rate of 6 dBA per doubling of distance from point sources (such as construction equipment). Noise from lightly traveled roads typically attenuates at a rate of about 4.5 dBA per doubling of distance. Noise from heavily traveled roads typically attenuates at about 3 dBA per doubling of distance; while noise from a point source typically attenuates at about 6 dBA per doubling of distance. Noise levels may also be reduced by the introduction of intervening structures. For example, a single row of buildings between the receptor

and the noise source reduces the noise level by about 5 dBA, while a solid wall or berm that breaks the line-of-sight reduces noise levels by 5 to 10 dBA.

The General Plan Noise Element identifies major sources of noise within the City as roadway traffic, the Chico Municipal Airport, Union Pacific Railroad, and the Enloe Medical Center Heliport. The Noise Element aims to ensure appropriate noise levels considered compatible for community noise environments. The City’s normally acceptable exterior noise exposure standard is 65 dBA community noise equivalent level (CNEL) or less for residential and other noise sensitive uses, as shown below in Table 5.<sup>75</sup> In addition, CMC Chapter 9.38, Noise, establishes noise regulations for residential, commercial, industrial, and public property uses, as well as for construction activity noise.<sup>76</sup>

**Table 5 General Plan Noise Element Maximum Allowable Noise Levels**

Land Use	Outside Areas (CNEL, dB)
Residential (Single-family, multi-family)	65
Transient Lodging	--
Hospitals, Nursing Homes	65
Theaters, Auditoriums, Music Halls	--
Churches, Meeting Halls	65
Office Buildings	--
Schools, Libraries, Museums	65
Playgrounds, Neighborhoods, Parks	70
Source: City of Chico General Plan Noise Element	

The CAP Update is a policy document containing programs that are consistent with the General Plan. Some of the proposed measures of the CAP would support small scale construction projects. These include CAP Measures E-3 and E-4 that promote building electrification of existing buildings and installation of solar PV systems and battery storage facilities, CAP Measures T-1, T-2, and T-3 that support the installation of new bicycle, pedestrian, electric vehicle and public transit infrastructure, CAP Measure W-1 that could result in new or expanded organic waste processing facilities, and CAP Actions T-4-3, S-1-1, and S-1-2 that encourage increasing parklet, greenspace, and the planting of urban trees within the community. However, CAP projects and actions would be reviewed for consistency with the General Plan and Municipal Code and construction activities would be required to comply with the provisions of CMC Chapter 9.38, including the permitted construction hours and maximum noise limits. Therefore, the CAP Update would not result in significant construction noise related impacts.<sup>77</sup>

<sup>75</sup> Chico, City of. 2011. Chico 2030 General Plan Noise Element. Available: <<https://chico.ca.us/post/chico-2030-general-plan>>. Accessed March 29, 2021.

<sup>76</sup> Chico, City of. 2021. City Municipal Code Chapter 9.38. Available: <[https://codelibrary.amlegal.com/codes/chico/latest/chico\\_ca/0-0-0-1](https://codelibrary.amlegal.com/codes/chico/latest/chico_ca/0-0-0-1)>. Accessed May 18, 2021.

<sup>77</sup> Chico, City of. 2021. City Municipal Code Chapter 9.38. Available: <[https://codelibrary.amlegal.com/codes/chico/latest/chico\\_ca/0-0-0-1](https://codelibrary.amlegal.com/codes/chico/latest/chico_ca/0-0-0-1)>. Accessed May 18, 2021.

The CAP Update does not include future projects that would result in substantial operational noise. Rather, the CAP Update encompasses a suite of GHG-reduction opportunities that affect the transportation sector and its associated noise. For example, CAP Measure T-1 facilitate bike lanes, bike parking, and pedestrian infrastructure to increase active transportation and decrease VMT. CAP Measure T-3 intends to increase public transit infrastructure and ridership, while Measures T-4 and T-5 would encourage mode shifts to active and public transit and infill development to reduce urban sprawl and associated VMT. In addition, Measure T-2 encourages the adoption of EVs within the City, which produce less traffic noise than standard vehicles. These measures would reduce VMT and traffic-related noise in Chico. Therefore, the CAP Update would not generate excessive noise levels and, therefore, would result in a ***less-than-significant impact*** related to noise exposure.

*13b. Would the project result in exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?*

While people have varying sensitivities to vibrations at different frequencies, in general they are most sensitive to low-frequency vibration. Vibration in buildings, such as from nearby construction activities, may cause windows, items on shelves, and pictures on walls to rattle. Vibration of building components can also take the form of an audible low-frequency rumbling noise, referred to as groundborne noise.<sup>78</sup> Although groundborne vibration is sometimes noticeable in outdoor environments, it is almost never annoying to people who are outdoors. The primary concern from vibration is that it can be intrusive and annoying to building occupants and vibration-sensitive land uses.

Vibration amplitudes are usually expressed in peak particle velocity (PPV) or Root Mean Square (RMS) vibration velocity. The PPV and RMS velocity are normally described in inches per second (in/sec). PPV is defined as the maximum instantaneous positive or negative peak of a vibration signal. PPV is often used in monitoring of blasting vibration because it is related to the stresses that are experienced by buildings.<sup>79</sup> Vibration significance ranges from approximately 50 vibration decibels (VdB), which is the typical background vibration-velocity level, to 100 VdB, the general threshold where minor damage can occur in fragile buildings.<sup>80</sup> The general human response to different levels of groundborne vibration velocity levels is described in Table 6.

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<sup>78</sup> California Department of Transportation (Caltrans). 2020. Transportation and Construction Vibration Guidance Manual (CT-HWANP-RT-13-069.25.3). Available: <<https://dot.ca.gov/-/media/dot-media/programs/environmental-analysis/documents/env/tcvgm-apr2020-a11y.pdf>>. Accessed May 14, 2021.

<sup>79</sup> Federal Highway Administration (FHWA). 2006. FHWA Highway Construction Noise Handbook. (FHWAHEP-06-015; DOT-VNTSC-FHWA-06-02). Available: <[https://www.fhwa.dot.gov/Environment/noise/construction\\_noise/handbook/handbook00.cfm](https://www.fhwa.dot.gov/Environment/noise/construction_noise/handbook/handbook00.cfm)>. Accessed May 14, 2021.

<sup>80</sup> Federal Transit Administration (FTA). 2018. Transit Noise and Vibration Impact Assessment Manual. Available: <[https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/research-innovation/118131/transit-noise-and-vibration-impact-assessment-manual-fta-report-no-0123\\_0.pdf](https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/research-innovation/118131/transit-noise-and-vibration-impact-assessment-manual-fta-report-no-0123_0.pdf)>. Accessed May 14, 2021.

**Table 6 Human Response to Different Levels of Groundborne Vibration**

Vibration Velocity Level	Human Reaction
65 VdB	Approximate threshold of perception for many people
75 VdB	Approximate dividing line between barely perceptible and distinctly perceptible. Many people find that transportation-related vibration at this level is unacceptable.
85 VdB	Vibration acceptable only if there are an infrequent number of events per day

VdB = vibration decibels  
 Source: Federal Transit Administration. Transit Noise and Vibration Impact Assessment Manual. 2018.  
[https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/research-innovation/118131/transit-noise-and-vibration-impact-assessment-manual-fta-report-no-0123\\_0.pdf](https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/research-innovation/118131/transit-noise-and-vibration-impact-assessment-manual-fta-report-no-0123_0.pdf) <sup>81</sup>

The CAP Update is a policy document containing programs that are consistent with the General Plan. Some of the proposed CAP measures would support small-scale construction projects, such as electric vehicle charging station, bike lane, and public transit facility construction that may result in a temporary increase in groundborne vibration. However, CAP projects and actions would be reviewed for consistency with the General Plan and Municipal Code and construction activities would be required to comply with applicable local, State, and federal regulations to ensure that temporary construction impacts related to groundborne vibration would not occur. Furthermore, CAP projects would not include operational sources of groundborne vibration. Therefore, the CAP Update would result in a **less-than-significant impact** related to groundbourne vibration.

*13c. For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?*

The Chico Municipal Airport is located in the northern portion of the City. The location as well as goals and policies associated with the airport area are included in the Chico General Plan Safety Element and Butte County Airport Land Use Commission Airport Compatibility Plan for the Chico Municipal Airport.<sup>82,83</sup> The CAP Update is a policy document that would not increase airport activity or result in additional habitable development or commercial development that could increase potential exposure of residents and employees to aircraft-related noise. Therefore, the CAP Update would result in **no impact** related to aviation-related noise exposure.

### Cumulative Impacts

The cumulative projects scenario is overall General Plan buildout for Chico in 2030. The CAP Update is a policy document containing programs that are consistent with the City of Chico General Plan, including the Noise Element. Nonetheless, the CAP Update projects, in combination with other cumulative projects anticipated under General Plan buildout, would support construction projects, such as electric vehicle charging station and bicycle lane construction that may result in a temporary

<sup>81</sup> Federal Transit Administration. 2018. Transit Noise and Vibration Impact Assessment Manual. <[https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/research-innovation/118131/transit-noise-and-vibration-impact-assessment-manual-fta-report-no-0123\\_0.pdf](https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/research-innovation/118131/transit-noise-and-vibration-impact-assessment-manual-fta-report-no-0123_0.pdf)>. Accessed May 14, 2021.

<sup>82</sup> Chico, City of. 2011. 2030 General Plan Safety Element. Available: <[https://chico.ca.us/sites/main/files/file-attachments/12\\_safety\\_element.pdf?1594855037](https://chico.ca.us/sites/main/files/file-attachments/12_safety_element.pdf?1594855037)>. Accessed April 14, 2021.

<sup>83</sup> Butte County Airport Land Use Commission. 2017. Airport Land Use Compatibility Plan: Chico Municipal, Oroville Municipal, Paradise, and Ranchoero Airports. Available: <[https://www.buttecounty.net/Portals/10/Docs/ALUC/BCALUCP\\_11-15-17/Butte\\_County\\_Airport\\_Land\\_Use\\_Compatibility\\_Plan\\_2017-11-15.pdf](https://www.buttecounty.net/Portals/10/Docs/ALUC/BCALUCP_11-15-17/Butte_County_Airport_Land_Use_Compatibility_Plan_2017-11-15.pdf)>. Accessed April 14, 2021.

increase in groundborne vibration or noise levels. However, cumulative projects, including CAP projects, would be subject to review by the City for compliance with the General Plan and Municipal Code and would be required to comply with applicable State and federal regulations governing construction noise and vibration. Additionally, the CAP Update encompasses a suite of GHG-reduction opportunities that would decrease traffic and traffic-related noise. As such, implementation of the CAP Update would not generate excessive groundborne vibration or noise levels. Therefore, the CAP Update would result in a ***less-than-significant cumulative impact*** related to noise.



# 14 Population and Housing

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

*14a, 14b. Would the project induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)? Would the project displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?*

The CAP Update does not include measures, policies, or programs that would result in new housing or jobs or that would displace existing residents or housing. In addition, bike lane and public transit facility infrastructure construction that could result from CAP implementation would be for purposes of replacing existing single-occupancy vehicle use rather than extending infrastructure to support a growth in population. Therefore, the CAP Update would not directly increase the population, indirectly induce additional unplanned population growth, or displace people or housing. Therefore, the CAP Update would result in **no impact** related to population and housing.

## Cumulative Impacts

The cumulative projects scenario is overall General Plan buildout for Chico in 2030. CAP Update projects, in combination with other cumulative projects anticipated under General Plan buildout, are not anticipated to displace people or housing nor induce substantial unplanned population growth in the City. Specifically, the CAP Update would not contribute to person or housing displacement in the City of Chico nor result in population growth beyond that already assumed and planned for in the General Plan. Therefore, the CAP Update would result in **no cumulative impact** related to population and housing.

# 15 Public Services

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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a. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:

1. Fire protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2. Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
3. Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
4. Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
5. Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

15a. *Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:*

- *Fire protection?*
- *Police protection?*
- *Schools?*
- *Parks?*
- *Other public facilities?*

The CAP Update is a policy document containing programs that are consistent with the Chico General Plan. Implementation of the CAP and the proposed measures would not result in increases in population or new employment opportunities that could induce population growth. As such, the CAP Update would not require the construction of new or physically altered governmental facilities to serve additional population, the construction of which could cause significant environmental impacts. Furthermore, CAP Update projects and actions would be reviewed for consistency with the Chico General Plan and other applicable local and State regulations related to public services. Therefore, the CAP Update would result in **no impact** related to public services in terms of need for the construction of new or altered governmental facilities.

## Cumulative Impacts

The cumulative projects scenario is overall General Plan buildout for Chico in 2030. Implementation of CAP Update projects, in combination with other cumulative projects anticipated under General Plan buildout, would not result in increases in population or induce additional population growth beyond that assumed under the Chico General Plan. Therefore, implementation of the CAP Update would not result in substantial cumulative need to expand public services facilities. Therefore, the CAP Update would result in a ***less-than-significant cumulative impact*** related to public services.

# 16 Recreation

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

*16a, 16b. Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated? Would the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?*

Chico is a primarily urbanized community with parks and recreational spaces incorporated throughout the City, including the 3,670-acre Bidwell Park and 28 other public parks for a total of 4,176 acres of parkland.<sup>84</sup> The General Plan Parks, Public Facilities, and Services Element incorporate goals and policies to protect open space/recreational resources in the City. The CAP Update is a policy document containing programs that are consistent with Chico’s General Plan. CAP Action T-4-3 encourages the development of parklets throughout the City and Measure S-1 seeks to increase greenspace and trees within the City, which align with the goals of the Parks, Public Facilities, and Services Element. Additionally, as described in Section 14, *Population and Housing*, the CAP Update would not result in substantial population growth or direct land use changes. As such, implementation of the CAP Update would not result in a substantial physical deterioration of parks or other recreational facilities or result in the need to expand recreational facilities. Therefore, the CAP Update would result in **no impact** related to the need for construction of new or altered recreational facilities.

## Cumulative Impacts

The cumulative projects scenario is overall General Plan buildout for Chico in 2030. Implementation of CAP Update projects, in combination with other cumulative projects anticipated under General Plan buildout, would not result in increases in population or induce additional population growth beyond that assumed under the General Plan. Therefore, implementation of the CAP would not result in increased demand for parks or substantial cumulative physical deterioration of parks or

<sup>84</sup> Chico, City of. 2011. Chico 2030 General Plan Parks, Public Facilities, and Services Element. Available: <<https://chico.ca.us/post/chico-2030-general-plan>>. Accessed March 29, 2021.

other recreational facilities or result in the cumulative need to expand recreational facilities. In addition, the CAP Update includes measures to increase the number of trees, parklets, and greenspace within the community, which aligns with the General Plan goals. Therefore, implementation of the CAP Update would result in ***no cumulative impact*** related to recreation.

# 17 Transportation

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c. Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible use (e.g., farm equipment)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d. Result in inadequate emergency access?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

*17a, 17b. Would the project conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities? Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?*

The City of Chico General Plan Circulation Element includes the following goals:

- Goal CIRC-1: Provide a comprehensive multimodal circulation system that serves the build-out of the Land Use Diagram and provides for the safe and effective movement of people and goods.
- Goal CIRC-2: Enhance and maintain mobility with a complete streets network for all modes of travel.
- Goal CIRC-3: Expand and maintain a comprehensive, safe, and integrated bicycle system throughout the City that encourages bicycling.
- Goal CIRC-4: Design a safe, convenient, and integrated pedestrian system that promotes walking.
- Goal CIRC-5: Support a comprehensive and integrated transit system as an essential component of a multimodal circulation system.
- Goal CIRC-6: Plan for and promote a full range of aviation services and facilities that meet the present and future needs of residents and the business community.
- Goal CIRC-7: Increase rail services and improve rail freight movement facilities.

- Goal CIRC-8: Provide parking that supports the Citywide goals for economic development, livable neighborhoods, sustainability, and public safety.
- Goal CIRC-9: Reduce the use of single-occupant motor vehicles.<sup>85</sup>

Additionally, the City adopted the Chico Bicycle Plan Update in 2019 to implement the bicycle implement the General Plan goals related to bicycling, complete streets, sustainability, and reducing transportation GHG emissions. The Bicycle Plan includes guidance for establishing and maintaining a network of bicycle facilities that encourages active transportation within the City.<sup>86</sup>

The CAP Update is a policy document containing measures that are consistent with the City General Plan Circulation Element, including many that are aimed at facilitating the implementation of the local transportation programs and improvements. CAP Measure T-1 facilitates bike lanes, bike parking, public outreach, and new transportation planning to increase active transportation and decrease VMT within the City. CAP Measure T-3 promotes active transportation, public transit ridership, shared mobility solutions, and TDM strategies to reduce VMT and improve sustainable transportation practices within the community. CAP Measure T-4 seeks to implement parking and curb management practices within the City to further incentivize alternate modes of transportation. Additionally, CAP Measure T-5 encourages infill development to reduce suburban sprawl and associated VMT.

These CAP measures would be consistent with the General Plan Circulation Element goals and the Bicycle Plan related to improving multi-modal facilities within the City, reducing VMT and single-occupancy vehicles, and encouraging active transportation. Implementation of some of the CAP Update transportation measures may require future infrastructure development or improvements, such as bike paths and sidewalks. However, CAP projects and actions would be reviewed for consistency with the General Plan and Municipal Code and be required to comply with applicable local, State, and federal regulations to reduce any potential construction-related impacts to the circulation system. Furthermore, the CAP Update would seek to reduce VMT within the City, consistent with CEQA Guidelines section 15064.3, subdivision (b). Therefore, the CAP would result in **no impact** related to consistency with plans addressing the transportation circulation system and CEQA Guidelines section 15064.3, subdivision (b).

*17c, 17d. Would the project substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible use (e.g., farm equipment) or result in inadequate emergency access?*

The CAP Update is a policy document containing measures that are consistent with the City General Plan and would not facilitate development beyond that allowed under the General Plan. CAP Measures T-1 and T-3 would result in new bike lanes, sidewalks/pedestrian paths, and public transit infrastructure, which may result in temporary lane closures on local roadways. However, CAP projects involving work within the public right-of-way would be required to comply with the provisions of CMC Chapter 14.08, Encroachments and Permits, which include compliance with a traffic control plan, safety signage, and project review by the Chico Public Works Department to ensure that significant impacts to the circulation system, including safety impacts and emergency

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<sup>85</sup> Chico, City of. 2011. Chico 2030 General Plan Circulation Element. Available: <<https://chico.ca.us/post/chico-2030-general-plan>>. Accessed March 29, 2021.

<sup>86</sup> Chico, City of. 2019. Chico Bicycle Plan Update. Available: <[https://www.csuchico.edu/sustainability/\\_assets/documents/2019-city-of-chico-bike-plan.pdf](https://www.csuchico.edu/sustainability/_assets/documents/2019-city-of-chico-bike-plan.pdf)>. Accessed April 27, 2021.

access would not occur.<sup>87</sup> As such, construction of CAP Update projects would not create transportation hazards or result in inadequate emergency access. Furthermore, the CAP Update would facilitate increased active transportation and public transit use and decreased VMT within the City, which in turn would reduce potential transportation hazards and congestion conditions that can hinder emergency response. Therefore, the CAP Update would result in a ***less-than-significant impact*** related to transportation hazards and emergency access.

## Cumulative Impacts

The cumulative projects scenario is overall General Plan buildout for Chico in 2030. The CAP Update is a policy document containing programs that are consistent with the City's General Plan, and, similar to the other cumulative projects anticipated under General Plan buildout, the CAP Update does not propose development beyond that anticipated under the General Plan that would require the provisioning of new roadways. The goals, policies, objectives, measures, and actions included in the CAP Update promote alternative modes of transportation and reduction of VMT throughout the City. In addition, the CAP measures would not conflict with the objectives and policies of the General Plan or Chico Bicycle Plan but would rather be consistent with and promote those plans. Therefore, the CAP Update would result in a ***less-than-significant cumulative impact*** related to transportation.

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<sup>87</sup> Chico, City of. City Municipal Code Chapter 14.08. Available: <[https://codelibrary.amlegal.com/codes/chico/latest/chico\\_ca/0-0-0-1](https://codelibrary.amlegal.com/codes/chico/latest/chico_ca/0-0-0-1)>. Accessed May 18, 2021.



# 18 Tribal Cultural Resources

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

<p>a. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or</p>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<p>b. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 2024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significant of the resource to a California Native American tribe?</p>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

*18a, 18b. Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in a Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe and that is:*

- *Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code § 5020.1 (k)?*
- *A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code § 5024.1.*

*In applying the criteria set forth in subdivision (c) of Public Resources Code § 5024.1, the lead agency shall consider the significance of the resource to a California Native American Tribe.*

On May 24, 2021, the eight following Native American Heritage Commission (NAHC)-identified local Native American tribal groups were formally notified that the City initiated environmental review of the CAP Update and were invited to provide consultation:

- Berry Creek Rancheria of Maidu Indians

- Estom Yumeka Maidu Tribe of the Enterprise Rancheria
- Greenville Rancheria of Maidu Indians
- KonKow Valley Band of Maidu
- Mechoopda Indian Tribe
- Mooretown Rancheria of Maidu Indians
- Tsi Akim Maidu
- Washoe Tribe of Nevada and California

Under AB 52, Native American tribes typically have 30 days to respond and request further project information and formal consultation. No responses were received to the mailings. No responses have been received, and no formal consultation has been requested. Accordingly, the requirements of AB 52 have been met for the project.

The CAP Update would not involve land use or zoning changes that would increase development within the City but would instead promote sustainable infrastructure development within the urbanized area of the City. As a policy document, the CAP Update would also not directly entail ground disturbing activities. Implementation of the CAP Measures related to building electrification, renewable energy production and storage, transportation, organic waste processing, and greenspace/tree planting may promote infrastructure development and minor construction activities.

CAP Actions E-3-2, E-3-3, E-3-7, and E-4-1 through E-4-4 promote building electrification of existing buildings and installation of solar PV systems and battery storage facilities to provide greener renewable electricity within the City. Electrification retrofits may change the physical environment through the need for upgraded service and electrical panels, branch circuit upgrades, and installation of condensate drains to facilitate the installation of electric heat pumps for water and space heating. The physical changes these upgrades and additions would entail are dependent on the year of building construction and location of electrical and service panels and plumbing connection of condensate drains, which sometimes may include modifications to the interior and/or exterior of buildings for wiring and panel replacement and minor excavation for connection of drainage to sewer systems.

CAP Actions T-2-1 through T-2-3, T-2-5, and T-2-8 encourage the installation of electric vehicle charging stations and supporting infrastructure, CAP Actions T-1-1, T-1-3 through T-1-5, T-3-1, T-3-5, and T-3-8 support the installation of new bicycle, pedestrian, and public transit infrastructure throughout the City to increase the use of public transit and active transportation. These projects would primarily impact previously disturbed areas within the public right-of-way or within existing parking lots and developments. However, the physical changes these installations and enhancements would entail are dependent on the location of construction for the electric vehicle charging connections, active transportation pathways, and public transit facilities, which in some cases may include minor temporary excavation.

In addition, CAP Measure W-1 seeks to increase organic waste diversion within the City and could potentially result in new or expanded organic waste processing facilities, while CAP Actions T-4-3, S-1-1, and S-1-2 encourage increasing parklet, greenspace, and the planting of urban trees within the community. These measure and actions could result in ground disturbance related to the

construction of new facilities and planting new trees. However, the physical changes these installations and enhancements would entail are dependent on the location of construction.

Implementation of these CAP Measures and Actions could impact unknown tribal cultural resources during construction that involves below-grade activities in previously undisturbed soils. However, CAP projects would be required to comply with the General Plan Cultural Resources and Historic Preservation Element, including Action CRHP-1.16 that requires the City to implement the Best Management Practices Manual to include standard conditions of approval for the protection of tribal cultural resources and Action CRHP-3.1.1 that encourages consultation with the Mechoopa Indian Tribe.<sup>88</sup> As such, tribal cultural resources would be protected prior to and/or upon discovery and, thus, impacts would be reduced to a minimal level. Therefore, the CAP Update would result in a ***less-than-significant impact*** related to tribal cultural resources.

### **Cumulative Impacts**

The cumulative projects scenario is overall General Plan buildout for Chico in 2030. CAP Update projects, in combination with other cumulative projects anticipated under General Plan buildout, could increase the potential for adverse effects to unknown tribal cultural resources in the City. Impacts to tribal cultural resources are site-specific; accordingly, as required under applicable laws and regulations, potential impacts associated with cumulative developments would be addressed on a case-by-case basis as cumulative project details and locations become known. Therefore, the CAP Update would result in a ***less-than-significant cumulative impact*** related to tribal cultural resources.

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<sup>88</sup> Chico, City of. 2011. Chico 2030 General Plan Cultural Resources and Historic Preservation Element. Available: <<https://chico.ca.us/post/chico-2030-general-plan>>. Accessed March 29, 2021.

# 19 Utilities and Service Systems

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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Would the project:

a. Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c. Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d. Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e. Comply with federal, State, and local management and reduction statutes and regulations related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

*19a. Would the project require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?*

The CAP Update is a policy document aimed at reducing solid waste production and energy consumption, amongst other issues, and the related GHG emissions throughout the City of Chico and does not include site-specific infrastructure designs or project proposals. Implementing the CAP Update would not result in an increase in population and housing nor would it facilitate growth beyond that anticipated by the General Plan. As such, implementing the CAP would not create new

demand related to water, wastewater, stormwater drainage, electric power, natural gas power, or telecommunications utilities.

However, projects resulting from implementation of the CAP Update could include redevelopment and/or restructuring of electricity and natural gas power facilities and infrastructure, as well as new local renewable energy generation and storage projects. For example, CAP Actions E-3-2, E-3-3, E-3-7, and E-4-1 through E-4-4 promote building electrification of existing buildings and installation of solar PV systems and battery storage facilities to provide greener renewable electricity within the City. CAP Actions T-2-1 through T-2-3, T-2-5, and T-2-8 encourage the installation of electric vehicle charging stations and supporting infrastructure. Additionally, CAP Measure S-1 facilitates planting shade trees that could reduce cooling needs.

## Water Supply Facilities/Infrastructure

The City of Chico obtains its municipal water supply from the California Water Service Company (Cal Water) and is within the Chico-Hamilton City District of Cal Water's services. Cal Water's sources its supply in the Chico-Hamilton City District entirely from groundwater from the Vina Subbasin and the Corning Subbasin of the Sacramento Valley Basin. These subbasins are not adjudicated and are not identified as in critical overdraft condition.<sup>89</sup> Cal Water addresses issues of water supply in its Urban Water Management Plan (UWMP), which is a long-range planning document used to assess current and projected water usage, water supply planning, and conservation and recycling efforts. The most recently adopted UWMP is the 2015 UWMP; however, Cal Water is currently working on the 2020 UWMP and has released a public draft document for public review.<sup>90</sup> According to the UWMP, Cal Water has analyzed three different hydrological conditions to determine the reliability of water supplies: average/normal water year, single dry water year, and multiple, dry water year periods. The 2015 UWMP and Draft 2021 UWMP indicate that water supplies under the three hydrological conditions will be sufficient to meet demand through 2040 and 2045, respectively. In addition, both the 2015 UWMP and Draft 2021 UWMP include a Water Shortage Contingency Plan.<sup>89,90</sup>

~~CAP Actions WW-1-1 and WW-1-3 promote water efficiency through encouraging the use of greywater and rainwater systems, as well as continued implementation of the MWELO requirements. In addition, CAP Action WW-1-2 and CAP Measure S-1 encourages~~ the use of permeable surfaces and the provisioning of new urban greenspace throughout the City and CAP Actions T-4-3, S-1-1, and S-1-2 would increase parklet, greenspace, urban trees, and permeable surfaces within the community, which would aid in improving water infiltration and groundwater recharge. Furthermore, the CAP Update would not result in new land uses, such as increased residential or commercial development, that would contribute to an increase in water use compared to existing conditions or that would require relocation or construction of new water infrastructure. ~~The CAP Update measures are intended to reduce water use within the City.~~ Therefore, the CAP Update would have **no impact** related to the need for construction or expansion of water supply facilities and infrastructure.

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<sup>89</sup> California Water Service Company (Cal Water). 2021. Draft 2020 Urban Water Management Plan: Chico-Hamilton City District. Available: <[https://www.calwater.com/docs/uwmp2021/CH\\_2020\\_UWMP\\_Public\\_Draft-2021-04-09.pdf](https://www.calwater.com/docs/uwmp2021/CH_2020_UWMP_Public_Draft-2021-04-09.pdf)>. Accessed April 28, 2021.

<sup>90</sup> California Water Service Company (Cal Water). 2016. 2015 Urban Water Management Plan: Chico-Hamilton City District. Available: <[https://www.calwater.com/docs/uwmp2015/ch/2015\\_Urban\\_Water\\_Management\\_Plan\\_Final\\_\(CH\).pdf](https://www.calwater.com/docs/uwmp2015/ch/2015_Urban_Water_Management_Plan_Final_(CH).pdf)>. Accessed April 28, 2021.

## Wastewater Treatment Facilities/Infrastructure

Chico maintains a system of wastewater conveyance and treatment infrastructure for wastewater generated within the City. The City's gravity sewer system consists of over 1,000,000 linear feet of pipeline and 15 lift stations that convey wastewater to the City of Chico Water Pollution Control Plant (WPCP).<sup>91,92</sup> The WPCP is located 4 miles southwest of the City and also provides wastewater treatment services for development in the surrounding unincorporated areas. The WPCP is designed for a wet-weather peak capacity of 12 million gallons daily (MGD).<sup>91</sup> The City disposes of its treated effluent in the Sacramento River.

The CAP Update would not result in new land uses that would generate sanitary wastewater or otherwise contribute to an increase in wastewater treatment requirements. The amount or characteristics of wastewater treated at the WPCP would not change compared to existing conditions with implementation of the proposed plan. Furthermore, the CAP Update would not require relocation or construction of new wastewater treatment infrastructure. Therefore, **no impact** related to need for construction or expansion of wastewater treatment facilities and infrastructure would occur.

## Stormwater Drainage Facilities/Infrastructure

The City of Chico maintains a system of storm drains, gutters, and ditches to convey stormwater generated during rain events. As discussed in Section 10, *Hydrology and Water Quality*, implementation of CAP Measures related to building electrification, renewable energy production and storage, transportation, organic waste diversion, and urban greenspace/trees may promote infrastructure development that would involve small-scale construction. CAP Measures E-3 and E-4 promote building electrification of existing buildings and installation of solar PV systems and battery storage facilities to provide greener renewable electricity within the City. CAP Measures T-1 and T-3 support the installation of new bicycle, pedestrian, and public transit infrastructure throughout the City to increase the use of public transit and active transportation. CAP Measure T-2 encourages the installation of electric vehicle charging stations and supporting infrastructure. CAP Measure W-1 relates to increasing organic waste diversion and facility capacities for organic waste collection. Additionally, CAP Actions T-4-3, S-1-1, and S-1-2 encourage increasing parklet, greenspace, and the planting of urban trees within the community.

Construction of projects implemented in accordance with the CAP Update could result in erosion and potential changes to drainage patterns. However, as described in Section 7, *Geology and Soils*, and Section 10, *Hydrology and Water Quality*, CAP projects would be required to comply with local, State, and federal requirements during construction that would control erosion and potential impacts to the stormwater drainage system. Furthermore, CAP Actions T-4-3, S-1-1, and S-1-2 encourage increasing parklet, greenspace, urban trees, and permeable surfaces within the

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<sup>91</sup> Chico, City of. 2021. Water Pollution Control Plant. Available: <<https://chico.ca.us/post/water-pollution-control-plant>>. Accessed April 28, 2021.

<sup>92</sup> Chico, City of. 2010. 2030 General Plan Update Draft Environmental Impact Report. Available: <[https://chico.ca.us/sites/main/files/file-attachments/chicodeir\\_combined\\_noappendices.pdf?1577755314](https://chico.ca.us/sites/main/files/file-attachments/chicodeir_combined_noappendices.pdf?1577755314)>. Accessed March 29, 2021.

community, which would help to reduce impermeable groundcover and stormwater flows to the City's drainage facilities. Therefore, **no impact** related to need for construction or expansion of stormwater drainage facilities and infrastructure would occur.

### **Electric Power Facilities/Infrastructure**

Electric power service in the City is provided by Pacific Gas & Electric (PG&E). CAP Actions E-3-2, E-3-3, E-3-7, and E-4-1 through E-4-4 promote building electrification of existing buildings and installation of solar PV systems and battery storage facilities to provide greener renewable electricity within the City. In addition, CAP Measure E-1 would implement electricity policy changes to automatically enroll accounts in a 100 percent renewable electricity option by 2024, with an opt-out option available to customers. In addition, CAP Measure T-2 encourages new electric vehicle infrastructure throughout the City. These measures may slightly alter electricity demand within the City. However, the CAP Update would serve as a pathway to reduce GHG emissions, including emissions related to energy consumption, and other beneficial environmental and sustainability effects. These benefits include a reduction in energy consumption. Therefore, the CAP Update would result in a **less-than-significant impact** related to construction, expansion, or relocation of electric power facilities and infrastructure.

### **Natural Gas Power Facilities/Infrastructure**

PG&E provides natural gas services to the City. The CAP would not involve new land uses that require new or additional natural gas service that could require the construction of new or expanded natural gas facilities. CAP Measures E-2 and E-3 would encourage building electrification in new and existing buildings to reduce natural gas consumption within the City. Implementation of these measures could involve minor alterations to existing natural gas infrastructure as natural gas use is reduced. However, the CAP Update would serve as a pathway to reduce GHG emissions, including emissions related to energy consumption, and other beneficial environmental and sustainability effects. These benefits include a reduction in natural gas consumption. Therefore, the CAP Update would result in a **less-than-significant impact** related to construction, expansion, or relocation of natural gas facilities and infrastructure.

### **Telecommunications Facilities/Infrastructure**

The City is served by existing telecommunications companies such as AT&T and Comcast. The CAP Update would not alter existing telecommunications facilities and infrastructure and would not involve new land uses or development that would require new telecommunications infrastructure. Therefore, the CAP would result in **no impact** related to need for construction or expansion of telecommunication facilities and infrastructure.

*19b, 19c. Would the project have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years? Would the project result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?*

The CAP Update is a policy-level document that does not include site-specific infrastructure designs or project proposals, nor does it grant entitlements for development that would have the potential to increase demand for water supply or other utility services. Implementing the CAP Update would not result in new residential, commercial, agricultural, or industrial construction and would have no

effect on water demand and wastewater treatment demand. Thus, the CAP Update would result in **no impact** related to water supply and wastewater treatment.

*19d, 19e. Would the project generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals? Would the project comply with federal, State, and local management and reduction statutes and regulations related to solid waste?*

North Valley Waste Management and Recology Butte Colusa Counties provide solid waste services within the City. The City maintains a compost facility that accepts commercial and residential green waste. Municipal solid waste generated in Chico is primarily disposed of at the Neal Road Recycling and Sanitary Waste Landfill operated by Butte County. The Neal Road Recycling and Sanitary Waste Landfill has a maximum permitted throughput of 1,500 tons of solid waste per day and has a remaining capacity of 20,847,970 cubic yards.<sup>93</sup>

The CAP Update focuses on sustainable infrastructure development and does not include land use or other policy changes that would result in increased residential, commercial, or other development that would increase solid waste generation within the City. CAP Measure W-1 seeks to increase participation in organic waste recovery and diversion to achieve a 75 percent reduction in organic waste by 2025, as well as generally decreasing the amount of waste produced within the City. Action W-1-1 would require residential and commercial organic waste generators to participate in organic waste collection programs. Action W-1-2 would require the City to pass an edible food recovery ordinance. Actions W-1-3 through W-1-5 would involve pilot programs and capacity planning exercises to better understand how organic waste and edible waste recovery can be increased within the City. These CAP Measures and Actions align with federal, State, and local regulations aimed at reducing solid waste disposal and increase organic waste diversion, such as Senate Bill 1383. While these measures may result in changes to local solid waste recovery services, the CAP would not facilitate habitable development and, thus, would not result in increased solid waste collection and disposal demand. Additionally, because the CAP is a policy document that would not facilitate growth beyond that anticipated by the General Plan, it would not generate solid waste in excess of State or local standards. Therefore, the CAP Update would result in **no impact** related to solid waste.

## Cumulative Impacts

The cumulative projects scenario is overall General Plan buildout for Chico in 2030. CAP Update projects, in combination with other cumulative projects anticipated under General Plan buildout within the City, could result in increases in population and additional use of or need for utilities and service systems. However, implementation of the CAP Update and related infrastructure projects would not result in increases in population or induce additional population growth that would require additional use of existing City utilities or service systems. Rather, implementation of the CAP Update would result in reduced energy consumption and solid waste production. Therefore, implementation of the CAP Update would result in a **less-than-significant cumulative impact** related to utilities and service systems.

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<sup>93</sup> California Department of Resources Recovery and Recycling (CalRecycle). 2021. WIS Facility/Site Activity Details: Neal Road Recycling and Waste Facility. Available: <<https://www2.calrecycle.ca.gov/SolidWaste/SiteActivity/Details/110?siteID=108>>. Accessed April 28, 2021.



## 20 Wildfire

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:				
a. Substantially impair an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Due to slope, prevailing winds, and other factors, exacerbate wildfire risks and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c. Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d. Expose people or structures to significant risks, including downslopes or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

20a-20d. *If located in or near State responsibility areas or lands classified as very high fire hazard severity zones, would the project:*

- *Substantially impair an adopted emergency response plan or emergency evacuation plan?*
- *Due to slope, prevailing winds, and other factors, exacerbate wildfire risks and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?*
- *Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?*
- *Expose people or structures to significant risks, including downslopes or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?*

According to CalFIRE, the majority of the City of Chico is not located in designated California Fire Hazard Severity Zones, and the City is not located in a State Responsibility Area.<sup>94</sup> There is an area of moderate fire hazard in the northwestern portion of the City, adjacent to the Chico Municipal Airport, as well as areas of very high fire hazard in the northeastern portion of the City within Upper Bidwell Park located within the Sierra Nevada foothills. In addition, areas surrounding the City limits to the east of State Route 99 are categorized as between moderate to very high fire hazard risk.<sup>92</sup>

Though there are areas within and surrounding the City that are at risk of wildfires, the CAP is a policy-level document that does not propose new residential, commercial, or institutional development that could be at risk from wildfire, nor does it grant entitlements for development that would have the potential to directly cause wildfire. In addition, the CAP Update includes measures to promote infill development and reduce urban sprawl at the urban-wildland interface and reduce natural gas infrastructure that poses wildfire risk if damaged during seismic events. Thus, the CAP Update would result in **no impact** related to wildfire.

### Cumulative Impacts

The cumulative projects scenario is overall General Plan buildout for Chico in 2030. CAP Update projects, in combination with other cumulative projects anticipated under General Plan buildout, that include new habitable development would not be located in areas designated as very high fire hazard severity zones, given that such designations only exist within Bidwell Park, which is designated or zoned for development. In addition, the CAP Update does not include new habitable development that could be at risk from wildfire, nor does it grant entitlements for development that would have the potential to cause wildfire. Therefore, the CAP Update would result in **no cumulative impact** related to wildfire.

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<sup>94</sup> California Department of Forestry and Fire Protection (CalFIRE). 2021. Fire Hazard Severity Zone Viewer. Available: <<https://egis.fire.ca.gov/FHSZ/>>. Accessed April 14, 2021.

## 21 Mandatory Findings of Significance

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Does the project:				
a. Have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Have impacts that are individually limited, but cumulatively considerable? (“Cumulatively considerable” means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. Have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

*21a. Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?*

The intent of the CAP Update is to reduce GHG emissions from Chico community operations through implementation of measures and actions related to energy use, transportation, solid waste, carbon sequestration, and community education and outreach. The CAP measures are consistent with the Chico General Plan and encourage residents, businesses, and the City to reduce energy, fuel use, VMT, and solid waste generation and the associated GHG emissions. The CAP Update would not facilitate development that would eliminate or threaten wildlife habitats or eliminate important examples of the major periods of California history or prehistory. Therefore, as discussed in more detail in Section 4, *Biological Resources*, Section 5, *Cultural Resources*, and Section 18, *Tribal Cultural*

*Resources*, the CAP Update would result in a **less-than-significant impact** related to biological and cultural resources.

*21b. Does the project have impacts that are individually limited, but cumulatively considerable? (“Cumulatively considerable” means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?*

Implementation of the CAP Update would result in a cumulatively beneficial reduction of GHG emissions across the City. In addition, as discussed throughout the respective cumulative impacts discussions within this document, the CAP Update would not result in significant cumulative impacts. Rather, implementation of the CAP Update would be consistent with General Plan policies aimed at reducing emissions of GHGs and air pollutants, reducing VMT, reducing energy supply demands on utilities, and decreasing solid waste generation. Therefore, the CAP Update would result in an overall **less-than-significant cumulative impact** related to all CEQA topics addressed within this document.

*21c. Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?*

In general, impacts to human beings are associated with air quality, greenhouse gas emissions and climate change, hazards and hazardous materials, and noise impacts. As detailed in the preceding sections, the project would not result, either directly or indirectly, in substantial adverse effects related to air quality, greenhouse gas emissions, hazards, and noise. As discussed in more detail in Section 3, *Air Quality*, Section 13, *Noise*, and Section 17, *Transportation*, the CAP Update could cause temporary construction impacts related to transportation, air quality, and noise that could, in turn, affect human beings but would not result in a substantial adverse effects. Rather, as discussed throughout this document, the CAP would serve as a pathway to reduce GHG emissions and would result in other positive environmental and sustainability effects. These benefits include reduction in building energy consumption and VMT, and solid waste generation and would improve air quality. Therefore, the CAP Update would result in a **less-than-significant impact** related to potential for adverse effects on human beings.

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Rincon prepared this CAP Update Initial Study-Negative Declaration under contract to the City of Chico. Persons involved in data gathering, environmental impact analysis, quality review, graphics preparation, and document formatting include the following.

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# Appendix A

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Sources, Health Effects, and Typical Controls Associated with Criteria Pollutants

### Sources, Health Effects, and Typical Controls Associated with Criteria Pollutants

Pollutant	Sources	Health Effects	Typical Controls
Ozone (O <sub>3</sub> )	Formed when reactive organic gases (ROG) and nitrogen oxides react in the presence of sunlight. ROG sources include any source that burns fuels (e.g., gasoline, natural gas, wood, oil); solvents; petroleum processing and storage.	Breathing difficulties, lung tissue damage, vegetation damage, damage to rubber and some plastics.	Reduce motor vehicle reactive organic gas (ROG) and nitrogen oxide (NO <sub>x</sub> ) emissions through emission standards, reformulated fuels, inspections programs, and reduced vehicle use. Limit ROG emissions from commercial operations, gasoline refueling facilities, and consumer products. Limit ROG and NO <sub>x</sub> emissions from industrial sources such as power plants and manufacturing facilities.
Carbon monoxide (CO)	Any source that burns fuel such as automobiles, trucks, heavy construction and farming equipment, residential heating.	Chest pain in heart patients, headaches, reduced mental alertness.	Control motor vehicle and industrial emissions. Use oxygenated gasoline during winter months. Conserve energy.
Nitrogen dioxide (NO <sub>2</sub> )	See Carbon Monoxide.	Lung irritation and damage. Reacts in the atmosphere to form ozone and acid rain.	Control motor vehicle and industrial combustion emissions. Conserve energy.
Sulfur dioxide (SO <sub>2</sub> )	Coal or oil burning power plants and industries, refineries, diesel engines.	Increases lung disease and breathing problems for asthmatics. Reacts in the atmosphere to form acid rain.	Reduce use of high sulfur fuels (e.g., use low sulfur reformulated diesel or natural gas). Conserve energy.
Respirable particulate matter (PM <sub>10</sub> )	Road dust, windblown dust, agriculture and construction, fireplaces. Also formed from other pollutants (NO <sub>x</sub> , SO <sub>x</sub> , organics).	Increased respiratory disease, lung damage, cancer, premature death, reduced visibility, surface soiling.	Control dust sources, industrial particulate emissions, woodburning stoves and fireplaces. Reduce secondary pollutants which react to form PM <sub>10</sub> . Conserve energy.
Fine particulate matter (PM <sub>2.5</sub> )	Fuel combustion in motor vehicles, equipment, and industrial sources; residential and agricultural burning. Also formed from reaction of other pollutants (NO <sub>x</sub> , SO <sub>x</sub> , organics, and NH <sub>3</sub> ).	Increases respiratory disease, lung damage, cancer, and premature death, reduced visibility, surface soiling. Particles can aggravate heart diseases such as congestive heart failure and coronary artery disease.	Reduce combustion emissions from motor vehicles, equipment, industries, and agricultural and residential burning. Precursor controls, like those for ozone, reduce fine particle formation in the atmosphere.
Lead	Metal smelters, resource recovery, leaded gasoline, deterioration of lead paint.	Learning disabilities, brain and kidney damage. Control metal smelters.	No lead in gasoline or paint.
Sulfur Dioxide (SO <sub>2</sub> )	Coal or oil burning power plants and industries, refineries, diesel engines.	Increases lung disease and breathing problems for asthmatics. Reacts in the atmosphere to form acid rain.	Reduce use of high sulfur fuels (e.g., use low sulfur reformulated diesel or natural gas). Conserve energy.
Sulfates	Produced by reaction in the air of SO <sub>2</sub> , (see SO <sub>2</sub> sources), a component of acid rain.	Breathing difficulties, aggravates asthma, reduced visibility.	See SO <sub>2</sub>

Pollutant	Sources	Health Effects	Typical Controls
Hydrogen Sulfide	Geothermal power plants, petroleum production and refining, sewer gas.	Nuisance odor (rotten egg smell), headache and breathing difficulties (higher concentrations).	Control emissions from geothermal power plants, petroleum production and refining, sewers, and sewage treatment plants.
Visibility Reducing Particulates	See PM <sub>2.5</sub>	Reduced visibility (e.g., obscures mountains and other scenery), reduced airport safety.	See PM <sub>2.5</sub>
Vinyl Chloride	Exhaust gases from factories that manufacture or process vinyl chloride (construction, packaging, and transportation industries).	Central nervous system effects (e.g., dizziness, drowsiness, headaches), kidney irritation, liver damage, liver cancer.	Control emissions from plants that manufacture or process vinyl chloride, installation of monitoring systems.
Toxic Air Contaminant (TAC)	Combustion engines (stationary and mobile), diesel combustion, storage and use of TAC-containing substances (i.e., gasoline, lead smelting, etc.)	Depends on TAC, but may include cancer, mutagenic and/or teratogenic effects, other acute or chronic health effects.	Toxic Best Available Control Technologies (T-BACT), limit emissions from known sources.

Source: Compiled by Rincon Consultants, Inc. in May 2021

# Appendix B

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Description of Greenhouse Gases of California Concern





### Description of Greenhouse Gases of California Concern

Greenhouse Gas	Physical Description and Properties	Global Warming Potential (100 years)	Atmospheric Residence Lifetime (years)	Sources
Carbon dioxide (CO <sub>2</sub> )	Odorless, colorless, natural gas.	1	50–200	Burning coal, oil, natural gas, and wood; decomposition of dead organic matter; respiration of bacteria, plants, animals, and fungus; oceanic evaporation; volcanic outgassing; cement production; land use changes
Methane (CH <sub>4</sub> )	Flammable gas and is the main component of natural gas.	28 <sup>95</sup>	12	Geological deposits (natural gas fields) extraction; landfills; fermentation of manure; and decay of organic matter
Nitrous oxide (N <sub>2</sub> O)	Nitrous oxide (laughing gas) is a colorless GHG.	298	114	Microbial processes in soil and water; fuel combustion; industrial processes
Chloro-fluoro-carbons (CFCs)	Nontoxic, nonflammable, insoluble, and chemically unreactive in the troposphere (level of air at the Earth's surface); formed synthetically by replacing all hydrogen atoms in methane or ethane with chlorine and/or fluorine atoms.	3,800–8,100	45–640	Refrigerants aerosol propellants; cleaning solvents
Hydro-fluoro-carbons (HFCs)	Synthetic human-made chemicals used as a substitute for CFCs and contain carbon, chlorine, and at least one hydrogen atom.	140 to 11,700	1–50,000	Automobile air conditioners; refrigerants
Per-fluoro-carbons (PFCs)	Stable molecular structures and only break down by ultraviolet rays about 60 kilometers above Earth's surface.	6,500 to 9,200	10,000–50,000	Primary aluminum production; semiconductor manufacturing
Sulfur hexafluoride (SF <sub>6</sub> )	Human-made, inorganic, odorless, colorless, and nontoxic, nonflammable gas.	22,800	3,200	Electrical power transmission equipment insulation; magnesium industry, semiconductor manufacturing; a tracer gas

<sup>95</sup> The City of Chico used a 20-year Global Warming Potential for methane.

Greenhouse Gas	Physical Description and Properties	Global Warming Potential (100 years)	Atmospheric Residence Lifetime (years)	Sources
Nitrogen trifluoride (NF <sub>3</sub> )	Inorganic, is used as a replacement for PFCs, and is a powerful oxidizing agent.	17,200	740	Electronics manufacture for semiconductors and liquid crystal displays

Source: Compiled by Rincon Consultants, Inc. in May 2021

*City of Chico, California*

# CLIMATE ACTION PLAN UPDATE



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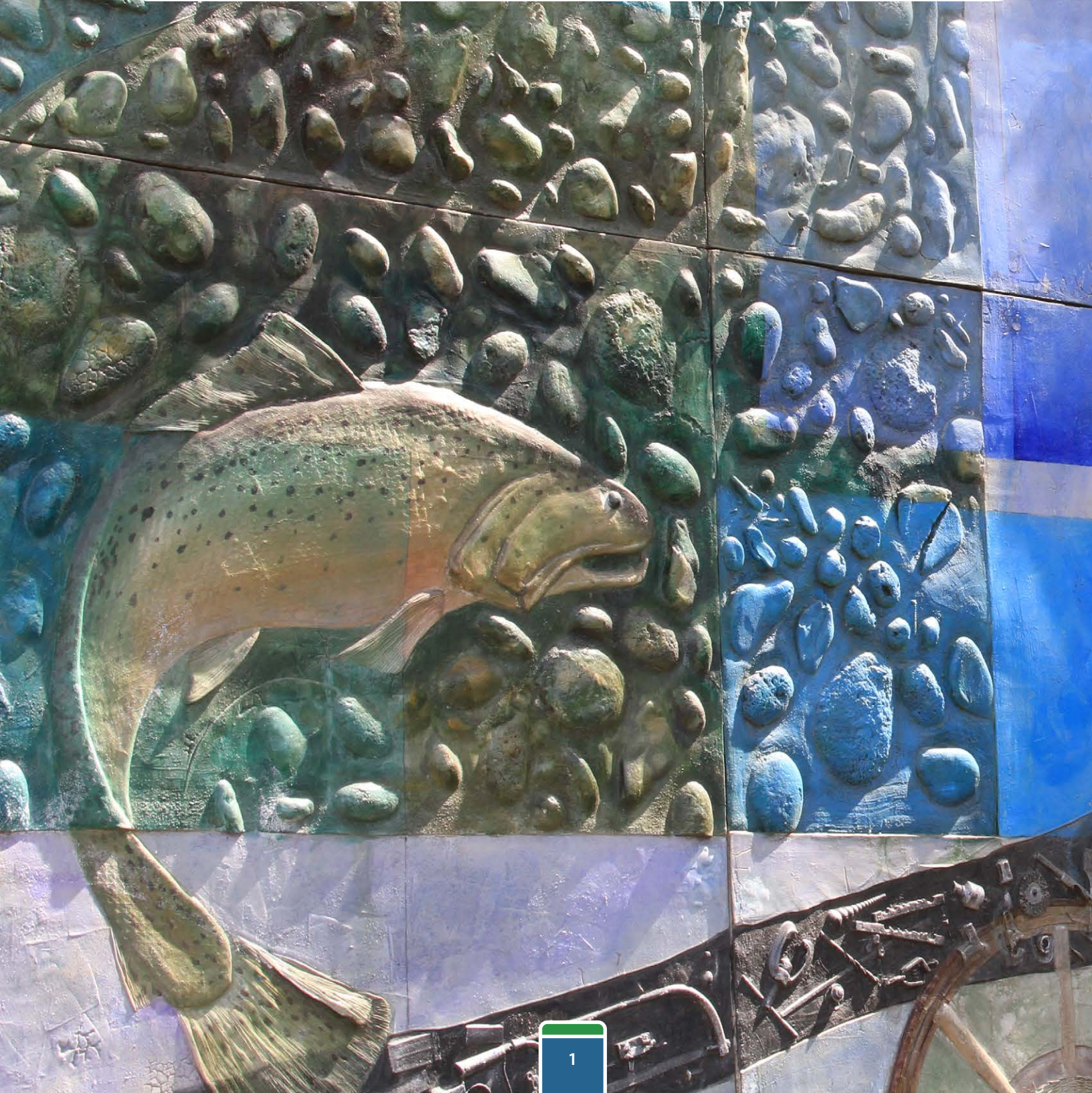
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# 1. INTRODUCTION





## VISION FOR CLIMATE ACTION IN CHICO

The City of Chico appreciates the need to mitigate climate change impacts through the next decade. Heavy rainfall and flooding in 2017 caused the Oroville Dam’s spillways to overflow, prompting the evacuation of more than 180,000 people living downstream. Strong winds and drought conditions in 2018 created the deadliest wildfire in California’s history, which destroyed the town of Paradise and drove a massive influx of climate migrants into Chico. Fire again threatened the region in 2020, when a lightning strike caused the Northern Complex fire in Plumas and Butte Counties. These disasters have put Chico on the front lines of a changing climate.

In response to the need for ambitious climate action, this Climate Action Plan (CAP) includes specific actions to mitigate greenhouse gas (GHG) emissions and achieve the City’s target of carbon neutrality<sup>1</sup> by 2045. Achieving carbon neutrality in Chico will demonstrate a fair share contribution to limiting global temperature rise to below 2 degrees Celsius in this century, which is consistent with the International Panel on Climate Change (IPCC) analysis on what is necessary to reduce the likelihood of catastrophic global climate change. Addressing climate change also presents the community with an opportunity to operate more efficiently and effectively, avoid inequities, and improve health and well-being.

### A NOTE ABOUT COVID-19

The outbreak of the COVID-19 pandemic drastically affected daily life and has highlighted the interdependence of public health, economic and racial equity, and environmental sustainability on a national level. As the nation and local economy begin to recover from the impacts of COVID-19, it has become imperative to plan for a future that aligns economic growth and new development with equity and sustainability. This CAP was developed to balance strategies for a sustainable Chico with the need for economic growth and new development in an equitable and realistic way, serving the overall recovery effort in Chico.



<sup>1</sup> Carbon neutrality refers to achieving net-zero CO<sub>2</sub>e emissions, such that any GHG emissions created are offset by GHG emissions sequestering activities.





## LEADING PRINCIPLES

With drought, fires, and flooding projected to worsen across California over the coming decades due to climate change,<sup>2</sup> Chico has developed this CAP to create a plan for a **safer and more resilient future**. The CAP also strategically positions the community's residents and business-owners to take early advantage of emerging **cost savings** and **economic opportunities** that arise with modernization and new technologies. Additionally, the CAP supports **affordable housing** development, prioritizes **social equity**, improves the **quality of life** for residents, and **engages** the citizens of Chico in ongoing climate action work. These leading principles are described in more detail below.

- **SAFER FUTURE:** Reducing GHG emissions in Chico helps to avoid property damage and loss of life from flooding, fires, heat waves, and drought made worse by climate change.
- **COST SAVINGS:** New technologies and innovative approaches to procuring energy for communities are lowering costs for the average resident and business owner. Taking advantages of these opportunities and implementing them now saves the community money in both the short- and long-term.
- **ECONOMIC OPPORTUNITY:** The CAP presents opportunities for investment and job creation around local energy generation projects such as privately owned solar or battery farms, alternative transportation projects such as shared e-bikes, and all-electric technology installation such as electric heat pumps and water heaters.

- **AFFORDABLE HOUSING:** California's housing crisis weighs heavily on the state, including within Chico. Adoption and implementation of the CAP makes building affordable housing in Chico easier and faster for developers (see the section on CEQA streamlining below).
- **SOCIAL EQUITY:** Chico's CAP is successful only with proper consideration of social equity. The strategies contained in the CAP were developed alongside a comprehensive outreach effort to develop a plan that works equitably for all members of the community.
- **QUALITY OF LIFE:** The CAP includes significant co-benefits for Chico by providing for cleaner air, resilient water sources, and more active and livable neighborhoods.
- **ENGAGED CITIZENS:** Chico cannot act alone. The success of this CAP is dependent on input from and collaboration with the community. Climate action is an iterative process, which will be adjusted with the introduction of new technologies, information, and feedback from the community through ongoing partnerships and community engagement.

The CAP's strategies take a new approach to climate change policy that is actionable, measurable, cost-effective, fiscally responsible, and highly implementable over the course of the next decade.

<sup>2</sup> <https://www.nrdc.org/sites/default/files/climate-change-health-impacts-california-ib.pdf>



## CAP FUNDING AND FINANCING

To help ensure the CAP is both cost-effective and fiscally responsible, the CAP includes a Climate Action Finance Map (Appendix D). The Climate Action Finance Map is a detailed tool that includes funding and financing pathway options to support the measures and actions included in the CAP. Specifically, the map identifies multiple grants, partner sponsorships, state

or utility incentive programs, loans, bonds, fees, and tax pathways to be utilized for implementing the CAP. The City and community costs associated with each CAP action are explained in detail in Chapter 4. By implementing this CAP in concert with the Climate Action Finance Map, the costs of implementation will be minimized.

## CEQA STREAMLINING

This CAP will guide the City of Chico towards reducing GHG emissions consistent with the state goal to reduce GHG emissions 40% below 1990 levels by 2030, established by Senate Bill (SB) 32, and will make substantial progress towards the state's long term goal of carbon neutrality by 2045, established by Executive Order (EO) B-55-18. In addition, this CAP will fulfill the requirements of the California Environmental Quality Act (CEQA) Guidelines § 15183.5(b) to be a qualified GHG reduction plan. Under CEQA, local agencies must evaluate the environmental impacts of new development projects, including impacts from GHG emissions associated with their construction and operation. This process can be cumbersome for local agencies and developers alike and can result in project delays. The CEQA Guidelines provide an option for new projects to streamline the CEQA analysis of GHG emissions by tiering off of a "qualified" GHG reduction plan. Per CEQA Guidelines § 15183.5(b), a qualified GHG reduction plan must:

1. Quantify existing and projected GHG emissions within the plan area.
2. Establish a reduction target based on SB 32.
3. Identify and analyze sector specific GHG emissions from Plan activities.
4. Specify policies and actions (measures) that local jurisdictions will enact and implement over time to achieve a specified reduction target.
5. Establish a tool to monitor progress and amend if necessary.
6. Adopt in a public process following environmental review.

This CAP meets these requirements and provides Chico and its developers with a critical tool to help facilitate development over the next decade. Chico considers this especially important, given the current need for new affordable housing and future development plans.

## HISTORY OF SUSTAINABILITY IN CHICO

Chico has been working to reduce GHG emissions since 2005 and has achieved measurable success. In fact, community-wide emissions have decreased 27% since 2005, exceeding the City's original goal of 25% in the 2020 CAP (Figure 1-1). After accounting for population

increases since 2005, this equates to a 42% decrease in GHG emissions per person, demonstrating that the City is well on its way to achieving the ambitious reductions included in this plan.

Figure 1-1 GHG Emissions Trends in Chico

Since 2005, emissions in Chico have decreased 27% overall and 42% per person, despite a large population increase.

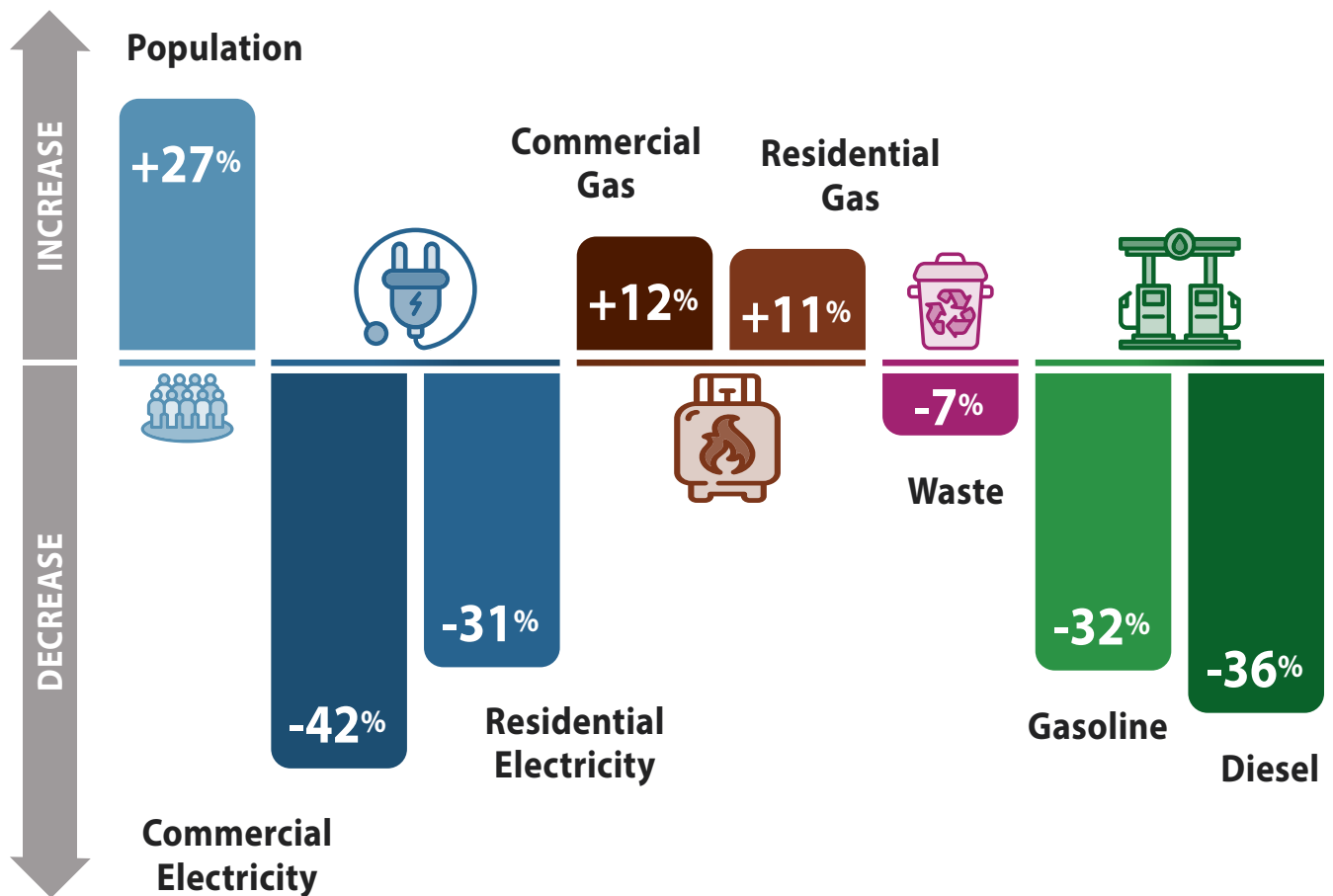
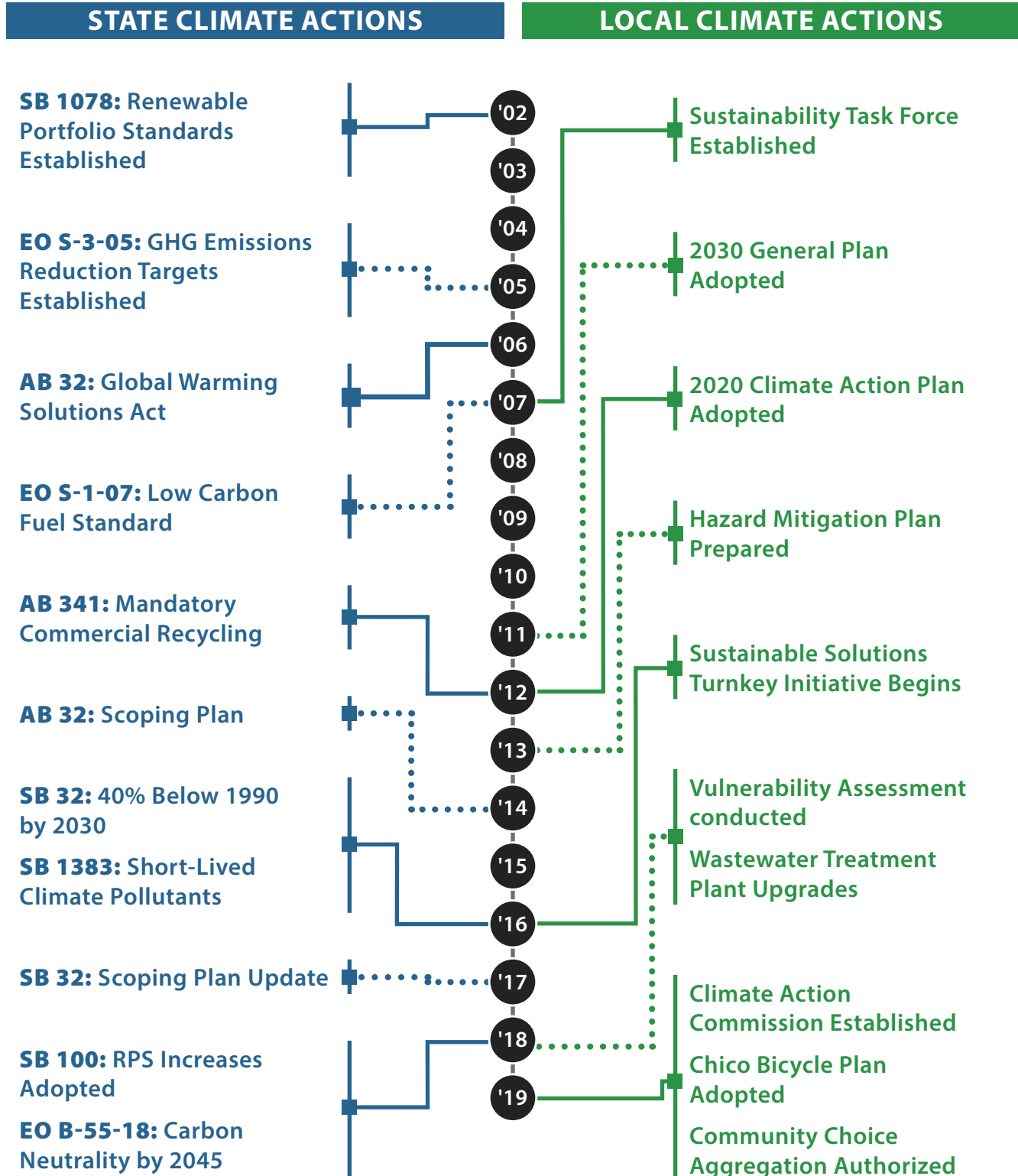




Figure 1-2 State and Local Climate Action





## CLIMATE ACTION COMMISSION SPOTLIGHT

The City of Chico's Climate Action Commission (CAC) was established in 2019 to serve as an advisory body to the City Council on matters related to climate action, adaptation, and resilience. The CAC was an evolution of Chico's Sustainability Task Force, which was created in 2007 after Chico's Mayor signed the Mayor's Climate Protection Agreement. The Sustainability Task Force assisted the City in meeting the objectives of the Mayor's

Agreement, tracked GHG emissions in an annual GHG emissions inventory, and developed the City's first CAP.

The CAC has advised the development of this CAP from its inception and continues to advise City Council on climate action and resiliency throughout Chico.





## COMMUNITY ENGAGEMENT

In addition to feedback and guidance from the Climate Action Commission, Chico's CAP was developed alongside an involved public engagement process. This process consisted of building awareness about the CAP effort, informing the community about Chico's GHG emissions and reduction progress so far, soliciting and obtaining feedback from the community on the plan's context and priorities, engaging the community on Chico-specific climate action issues and policies, and meeting with targeted stakeholders to build policy development consensus. These efforts included:

- **WINTER 2019:** Initial listening sessions led by the Climate Action Commission at the Rotary Club of Chico Sunrise, Butte Environmental Council, CSU Chico, and Chico High School, and Pleasant Valley High School, prior to CAP development kick-off.
- **ONGOING:** Presentations on CAP progress and technical findings at the City's monthly Climate Action Commission meetings for the duration of the CAP development process.
- **MAY/JUNE 2020:** Phase 1 outreach, conducted virtually to mitigate community spread of COVID-19, led by the City and consultant team. A comprehensive list of 350 stakeholders was built and notifications on the virtual outreach event were disseminated in English and Spanish through the City website and social media channels, multiple emails and calls directly to stakeholders, and a news story on Telemundo. Community members participated in a "Check your Chico Knowledge" quiz, watched an animated informational video, and provided feedback in a short online questionnaire in both English and Spanish. **This effort resulted in active engagement from 200 community members.**
- **OCTOBER 2020:** CAP Stakeholder meeting on electrification. The City held a focused electrification stakeholder's working group via Zoom, which solicited discussion and feedback from participants on the CAP's electrification strategy. Participants included representatives from local businesses and business groups that would be affected by the new building electrification ordinance, including Enloe, AOL, Valley Contractor's Exchange, CSU Chico, Chico Builders Association, and North Valley Property Owners.
- **NOVEMBER/DECEMBER 2020:** Phase 2 outreach, conducted virtually to mitigate community spread of COVID-19, led by the City and consultant team. Notifications on the virtual outreach event were disseminated in English and Spanish through the City website and social media channels, notifications to all stakeholders and over 200 community members, and personal calls and emails to 50 high-priority stakeholders. Community members participated in a virtual community workshop in both English and Spanish, consisting of a short informational video and nine-page interactive document which solicited open-ended feedback on key proposed GHG reduction strategies. **The effort reached 4,490 community members and resulted in active engagement from 57 households.**



- **MARCH 2021:** Community Building Electrification Workshop. This workshop was conducted virtually and discussed the pros and cons of electrification, the City's proposed timeline for an electrification ordinance, and featured insights from a local developer on the cost savings associated with constructing all-electric single-family and multi-family homes.

Further details on the outreach conducted including the information shared, stakeholders contacted, activities conducted during the outreach phases, and the results and feedback from the community are included in Appendix A of the CAP. Community input was carefully reviewed during the planning process and incorporated into the CAP. Top community concerns

included the need for clear implementation timelines, impacts of electrification to housing affordability, decreased grid reliability, and affordability of electric appliance adoption. Additional information is provided in the CAP around these concerns, including the implementation timeframe for all actions in Chapter 6, discussion of costs associated with all-electric housing (Chapter 5 and Chapter 7), inclusion of additional actions to increase local grid reliability in the GHG reduction strategy and a discussion of impacts to the grid from electrification (see Measure E-4 in Chapter 6 and grid reliability discussion in Chapter 5), and detailed discussion of the costs associated with electric appliances (Chapter 7).

## EQUITY CONTEXT

The City of Chico understands the importance of incorporating the needs and perspectives of diverse members of the community, particularly those of under-served and underrepresented populations, into the CAP's strategies. Environmental and public health conditions within disadvantaged communities are often impacted by GHG emissions more than other communities, and areas with high concentration of low-income families are more likely to be exposed to pollution and environmental hazards. Some Chico residents live in census tracts among the 25% most disadvantaged in the state.<sup>3</sup> While these community members

would benefit from the outcomes of the CAP such as improved air quality, they may also face disproportionate barriers to implementing proposed CAP strategies, such as transitioning to all-electric appliances. To this end, the City developed CAP actions with a strong consideration for costs to the community, explored in detail in Chapter 5 and Chapter 7, with higher community costs addressed by the Climate Action Finance Map (Appendix D).

<sup>3</sup> CalEnviroScreen 3.0



## THE SCIENCE OF CLIMATE CHANGE

### WHAT IS CLIMATE CHANGE?

Climate change is caused by increasing levels of GHGs in the atmosphere. GHGs trap energy from the sun in earth's atmosphere, a process called the greenhouse effect (Figure 1-3). This effect makes the earth warm enough to sustain life; however, land use changes and combustion of fossil fuels are increasing GHGs in the atmosphere, amplifying the greenhouse effect, and changing global climate patterns. This pattern is widely accepted by the scientific community, with over 97% of climate scientists agreeing that climate change is occurring and that human activities are the root cause.<sup>4</sup>

At the community level, carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), and nitrous oxide (N<sub>2</sub>O) are the most common GHGs, making up 97% of the GHG emissions generated in the United States.<sup>5</sup> GHGs are largely released to the atmosphere via

emissions from the combustion of fossil fuels. This occurs, for example, when gasoline is combusted in a car or natural gas is combusted in a heater or coal is burned to create electricity.

Climate change is projected to cause increasingly hazardous conditions for life on earth, including increased heat waves, wildfires, drought, extreme storms, flooding, and sea level rise. Secondary impacts of climate change include adverse changes to biological resources and public health.<sup>6</sup>

The International Panel on Climate Change (IPCC) projections show that a reduction in GHG emission to carbon neutrality by mid-century is required to limit warming trends to 2.7 degrees Fahrenheit and avoid the worst impacts of climate change.<sup>7</sup>

4 <https://climate.nasa.gov/scientific-consensus/>

5 <https://www.wri.org/blog/2020/02/greenhouse-gas-emissions-by-country-sector>

6 <https://www.nrdc.org/sites/default/files/climate-change-health-impacts-california-ib.pdf>

7 <https://www.ipcc.ch/sr15/chapter/spm/>





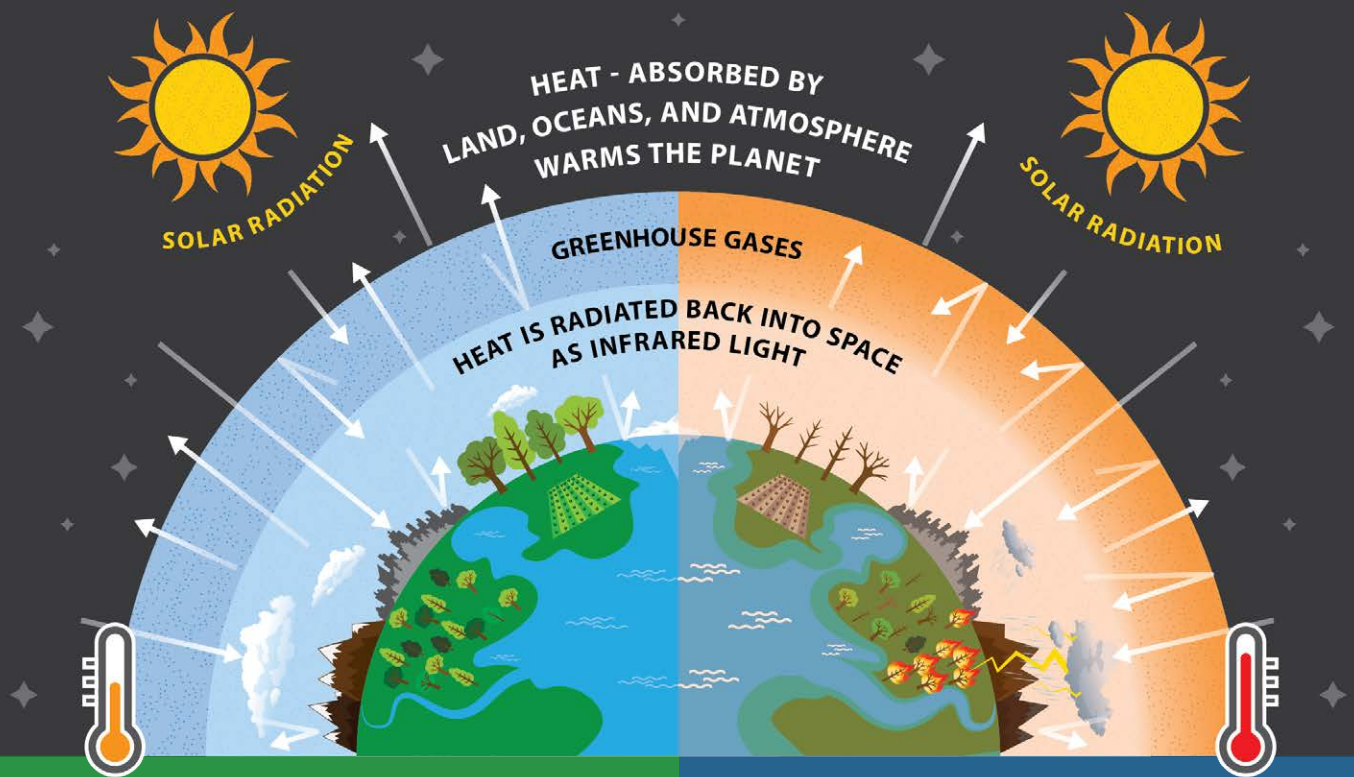
Figure 1-3 Greenhouse Gas Effect and Associated Climate Impacts

# GREENHOUSE GAS EFFECT

Since the advent of the industrial revolution human activities such as burning fossil fuels and deforestation have caused a substantial increase in the concentration of greenhouse gases in the atmosphere.

**THE RESULT: Extra trapped heat and higher global temperatures.**

## WITH NORMAL GREENHOUSE GASES



Some heat continues into space while the rest, trapped by greenhouse gases, help maintain the planet's relatively comfortable temperatures.

**LESS GAS =  
LESS HEAT TRAPPED IN THE ATMOSPHERE**

Retain more reliable:

- Weather
- Temperature
- Rainfall
- Sea Level

Increased greenhouse gases means less heat escapes to space. Between preindustrial times and now, the earth's average temperature has risen by 1.8°F (1.0°C).

**MORE GAS =  
MORE HEAT TRAPPED IN THE ATMOSPHERE**

Results in more intense:

- Storms
- Heat
- Drought
- Sea Level Rise



## How do Cities Contribute to Climate Change?

The main sources of GHG emissions in cities are buildings, transportation, waste, and water. Building emissions are associated with electricity and natural gas used by commercial, residential, and municipal buildings. Transportation emissions are generated by fuels used to power cars, trucks, and off-road vehicles. Waste generates methane emissions from trash (especially organics) decomposing in the landfill. Water emissions are generated by the electricity used to transport water for residential, commercial, and agricultural use, and emissions from wastewater treatment processes.



## How Can Cities Mitigate Climate Change?

Local governments play an important role in reducing local GHG emissions. Local government policies can influence high-emissions behaviors, mitigate climate change effects, and prepare the community for a more resilient future. Cities can exercise their influence through local land use planning, building standards, and public and private partnerships to develop behavior-changing policies. Electricity and even some fuels can be generated through renewable and carbon neutral processes. Through their influence, cities can improve building codes, incentivize alternative transportation options, expand options for waste stream diversion and renewable energy sources, and educate community members about their choices as citizens and customers. This CAP is Chico's next step in a long history of improving sustainability, decreasing GHG emissions, and improving the quality of life for Chico's communities.





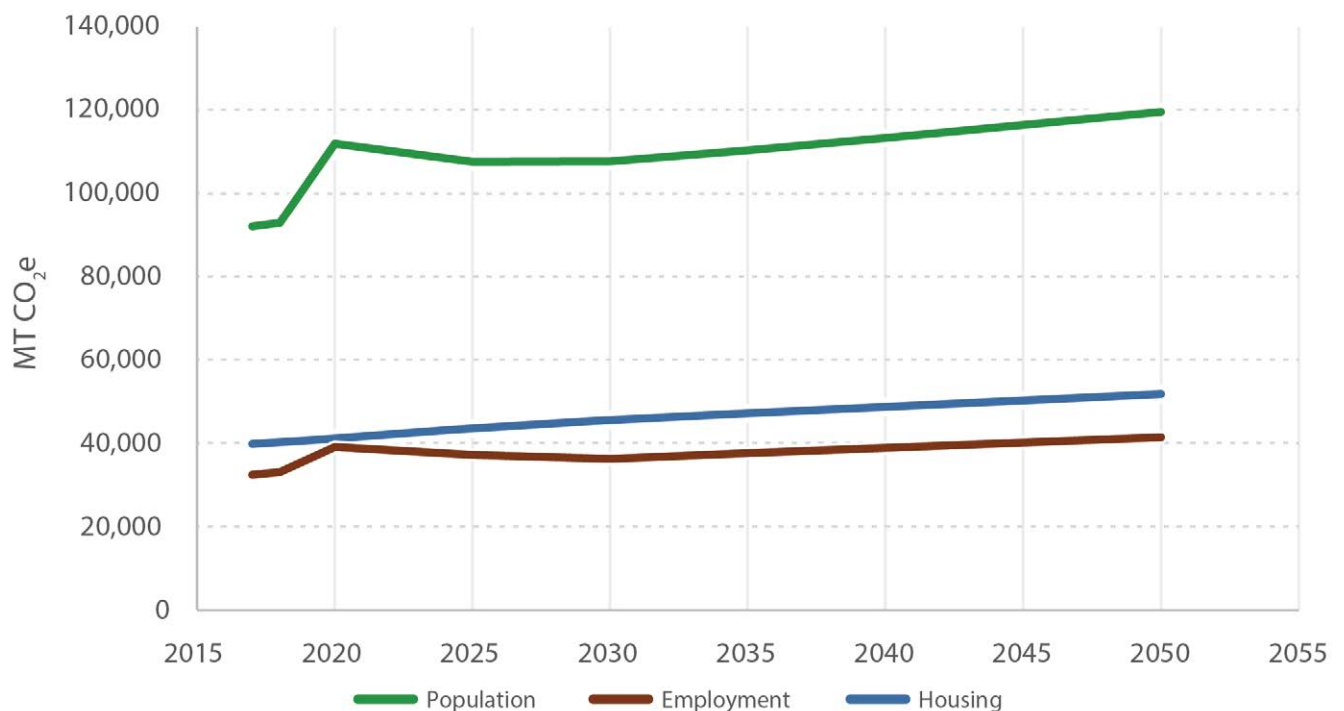
# CLIMATE CHANGE IMPACTS IN CHICO

## CHICO CONTEXT

Located at the northeastern edge of the agriculturally rich Sacramento Valley, Chico is the most populous city in Butte County. The City supports a diverse range of industries, including agriculture, recreation, tourism, health-care, manufacturing, and education. The City is home to California State University, Chico, the second oldest institution in the California State University system, Enloe Medical Center, which serves as the regional medical hospital and level II Trauma Center, and Bidwell Park, which covers 17% of the City’s geographical extent.

Chico was the fastest growing city in California in 2019.<sup>8</sup> The 2018 Camp Fire destroyed the nearby town of Paradise and created 50,000 climate migrants in the region, many of whom moved in with friends and family in Chico, growing the City’s population by 20.7% almost overnight. The Butte County Association of Governments (BCAG) estimates large growth in housing units in Chico through 2030, accompanied by a decrease in population through 2030, as many people temporarily displaced by the Camp Fire move away from Chico (Figure 1-4).

Figure 1-4 Projected Growth in Chico



8 Department of Finance, 2019



Chico’s geographic location, industries, demographics, and future growth together dictate the City’s vulnerabilities to climate change. The City of Chico completed a Vulnerability Assessment in 2018 to outline the potential climate impacts Chico is expected to see in the future. The Vulnerability Assessment includes

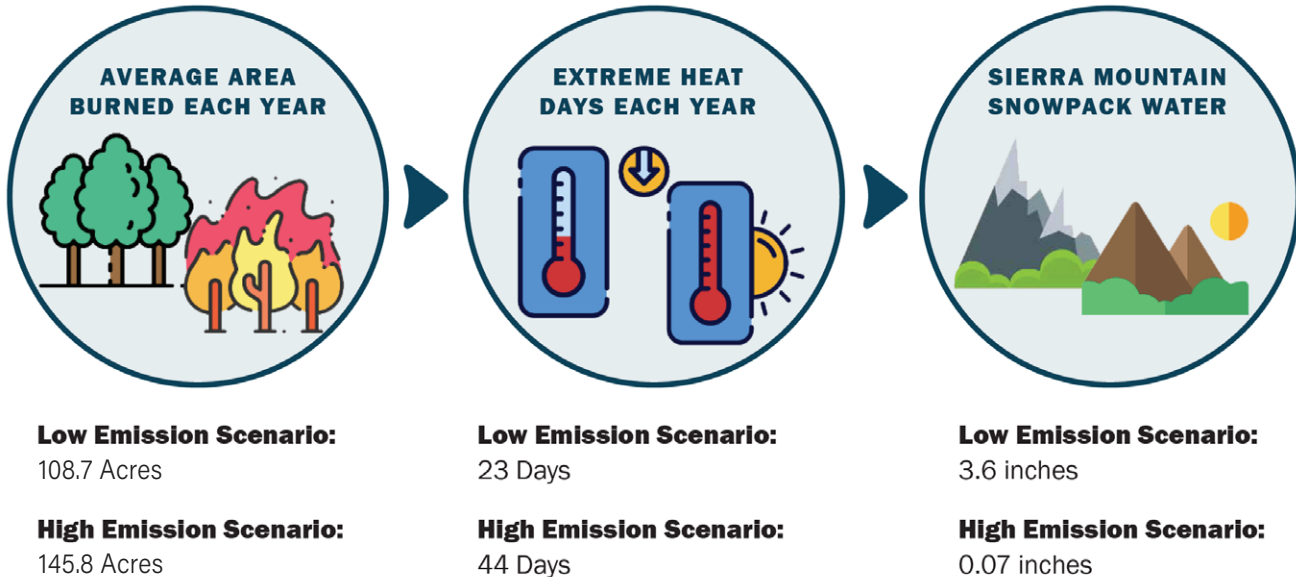
a summary of the City’s efforts to adapt to these impacts. While this CAP primarily focuses on reducing GHG emissions in Chico to mitigate the most significant impacts of climate change, many of the strategies identified will also help prepare the City for future extreme climate events.

## VULNERABILITY ASSESSMENT

The number of extreme temperature days, heat waves, and wildfires vary greatly depending on the amount of GHG emissions that humans emit over time. Increased GHG emissions can reduce snowpack, negatively affecting sensitive habitats like Bidwell Park, and potentially

require human migrations like Chico experienced from the Camp Fire. Climate change impacts in Chico were analyzed in the City’s 2018 Vulnerability Assessment and are expected to affect public health and safety, and the health of the local economy.

**Figure 1-5 Chico Climate Projections at a Glance**



## Public Health and Safety

Adverse impacts from climate change are expected to disproportionately affect vulnerable populations, including people in low-income areas, communities of color, young children

and the elderly, people experiencing homelessness, outdoor workers, and socially or linguistically isolated people. Currently 25.2% of Chico's residents are living in poverty<sup>9</sup> and 1,096 people are considered to be homeless.<sup>10</sup>

## WILDFIRE

Increased temperatures are leading to increased frequency and extent of wildfires across California. The City of Chico has already experienced the devastating effects of

increasing wildfires, after the Camp Fire in 2018 and the Northern Complex Fire in 2020.



### CLIMATE CHANGE IMPACTS IN ACTION – 2018 CAMP FIRE

The massive influx of people from the 2018 Camp Fire exacerbated crime and traffic congestion and put undue pressure on the sewage and waste systems in the City. Lack of housing to accommodate these new people was the single biggest post-fire issue, creating more pressure for affordable housing in a city that already faces a homelessness crisis, like most other cities in California.

The lasting effects of the Camp Fire serve to highlight the importance of maintaining strong development trends in Chico through the future. To align with State GHG reduction goals and build new housing to meet demand, the City of Chico must adopt a new strategy for development. This CAP contains the first steps of this new strategy, making Chico more resilient to future events like the Camp Fire.



Aftermath of the Paradise Fire (Chico Enterprise-Record)

9 United State Census Bureau, 2017

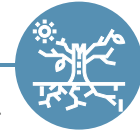
10 2017 Homeless Point in Time Census and Survey Report, 2017



## DROUGHT

Periods of drought are increasing in Chico, leading to decreasing surface water and groundwater availability. This will particularly affect

agricultural output, potentially resulting in decreased food supply and resiliency.<sup>11</sup>



## RESPIRATORY ILLNESS

Local GHG emissions directly affect local air quality. NO<sub>2</sub> emissions from natural gas usage in buildings account for 92% of outdoor NO<sub>2</sub> concentrations in California<sup>12</sup> and are disproportionately linked with respiratory illnesses,

including asthma and COVID-19 mortality.<sup>13</sup> Increased wildfire risk is leading to more frequent periods of low-quality air in Chico, which poses a health hazard to vulnerable populations.



## HEAT-RELATED ILLNESS

The duration and magnitude of heat waves are already increasing in Chico. Cases of heat-related illnesses such as nausea, dizziness, stroke, dehydration, and heat exhaustion are expected to rise and exacerbate pre-existing medical conditions. Vulnerable populations are less

likely or unable to own an air conditioner because they cannot afford to pay the utility bill, which tends to be higher in low-income populations living in aging buildings with poor insulation and ventilation.



## ECOLOGICAL DEGRADATION AND DISEASE

The changing climate is affecting biological resources and ecological function in Chico, especially in spaces like Bidwell Park that span multiple habitat types. Decreasing ecological function can lead to faster-spreading diseases, to which humans and crops may be vulnerable.



<sup>11</sup> <https://www.csuchico.edu/sustainability/doc-library/chico-climate-change-vulnerability-assessment.pdf>

<sup>12</sup> EPA National Emissions Inventory, 2017

<sup>13</sup> American Lung Association



## Health of the Local Economy

Climate change is expected to disproportionately affect small and medium businesses in Chico due to lack of capital and resources

combined with a low number of operational facilities. Climate change is also forcing the business-as-usual approach to infrastructure and energy to become more expensive.

## POWER OUTAGES

High temperatures and winds decrease the efficiency of power lines and can lead to power

outages and blackouts, limiting and disrupting operations of businesses.



## IMPACTS TO INFRASTRUCTURE

Climate change can impact Chico's infrastructure. High temperatures cause excessive roadway degradation and increased pressure on the structural joints in bridges. Increased flood

events and wildfires cause considerable property damage. These changes will lead to increased infrastructure costs for taxpayers, residents, and businesses owners.



## COST OF NATURAL GAS

Residential natural gas usage is projected to decline 25% by 2050 due to increased energy efficiency.<sup>14</sup> This will lead to dramatically increased natural gas prices to maintain the high costs of natural gas infrastructure. This is expected to disproportionately affect residents and businesses who rely on natural gas for cooking and heating.



<sup>14</sup> <https://gridworks.org/initiatives/cagas-system-transition/>





# 2. GREENHOUSE GAS EMISSIONS IN CHICO





## CONDUCTING A GHG EMISSIONS INVENTORY

Conducting a GHG emissions inventory for a community consists of identifying the major GHG-generating activities from residents and businesses operating in the community, collecting summary data on those activities for a calendar year, then converting the collected data to GHG emissions using science-based GHG emissions factors. Inventories measure GHG emissions in units of metric tons of carbon dioxide equivalent, or MT CO<sub>2</sub>e. One MT is equivalent to 2,205 pounds, roughly the weight of 220 house cats. The average car produces one MT of CO<sub>2</sub>e by driving from Chico to Atlanta. Charging 127,000 smartphones also produces roughly one MT of CO<sub>2</sub>e. Alternatively, growing 16.5 tree seedlings in Bidwell Park for 10 years removes 1 MT of CO<sub>2</sub>e from the atmosphere.<sup>15</sup>

Various protocols currently exist to guide the development of GHG emissions inventories. Chico's inventory methods rely on the U.S. Community Protocol for Accounting and Reporting Greenhouse Gas Emissions (Version 1.2) and are consistent with the methodologies employed by other cities throughout the State of California.

The U.S. Community Protocol for Accounting and Reporting Greenhouse Gas Emissions (Version 1.2) separates a city's GHG-generating activities into categories known as emissions sectors. These emissions sectors broadly describe where GHG emissions are coming from within a city and are under some level of the city's jurisdictional control. For example, large emissions sectors for cities include the

transportation sector (which captures combustion emissions from cars and other vehicles operating within the city), the building sector (which captures emissions from electricity, natural gas, and other energy source usage within the city), and the waste sector (which captures emissions from sending solid waste to the landfill).

Not all GHG-generating activities within a city are included in a GHG emissions inventory for a CAP. Excluded activities are generally those that cannot be controlled or influenced by city policies, and are therefore of little relevance to a city planning document such as a CAP. For example, the emissions associated with the production of goods coming into the community are often excluded from inventories because the choice of which goods to buy is entirely up to the individual consumer, and is typically not influenced by a local government. Combustion emissions from cars traveling through a city, whose origins and destinations are outside of city limits, are also typically excluded because a local government cannot reasonably influence this pass-through travel activity.

<sup>15</sup> <https://www.epa.gov/energy/greenhouse-gas-equivalencies-calculator>



### CHICO'S GHG EMISSIONS INVENTORY

The City of Chico has conducted a GHG emissions inventory of community-wide GHG emissions for each year between 2005 and 2017. The 2017 inventory was used for this CAP as the most up-to-date picture of GHG emissions in Chico.

Chico's annual inventories include emissions from gasoline and diesel sales, electricity and natural gas usage in homes, offices, and other residential and commercial buildings, and waste sent to the landfill from all residential

and commercial properties. Typically, water and wastewater are included in community inventories, but these sources of GHG emissions were captured by the electricity sector. See Appendix B for more information about the data used and how GHG emissions were calculated for Chico's 2017 inventory.



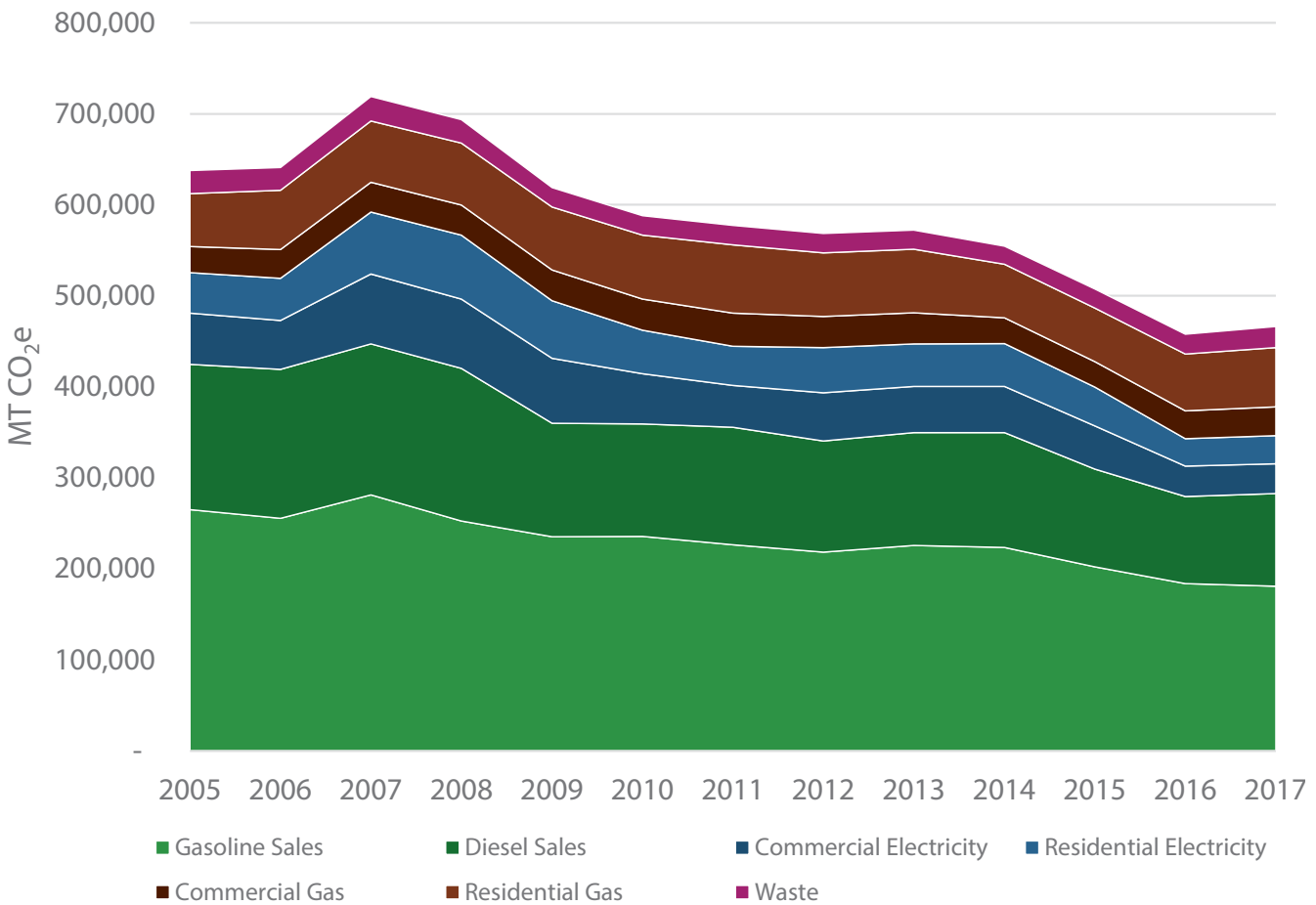


## GHG EMISSIONS OVER TIME

The results of the GHG emissions inventories completed for 2005 through 2017 show a strong decreasing trend in Chico’s emissions over time, as shown in Figure 2-1. In fact, Chico’s GHG emissions have decreased 27% overall since 2005, despite a population increase of

approximately 27%. With this GHG emissions reduction, Chico has exceeded its goal to reduce its GHG emissions in 2020 by 25%, the equivalent of taking 9,326 passenger vehicles off the road for one year, or preserving 292 acres of U.S. forest from conversion to cropland.

**Figure 2-1 History of GHG Emissions in Chico**



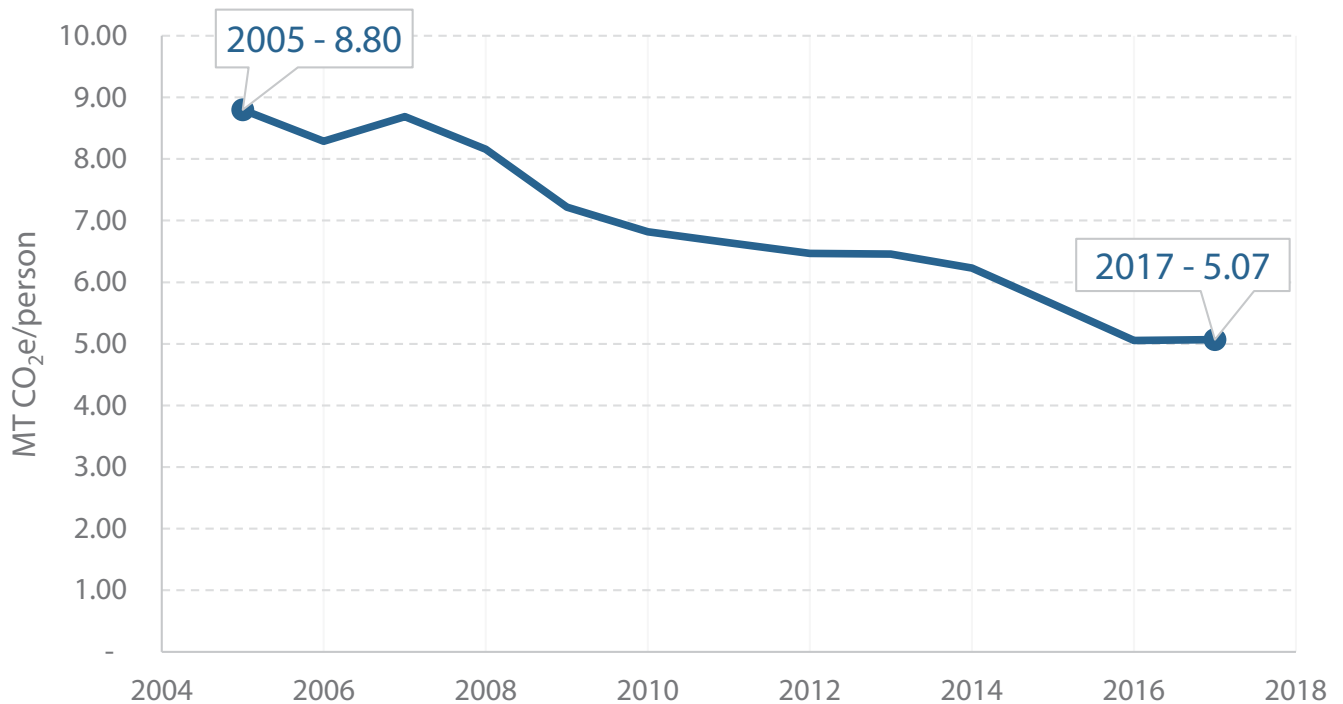


## 2. GREENHOUSE GAS EMISSIONS IN CHICO

Looking at total or absolute emissions shows that Chico’s emissions have decreased over time. In some cases, a more telling metric can be emissions per person, or per capita emissions. Per capita emissions divide a city’s total annual emissions by a city’s population in that year. Over time, as emissions decreased and population increased in Chico, this resulted in an even

greater decrease in per capita emissions. In fact, per capita emissions have decreased 42% between 2005 and 2017 – an even larger percent decrease than absolute emissions (Figure 2-2). This larger per capita decrease was driven primarily by decreases in gasoline and diesel sales, and reductions in the carbon intensity of electricity (driven by the state).

**Figure 2-2 Chico’s Per Capita GHG Emissions**



**Since 2005, emissions in Chico have decreased 27% overall and 42% per person, despite a large population increase.**



## CURRENT GHG EMISSIONS IN CHICO – 2017 INVENTORY RESULTS

While Chico has done a good job reducing its GHG emissions overall, gasoline and diesel sales for passenger and commercial vehicles were still the largest contributors to Chico’s GHG emissions in 2017, followed by natural gas usage by commercial and residential buildings, electricity by commercial and residential buildings, and waste sent to the landfill (Figure 2-3).

Total emissions in Chico in 2017 were 466,366 MT CO<sub>2</sub>e, equivalent to 5.07 MT CO<sub>2</sub>e per person (Table 2-1). The 2017 inventory is the most up-to-date reference point for Chico’s GHG emissions, and is considered the baseline for the GHG emissions analysis in this CAP. See Appendix B for a full accounting of the data and methods used for Chico’s inventory.

Figure 2-3 Chico’s 2017 GHG Emissions

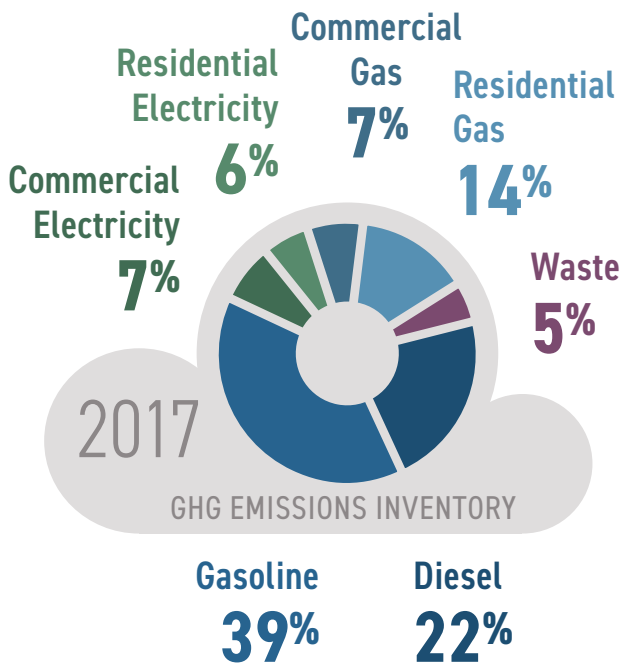


Table 2-1 Chico’s 2017 GHG Emissions

Emissions Sector	2017 GHG Emissions (MT CO <sub>2</sub> e)
Residential Electricity	30,757
Commercial Electricity	32,658
Residential Natural Gas	64,769
Commercial Natural Gas	31,926
Gasoline	181,031
Diesel	101,854
Landfilled Waste	23,372
<b>Total Emissions</b>	<b>466,366</b>
Emissions per person	5.07



## GHG EMISSIONS FORECAST – FUTURE EMISSIONS IN CHICO

Using the 2017 inventory, the City developed a GHG emissions forecast. The forecast provides an estimate for how Chico's GHG emissions will look in the future, based primarily on projected population and job growth in the City.<sup>16</sup> This allows the City to see where it is headed, and how much it needs to reduce emissions in order to meet the GHG emissions reduction targets for 2030 and 2045 (Figure 2-5).

In order to clearly demonstrate how Chico's emissions look in the future, two forecasts were developed – a business-as-usual (BAU) and adjusted forecast. The BAU forecast shows what Chico's emissions would look like if population and job growth were the only drivers for GHG-generating activities, essentially assuming that per capita emissions remain constant. The adjusted forecast adjusts the BAU forecast to account for state-level legislation and policies that are expected to reduce emissions for all jurisdictions in California.

The state legislation and policies included in the adjusted forecast are the Advanced Clean Cars Program, Title 24 Building Energy Efficiency Standards, and California Renewable Portfolio Standard (RPS).<sup>17</sup> The Advanced Clean Cars Program is a comprehensive car emissions control program which regulates smog, soot causing pollutants, and GHG emissions into a

single coordinated package of requirements for passenger cars and light trucks model years 2017 through 2025 to reduce California's GHG emissions by 34 percent in 2025.<sup>18</sup> Title 24 Building Energy Efficiency Standards regulate new residential and commercial development in California by requiring increased efficiency related to space heating and cooling, lighting, and water heating. The California RPS program requires investor-owned utilities, publicly owned utilities, electric service providers, and community choice aggregators to increase procurement from renewable energy resources. For example, electricity service providers must procure electricity from 50% renewable resources by 2026, 60% by 2030, and 100% by 2045, leading to significant statewide decreases in electricity emissions. See Appendix B for more information on these programs and policies.

<sup>16</sup> Job and population growth were provided by Butte County Association of Governments (BCAG)

<sup>17</sup> California's Short Lived Climate Pollutant Reduction Strategy (SB 1383), which requires jurisdictions to reduce organic waste sent to the landfill 75% below 2014 levels by 2025 was not included in the adjusted forecast because this strategy will be implemented at the jurisdictional level. However, programs 1383 was the driver for Chico's strategy for reducing waste emissions in this CAP, and was therefore included as an expected reduction in Chico's emissions resulting from the CAP (see Chapter 5).

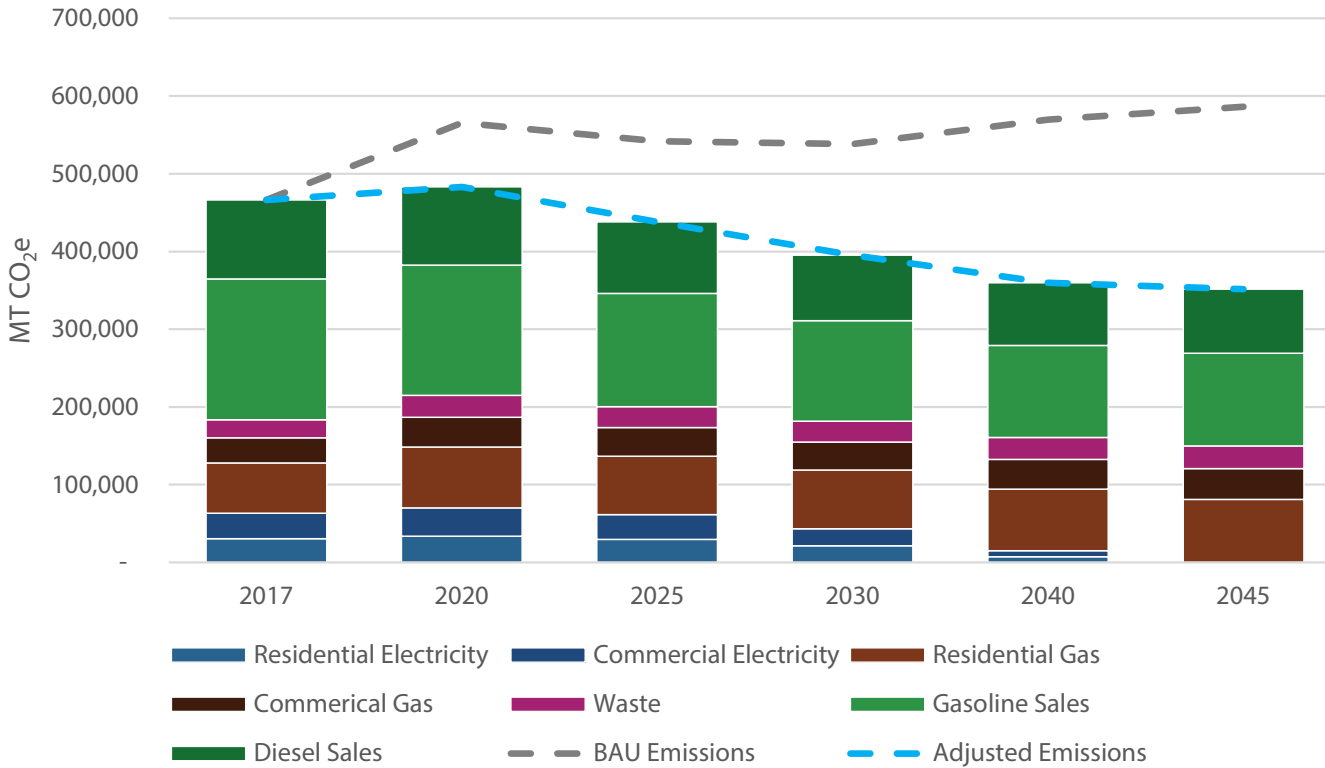
<sup>18</sup> <https://ww2.arb.ca.gov/our-work/programs/advanced-clean-cars-program/about>



The adjusted forecast is considered a more realistic picture of Chico’s future emissions. The BAU and adjusted forecasts can be compared

to show the extent to which state-level policies and programs will help to reduce GHG emissions in Chico (Figure 2-4 and Table 2-2).

**Figure 2-4 Chico’s BAU and Adjusted GHG Emissions Forecast**



**Table 2-2 Chico’s BAU and Adjusted Emissions Forecast**

	2017	2025	2030	2045
<b>Population</b>	92,022	107,593	107,712	116,420
<b>Jobs</b>	32,429	37,124	36,251	40,162
<b>BAU Emissions (MT CO<sub>2</sub>e)</b>	466,366	541,754	538,282	586,167
<b>Advanced Clean Cars Program Savings (MT CO<sub>2</sub>e)</b>	0	-91,496	-113,662	-154,322
<b>Title 24 Savings (MT CO<sub>2</sub>e)</b>	0	-1,579	-1,282	-4,705
<b>California RPS Savings (MT CO<sub>2</sub>e)</b>	0	-10,717	-28,021	-75,628
<b>Adjusted Emissions (MT CO<sub>2</sub>e)</b>	466,366	437,961	395,317	351,512
<b>Adjusted Per Capita Emissions (MT CO<sub>2</sub>e/person)</b>	5.07	4.07	3.67	3.02



## 2. GREENHOUSE GAS EMISSIONS IN CHICO

### POPULATION GROWTH IN THE WAKE OF THE CAMP FIRE

The Butte County Association of Governments (BCAG) estimates that Chico's population grew 20.7% as a result of the climate migration spurred by the 2018 Camp Fire. This is reflected in Chico's GHG emissions forecast, as the large bump from 2017 to 2020. As displaced people gradually move away from Chico, the population is expected to decline through 2030, then grow normally from 2040 through 2045. These trends are also visible in the forecast. **Lessons from the Camp Fire highlight the need for energy and transportation infrastructure, waste services, and development patterns that are resilient to future climate change impacts.**





# 3. GHG EMISSIONS TARGETS





## CLIMATE ACTION AT THE STATE LEVEL

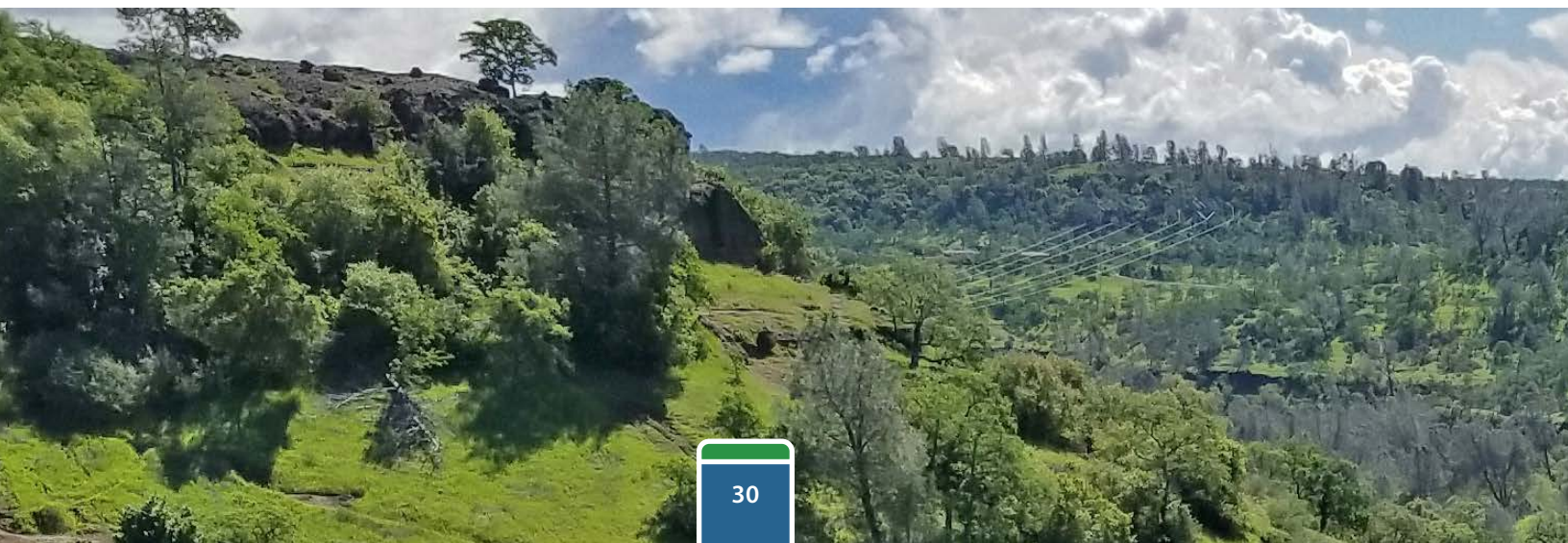
California is a global leader in climate change action, having established extensive legislation, policies, and programs to reduce GHG emissions within the state over the last ten years. The primary drivers of climate action at the state level are Assembly Bill (AB) 32, Senate Bill (SB) 32, and Executive Order (EO) B-55-18. These regulations chart a path towards a carbon neutral California by 2045, as explained below.

**Assembly Bill 32** – Codified the statewide goal of reducing GHG emissions to 1990 levels by 2020 and requires the California Air Resources Board (CARB) to prepare a Scoping Plan that outlines the main strategies the state will employ to meet the 2020 target. The AB 32 Scoping Plan was adopted in 2014 and California met this target in 2016.

**Senate Bill 32** – The successor to AB 32 which requires California to achieve a statewide reduction in GHG emissions of 40% below 1990 levels by 2030. The SB 32 Scoping Plan was adopted in 2017.

**Executive Order B-55-18** – Established a new statewide goal of achieving and maintaining carbon neutrality as soon as possible, and no later than 2045. Executive orders have not been codified by the state but are binding for state agencies and must therefore be addressed by qualified GHG reduction plans.

Programs and policies that support the goals established in the above bills include Title 24 Energy Efficiency Standards, which increase energy efficiency in new development, the Advanced Clean Cars Program, which improves fuel efficiency in new vehicles, and the California Renewable Portfolio Standard (RPS), which, through SB 100, requires electricity providers to procure 100% renewable electricity by 2045. A full list of relevant state-level legislation is included in Appendix C.





## CHICO'S GHG EMISSIONS TARGETS

This CAP adopts a GHG emissions target for 2030 – a required part of a CEQA “qualified” CAP – and a long-term GHG emissions goal for 2045. Chico’s targets are to reduce mass emissions 45% below 1990 levels by 2030 and to achieve carbon neutrality by 2045. The adopted 2030 target therefore exceeds SB 32 (40% reduction in GHG emissions from 1990 levels by 2030) by 5% while the adopted 2045 goal aligns with EO B-55-18, the state’s current long-term GHG reduction goal.

Chico has converted these targets into per capita emissions which take population growth into account and help provide flexibility for the City to grow (or shrink) over time without impacting the City’s ability to meet its GHG emissions targets. This methodology aligns with the California Air Resources Board’s (CARB) recommendations in the 2017 Climate Change Scoping Plan Update<sup>19</sup> and is especially important for Chico given the recent and potential future population fluxes due to fire and other disasters.

A 2030 GHG reduction target that exceeds SB 32 was chosen to provide additional flexibility to the City and to provide some protection against the uncertainty surrounding GHG reductions. This goal also better prepares Chico to begin the process of achieving carbon neutrality in the long-term by reducing the work required after 2030 and allowing the City to capitalize on cost-effective opportunities available today. The targets adopted by Chico were developed in order to provide consistency with the state’s 2030 targets and to provide the City with substantial progress towards meeting the 2045 goal of carbon neutrality (see Table 3-1). The target emissions trajectory in per capita emissions is shown in Figure 3-1, relative to the BAU forecast, adjusted forecast, and 2017 baseline inventory.

<sup>19</sup> [https://ww2.arb.ca.gov/sites/default/files/classic/cc/scopingplan/scoping\\_plan\\_2017.pdf](https://ww2.arb.ca.gov/sites/default/files/classic/cc/scopingplan/scoping_plan_2017.pdf)

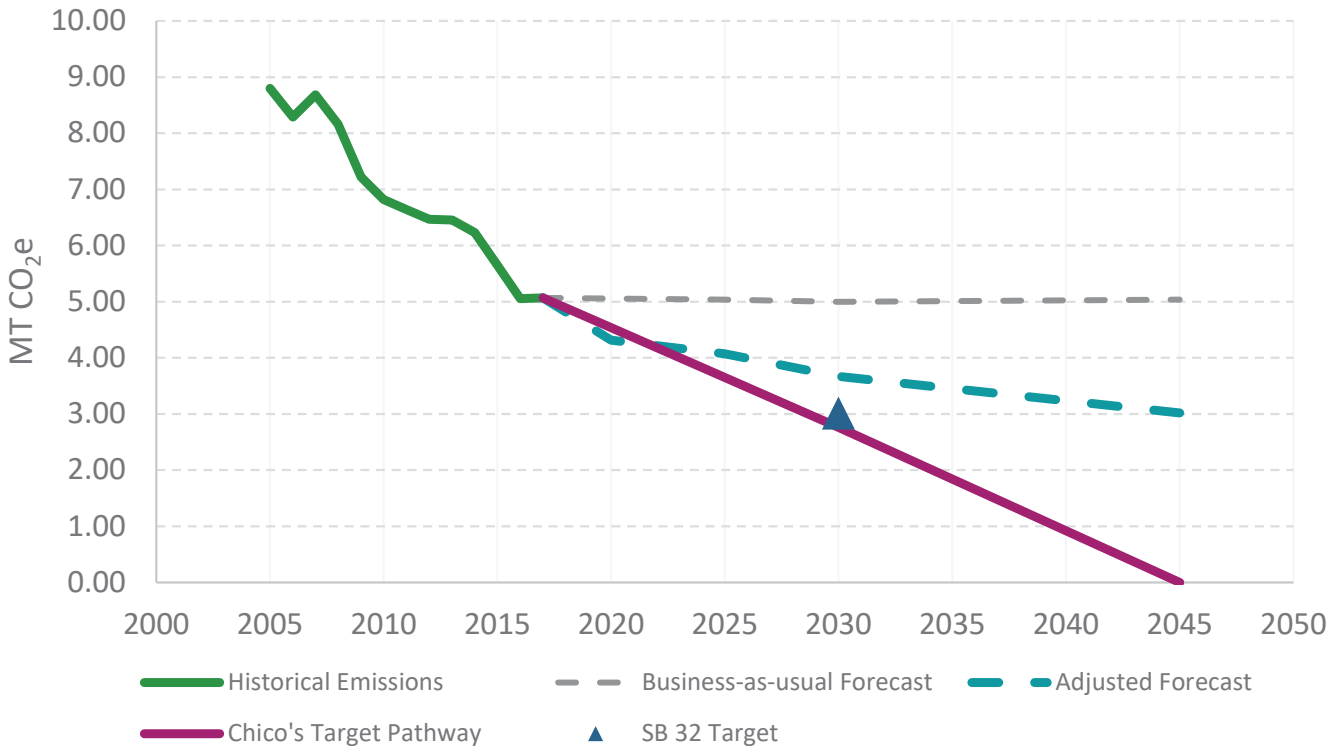


**Table 3-1 Chico's GHG Emissions Targets**

Target Description		2030	2045
<b>Minimum State Targets</b>	% Reduction from 1990	40%	100%
	Translated to Per Capita Emissions for Chico (MT CO <sub>2</sub> e/person)	3.00	0.00
	Translated to Absolute Emissions for Chico (MT CO <sub>2</sub> e)	325,135	0
<b>Chico Targets</b>	% Reduction from 1990 (absolute emission)	45%	100%
	Translated to Per Capita Emissions for Chico (MT CO <sub>2</sub> e/person)	2.76	0.00
	Translated to Absolute Emissions for Chico (MT CO <sub>2</sub> e)	297,386	0

*Note: Chico has adopted per capita targets. For reference, the per capita targets have been translated to absolute emissions in units of MT CO<sub>2</sub>e, but these values do not represent Chico's official targets. The final absolute emission targets for future years will be calculated once the population numbers are known.*

**Figure 3-1 GHG Emissions Forecast and Targets**





## GHG EMISSIONS GAP

As shown in Figure 3-1, a gap remains between the adjusted forecast emissions (blue dashed line) and Chico's target emissions (purple line), even after accounting for reductions that will result from state regulations. This gap represents the emissions to be reduced through adoption of local policies and programs contained in this CAP. **This gap is equal to 0.91 MT CO<sub>2</sub>e per person in 2030 and 3.02 MT CO<sub>2</sub>e per person in 2045.** In absolute emissions, this is equal to 97,931 MT CO<sub>2</sub>e in 2030 and 351,512 MT CO<sub>2</sub>e in 2045. The gap will be closed through implementation of the GHG reduction strategies contained in this CAP.

The strategies consist of local actions the City will implement to achieve emissions reductions in a **cost-effective, equitable, and transparent** way. The strategies were developed based on planned efforts and best practices of other similar and neighboring jurisdictions, which were then vetted by City staff, community organizations, local businesses, and individual community members. Chico's GHG reduction strategies and the specific measures and actions that will reduce Chico's emissions are detailed in the following chapters.







# 4. GHG REDUCTION FRAMEWORK



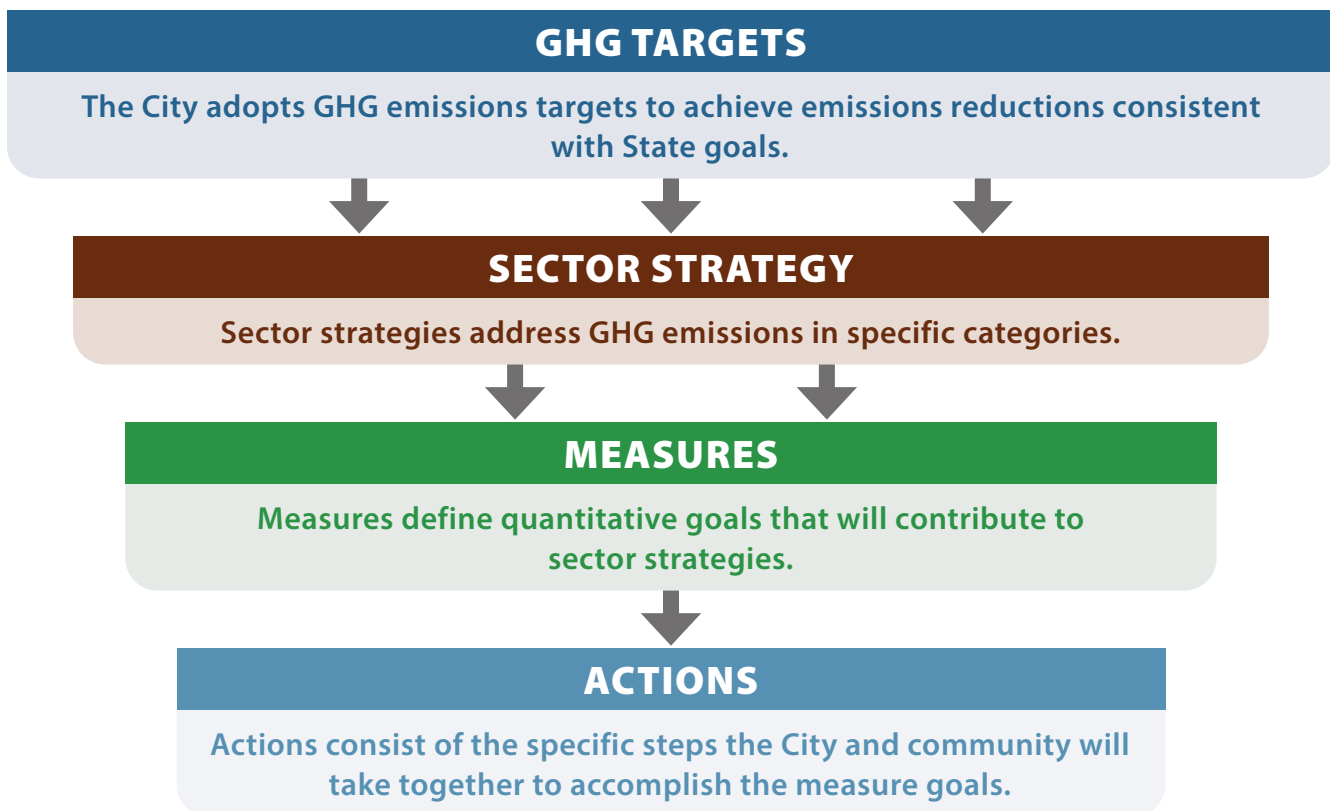


## HOW THE GHG REDUCTION STRATEGIES ARE ORGANIZED

The City of Chico has worked with community partners, local businesses, and individual community members to identify strategies for reducing GHG emissions in Chico as part of this CAP's development. The strategies are organized in a support structure with three levels, as follows:

- 1. Sector Strategies:** The CAP's GHG emissions targets drive focused and cohesive strategies for reductions in each sector. The sectors include Energy, Transportation, Waste, Sequestration, and Outreach and Education.
- 2. Measures:** Measures define quantitative goals within each sector that will contribute to the overall sector strategy and result in substantial reductions in GHG emissions.
- 3. Actions:** Actions consist of the specific steps the City will take in support of specific measures, which together accomplish the measure goal. Each action concretely identifies the responsible parties and mechanisms required for implementation.

Figure 4-1 GHG Reduction Strategy





## KEY PILLARS FOR GHG REDUCTION

The CAP's strategies for reducing GHG emissions are comprehensive and closely tied to the CAP's leading principles, with each sector strategy built to incorporate six key pillars:

- 1. Collaboration** with local partners
- 2. Socially equitable** approaches
- 3. Cost-effective** for the City and community
- 4. Accountability** for progress

- 5. Education and leadership** within the community

- 6. GHG reduction** potential for the City

The measures and actions together ensure that the sector strategies they support meet the criteria of the six key pillars, discussed in more detail below.

### 1. COLLABORATION – PARTNERING FOR SUPPORT

The City recognizes that effective climate action does not occur in a vacuum and that groups outside of the municipal government may be better positioned to implement specific actions and measures. To successfully implement the CAP, it will take collaboration across City departments, with local non-profits, utility providers, community groups, business associations, local institutions, and the community to achieve the goals of this CAP. The sector strategies incorporate many actions focused on collaborating with the City's extensive list of partners. Collaboration with these groups began before the inception of the CAP, but were expanded through targeted outreach, and will continue to grow as the CAP is implemented. A full list of stakeholders engaged during the CAP update is included in Appendix A but some of the key local partners who will have a role in implementing the Chico CAP include:

- Build.com
- Butte Choice Energy (BCE)
- Butte County

- Butte County Association of Governments (BCAG)
- Butte Environmental Council
- California State University, Chico (CSU Chico)
- Chico Unified School District (CUSD)
- Chamber of Commerce
- Chico Builders Association
- Chico Velo
- Enloe Medical Center
- Fifth Sun
- North State Rendering
- Pacific Gas & Electric (PG&E)
- Recology
- Sierra Nevada Brewing Co.
- Valley Contractors Exchange
- Waste Management



## 2. SOCIAL EQUITY – PRIORITIZING UNDERSERVED COMMUNITIES

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Chico cannot meaningfully implement a CAP without considering the effects of each sector strategy on underserved communities. Successful climate action in Chico requires an equitable distribution of the benefits and impacts associated with each measure to avoid exacerbating existing inequities and placing a cost burden on low-income community members. For this reason, each sector strategy was

developed to include equity actions that specifically address how the sector strategies and supporting measures will be implemented to ensure Chico's frontline communities and vulnerable populations equally benefit from this CAP. As the CAP is implemented it will be critical for the City to continue the conversations around equity impacts and adjust based on feedback from the community.

## 3. COST EFFECTIVENESS – REDUCING THE BURDEN ON INDIVIDUALS AND THE CITY

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Implementation of Chico's CAP and its sector strategies will carry costs for the community and costs for the City – although implementation is expected to result in long-term cost savings for the City and community. The City understands that the sector strategies cannot rely on local residents and business owners making changes they can't afford. This understanding was deeply ingrained in the development of the sector strategies. Actions that involve or require community participation were built to be cost-effective, have funding opportunities, and/or have a high return on investment. Local residents and business owners are not expected to face an unavoidable cost burden as a result of implementing the sector strategies.

In order to cover the up-front costs associated with CAP implementation, the CAP includes a comprehensive Climate Action Finance Map (Appendix D) to better facilitate social equity and improve cost effectiveness of the sector strategies. The City recognizes that the limiting factor in climate action is often the high capital cost of implementing changes to infrastructure and has developed the Climate Action Finance Map to highlight funding opportunities and ensure the cost burden is not placed on Chico's taxpayers.



## **4. ACCOUNTABILITY – HOLDING CHICO ACCOUNTABLE TO ITS GOALS**

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The City developed the CAP's sector strategies to hold the City accountable to its goals and targets. To help keep the City on track for implementation, actions are included to help keep Chico accountable to its GHG reduction targets.

This CAP also includes an Implementation and Monitoring Plan (Chapter 8), which directs the implementation and monitoring of the CAP's measures and actions relative to the GHG reduction targets.

## **5. EDUCATION AND LEADERSHIP – PAVING THE WAY FOR IMPACTS**

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The City understands that implementation of the CAP will lead to change and many of these changes will require the adoption of new technologies and behaviors. This change is unlikely to occur without conversations between the City, key stakeholders, and the community through establishing partnerships and conducting community education and outreach.

While the community stands to benefit from these changes, the City will need to learn how to better implement them and remove hurdles to adoption. Throughout the CAP's implementation, the City will provide the leadership and resources necessary for individuals and business owners in the community to be a part of this effort.

## **6. GHG REDUCTION POTENTIAL – REDUCING GHG'S IN CHICO**

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To contribute Chico's fair share towards the State's GHG reduction goals and meet the requirements of a qualified GHG reduction plan, the CAP must demonstrate that its implementation will lead to quantitative GHG reductions. The sector strategies were developed based on substantial evidence that the measures and actions would result in quantified GHG reductions through 2030 and 2045. The GHG reductions

expected from each measure and action are shown in the next section, and an in-depth analysis of the substantial evidence for these reductions is provided in Appendix E.



## CO-BENEFITS OF THE GHG REDUCTION STRATEGIES

In addition to GHG emissions reductions, the sector strategies will produce many co-benefits. Co-benefits refer to the positive effects that a climate action policy will have on other community objectives. For example, incentives for all-electric equipment can lower energy costs for residents and improve local air quality, in addition to reducing GHG emissions in the community. The co-benefits associated with the CAP's actions include:

**IMPROVED PUBLIC HEALTH:** The sector strategies will help ensure cleaner air and more active and livable neighborhoods. In particular, the energy and transportation sector strategies include long-term plans for significantly reducing fossil fuel usage in the community, especially natural gas. Natural gas is responsible for increased levels of nitrogen oxide emissions in homes and other buildings – several times higher than outdoor air quality standards – and is disproportionately linked with respiratory illness, including asthma.<sup>20</sup> Natural gas is also getting more expensive. Without a transition plan, the bill for running a gas furnace could increase 500% by 2050, due to increasing natural gas infrastructure costs coupled with a naturally declining demand for gas as appliances become more energy efficient.<sup>21</sup>

**RESILIENCE:** Actions that address climate change can bolster the ability of local residents and businesses to recover quickly from or reduce the impact of other hazards such as extreme heat days or localized flooding. For example, planting trees for carbon sequestration and increasing tree canopy cover can help keep streets and neighborhoods cooler – covering 40% of a city street can counteract the warming effects from asphalt.<sup>22</sup> Climate actions can also enhance community cohesion—the networks of formal and informal relationships among neighbors that foster a mutually supporting human environment.<sup>23,24</sup>

**HEALTHIER ECOSYSTEMS:** Actions to mitigate and adapt to climate change supports more healthy and functional ecosystems. Healthier ecosystems provide a variety of public benefits including reducing pollutants in local creeks, providing species habitat, improving air and water quality, reducing flood risk, and providing areas for human recreation and respite.

<sup>20</sup> <https://www.nationalasthma.org.au/living-with-asthma/resources/patients-carers/factsheets/gas-stoves-and-asthma-in-children#:~:text=How%20does%20gas%20combustion%20lead,and%20may%20worsen%20asthma%20symptoms>

<sup>21</sup> <https://gridworks.org/initiatives/cagas-system-transition/>

<sup>22</sup> <https://www.popsi.com/shade-city-streets-trees-cooling/>

<sup>23</sup> [https://depts.washington.edu/hhwb/Thm\\_Community.html](https://depts.washington.edu/hhwb/Thm_Community.html)

<sup>24</sup> [https://www.researchgate.net/publication/328539965\\_Climate\\_Action\\_Co-benefits\\_and\\_Integrated\\_Community\\_Planning\\_Uncovering\\_the\\_Synergies\\_and\\_Trade-Offs](https://www.researchgate.net/publication/328539965_Climate_Action_Co-benefits_and_Integrated_Community_Planning_Uncovering_the_Synergies_and_Trade-Offs)

**REDUCED TRAFFIC CONGESTION AND IMPROVED ROAD SAFETY:** With full implementation of the transportation measures included in this plan, there will be an added benefit of reduced traffic congestion. Measures designed to increase biking, walking, bicycle and scooter sharing, and use of public transportation have the goal of taking single-occupancy vehicles off the road and providing Chico residents and visitors expanded options besides using personal vehicles.

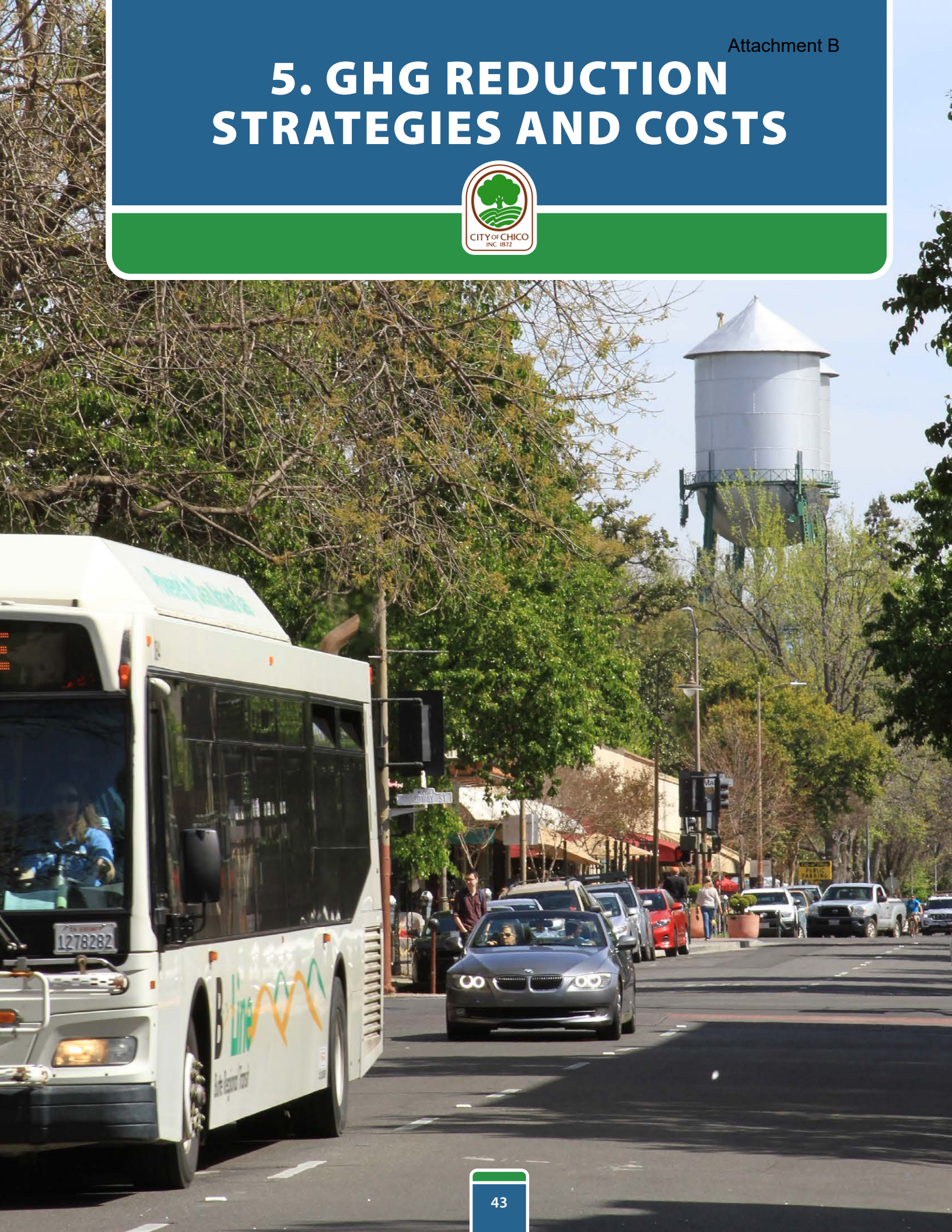
**STRONGER LOCAL DEVELOPMENT:** Another co-benefit of the CAP as a whole is its facilitation of local development. A key concern throughout the CAP development process has been the promotion of thoughtful development in Chico that will support the local economy, provide for infrastructure upgrades, and ensure affordable housing needs are met in alignment with City and State goals. At its core, the CAP provides a clear pathway for new development to align with State climate action requirements and supports local development and investment. The sector strategies are a key component of a CEQA-qualified GHG reduction plan, which will allow new development projects to “tier off” of the CAP, significantly reducing the required CEQA review that new development faces. Many jurisdictions within California recognize the importance of maintaining a CAP for this purpose.







# 5. GHG REDUCTION STRATEGIES AND COSTS





GHG reduction strategies have been developed in five sectors: Energy, Transportation, Waste, Sequestration, and Outreach and Education. An overview of each sector strategy is included below. This section also includes an overview of the community and City costs associated with each measure. Community costs are defined as costs that groups or members of the community would bear if each measure and its supporting actions are fully implemented. City costs are

defined as costs that the City will have responsibility for. The CAP's Climate Action Finance Map (Appendix D) provides funding and financing opportunities and case studies to help offset the community costs and mitigate the larger City costs that are identified below. With full implementation of the CAP and the funding and financing pathways from the Climate Action Finance Map, both community costs and City costs will be minimized.

## ENERGY

The focusing strategy for the energy sector is electrification coupled with carbon-free electricity. All-electric buildings are powered

100% by electricity and when coupled with carbon-free electricity, their operating energy footprint become carbon-free.

### MEASURE E-1: Procure carbon-free electricity for the community through a CCA by 2024 and maintain opt-out rates of 5% for residential and 15% for commercial through 2030 and 2045

The California Renewable Portfolio Standard requires all retail electricity providers in California to provide carbon neutral electricity by 2045. Procuring community-wide carbon-free electricity through a Community Choice Aggregation (CCA) will expedite that timeline and offer significant GHG reductions in the short term with minimal increases to community electricity bills.<sup>25</sup>

- **COMMUNITY COSTS:** This measure will automatically enroll all community accounts into the CCA's 100% renewable/carbon free electricity option starting in 2024, which will be offered by Butte Choice Energy at a slight price premium. Community members will individually have the opportunity to opt-out or opt-down from the 100% renewable/carbon free option in the event these cost increases are not feasible.
- **CITY COSTS:** The City will incur administrative costs for coordination with BCE and outreach.

<sup>25</sup> While Butte Choice Energy has not yet established rates, many CCA's provide a carbon free energy option that is comparable to PG&E rates and a 100% renewable option that costs approximately 1 cent per kWh more. This results in a 4-5 dollar per month cost increase. [https://www.pge.com/pge\\_global/common/pdfs/customer-service/other-services/alternative-energy-providers/community-choice-aggregation/ebce\\_rateclasscomparison.pdf](https://www.pge.com/pge_global/common/pdfs/customer-service/other-services/alternative-energy-providers/community-choice-aggregation/ebce_rateclasscomparison.pdf)

### MEASURE E-2: Eliminate natural gas in all new building construction starting in 2025 to reduce natural gas 6% by 2030 and 16% by 2045 compared to the adjusted forecast

New construction built without natural gas is less expensive<sup>26</sup> for most building types and will result in carbon free buildings by 2045 at the latest<sup>27</sup>. Retrofitting existing buildings that rely on natural gas to be all-electric is a substantial task. To ensure new buildings won't need to be retrofitted later, Measure E-2 will require new buildings and major retrofits to be all-electric through an electrification ordinance starting in 2025 (unless the 2025 California Building Code Update includes all-electric requirements for new buildings). An electrification ordinance will not be implemented until 2025, if necessary, in order to give the community time to better understand and prepare for the new development requirements.

- **COMMUNITY COSTS:** This measure will affect costs for local developers for new construction. Building all-electric has been shown to be cost-effective for developers and building owners for all building types in the City of Chico, when combined with additional solar photovoltaics.<sup>28</sup> This measure will not affect existing buildings and is not expected to increase costs to residents. The ordinance is expected to reduce utility bill costs for residents in new all-electric buildings as well as community wide due to decreased natural gas infrastructure deployment.
- **CITY COSTS:** City costs associated with this measure will generally include administrative staff and consultant time for development of an ordinance and outreach to the community.

<sup>26</sup> <https://explorer.localenergycodes.com/chico-city/forecast/11-PGE/studies/1,2,3>

<sup>27</sup> SB100 will provide 100% carbon free electricity by 2045. The City of Chico will also join a CCA which will be able to provide carbon free electricity as early as 2025.

<sup>28</sup> <https://explorer.localenergycodes.com/chico-city/forecast/11-PGE/studies/1,2,3>





## **MEASURE E-3: Electrify existing residential buildings starting in 2027 to reduce overall residential natural gas consumption to 100 therms/person by 2030 and 30 therms/person by 2045**

Retrofitting existing buildings to be all-electric requires up-front investments that many community members may not be able to afford. While existing building electrification is likely to have long-term payback, additional resources are needed before any mandatory electrification measures for existing buildings is put in place. Measure E-3 will provide a framework of updated policies, incentives, consumer financing options, and outreach to drive the electrification of existing buildings in a cost-effective and equitable way.

■ **COMMUNITY COSTS:** Starting in 2027, the Chico community will be expected to replace broken or non-working HVAC and hot water heaters with all-electric models. In general, all-electric models are more expensive than natural-gas fueled counterparts upfront but provide long-term on-bill savings. A detailed discussion of these costs can be found in Chapter 7. The Climate Action Finance Map identifies multiple pathways to offset these costs through local utility partnerships, on-bill financing, and other methods and would be expanded by an existing building electrification study prior to implementation of any new requirements. A significant outreach and education effort will also accompany this measure to adequately prepare and educate the community for these changes.

■ **CITY COSTS:** This measure will require the City to invest in all-electric infrastructure for existing municipal buildings. In instances where this is not cost-effective, the costs could potentially be offset through grant-based or finance-based pathways identified in the Climate Action Finance Map so that these costs do not ultimately fall on the Chico taxpayer. This measure is also associated with administrative costs for updating the local building code, tracking electrification progress, and working with partners to conduct outreach and develop incentives.

## 5. GHG REDUCTION STRATEGIES AND COSTS



### ELECTRIFICATION AND GRID RELIABILITY

Outreach efforts for the CAP (described in Chapter 1 and detailed in Appendix A) resulted in concern from the community about the CAP's electrification measures increasing demands on the electrical grid, especially given the potential for service disruptions from public safety power shutoffs (PSPS) multiple times a year. PSPS usually occur in the summer, on the hottest days when most buildings are running their A/Cs. Building electrification in Chico will focus on electrifying residential and commercial HVACs and hot water heaters (stoves and clothes dryers use comparatively insignificant amounts of electricity). HVACs are used primarily in the winter and would not contribute significantly to peak demand in the summer. Hot water heaters, while used throughout the year can use electricity during off-peak times by heating water and storing it for use at a later time. Chico's electrification measures will also help to replace lower efficiency A/C models that may be contributing to unbalanced electrical grid demands with electric heat pumps, which can both heat and cool using much less electricity, potentially leading to reduced peak summer demand. In reality, the electrical grid is well-suited to absorbing increased electrical demands from electrification, which even under full electrification scenarios would not exceed current peak summer electricity demands.<sup>29</sup> PG&E is also fully supportive of building electrification. As explained in a recent letter to the California Energy Commission, PG&E continuously forecasts load in its service territory and implements upgrades to the electrical grid to meet the demand. PG&E fully expects to meet the needs that all-electric buildings will require.<sup>30</sup>

<sup>29</sup> <https://www.nrdc.org/experts/merrian-borgeson/californias-grid-ready-all-electric-buildings>

<sup>30</sup> <https://efiling.energy.ca.gov/GetDocument.aspx?tn=233630&DocumentContentId=66211>



## MEASURE E-4: Increase generation and storage of local renewable energy

To increase Chico's energy resilience overall, Measure E-4 will support local energy generation and storage projects that prioritize low-income communities.

- **COMMUNITY COSTS:** Community members may choose to invest in solar PV and/or battery storage. Many financing options are available for these systems, many of which result in a positive cash flow.<sup>31</sup>
- **CITY COSTS:** Under this measure, the City will work with PG&E through the Sustainable Solutions Turnkey Program to support and develop local energy generation and storage

projects, which are generally associated with high construction and maintenance costs. However, several large-scale projects are already funded and underway through the Sustainable Solutions Turnkey Program and the Climate Action Finance Map identifies other potential pathways for financially supporting future projects that will not result in a financial burden for the City or its taxpayers. Costs likely to be incurred by the City and its taxpayers will be administrative costs for coordinating with partners, supporting financing avenues, and implementing the measure.

## TRANSPORTATION

Transportation is the largest GHG emissions sector in Chico and has historically been the most challenging to address across California. Reducing transportation emissions and becoming a carbon neutral city means reducing the number of miles driven by fossil fuel-powered vehicles. This requires a major shift in the community's relationship to transportation and is greatly dependent on community buy-in to transportation alternatives. The City's transportation strategy consists of a two-pronged approach: providing new infrastructure to shift car travel to active transportation (i.e., biking, walking) and public/shared transit; then increasing electric vehicle supply equipment (EVSE) infrastructure to electrify the remaining car trips to

the greatest extent possible. The City cannot achieve higher bike and pedestrian use, transit mode share, or electric vehicle (EV) adoption alone, but it is committed to pursuing the funding, partnerships and infrastructure updates to make these choices more attractive and feasible for the community. While the 2030 targets are achievable without substantial changes to how Chico approaches mobility, achieving the long term goal of carbon neutrality will require substantial changes to how the community moves through the City. Chico has set a **target of 35% reduction in transportation fuels (diesel and gasoline) by 2030** and will accomplish this through the following measures:

<sup>31</sup> Positive cash flow means the energy savings are greater than the monthly loan payments.



## 5. GHG REDUCTION STRATEGIES AND COSTS

### MEASURE T-1: Improve active transportation infrastructure to achieve greater than 6% bicycle mode share by 2030 and 12% bicycle mode share by 2045

The City will work to provide safe, low stress and convenient biking and pedestrian infrastructure and prioritize active transportation. Infrastructure needs include bikeways, sidewalk improvements, and expansions of both kinds of infrastructure to all areas of the City. The primary action the City will take under this measure is to implement the Chico Bicycle Master Plan, which identifies a suite of road improvement projects and bike safety innovations, which include safe bike parking infrastructure to reduce bike theft.

- **COMMUNITY COSTS:** Community costs are anticipated to be low or no cost, and potential cost savings for residents would come from a decreased dependence on driving and better health. Some infrastructure costs could be shared by the community through

fees/taxes depending on the funding and financing strategies employed by the City.

- **CITY COSTS:** Construction costs associated with new biking and pedestrian infrastructure is generally high, and can vary widely. Designated bike routes and bike boulevards cost about \$10,000/mile. On-street bike lanes, buffered or not, cost about \$100,000/mile. Separated, mixed-use paths cost about \$1M/mile. Separated bikeways cost about \$1.5-3M/mile.<sup>32</sup> In addition to the City's current collection of bicycle infrastructure impact fees for new development and ongoing pursuit of grant opportunities, the Climate Action Finance Map identifies alternative potential pathways for securing the necessary capital to implement these projects.

### MEASURE T-2: Improve EV infrastructure to achieve greater than 23% EV share of car registrations by 2030, and 90% by 2045

While Chico cannot require its residents to buy EVs, Measure T-2 will ensure the supporting EV infrastructure is present in the City to begin to remove present barriers to EV adoption. Chico has set a **goal to add 942 new chargers to Chico by 2030.**

- **COMMUNITY COSTS:** Costs for local developers to include EV infrastructure (including conduit and panel capacity) in new construction are expected to be less than \$400-\$600 per space, compared to over \$2,000 per space when completing a retrofit.<sup>33</sup>

<sup>32</sup> <https://cal.streetsblog.org/2019/08/30/breaking-down-caltrans-cost-estimate-of-the-complete-streets-bill/#:~:text=On%2Dstreet%20bike%20lanes%2C%20buffered,use%20paths%3A%20%241M%2Fmile>

<sup>33</sup> [https://fremont.gov/DocumentCenter/View/31450/PEV-Infrastructure-Cost-Effectiveness-Report\\_Energy-Solutions\\_July-2016](https://fremont.gov/DocumentCenter/View/31450/PEV-Infrastructure-Cost-Effectiveness-Report_Energy-Solutions_July-2016)



Incorporation of EV infrastructure in new development is quickly becoming a requirement under the California Building Code. Costs for installing ready to use EV chargers in existing parking lots can vary widely depending on infrastructure and technology used from between \$500 to \$7,000 for Level 2 chargers, though a Level 1 charger may be even less expensive.<sup>34</sup> Costs for residents who choose to buy EVs due to increased charging infrastructure in the City are highly dependent on vehicle choice. Many EVs are comparable in cost to gasoline-powered vehicles with lifecycle savings.<sup>35</sup>

- **CITY COSTS:** City costs associated with this measure will include staff and consultant time for development of an ordinance and outreach to the community, if not already required by the California Building Code. City-funded EV chargers are expected to be between \$2,000 and \$7,000 per charger, assuming Level II chargers are purchased. DC fast chargers can charge significantly more vehicles in less time but can cost up to \$55,000. The City could leverage partnerships to install these chargers at low to no cost to the City as shown in the Climate Action Finance Map.

## MEASURE T-3: Improve shared mobility and transit programs and infrastructure

Improving shared mobility and transit programs and infrastructure will help to shift mode share to shared rideables and public transit by making it more convenient and effective. The City will work to identify partnerships with shared rideables companies (e.g., e-bike share) to bring these services to Chico. The City does not have jurisdiction over public transit and must instead work in collaboration with its partners, including BCAG, to expand service lines, increase route speeds, and reduce wait times. While GHG emissions reductions from this measure cannot be quantified at this time, higher public transit adoption rates in the community are paramount to Chico's success in reaching its targets, and the City will continue to investigate opportunities for improvement in this area

as the CAP is implemented and monitored, particularly over the next five years.<sup>36</sup>

- **COMMUNITY COSTS:** Community members who elect to shift from personal vehicles to shared transit options are expected to save money.
- **CITY COSTS:** City costs associated with this measure will include staff and consultant time for exploration of partnership opportunities with BCAG, and implementation of associated studies, surveys, and programs.

<sup>34</sup> <http://www.bcag.org/documents/PEV%20Readiness%20Plan/Draft%20Butte%20PEV%20Readiness%20Plan%203-9-18.pdf>

<sup>35</sup> <https://www.carboncounter.com/#!/explore>

<sup>36</sup> *The ongoing impacts of COVID 19 have also made the current and future use of transit less certain. However, the City of Chico remains dedicated to working with its regional partners to improve transit within the City and regionally.*



### MEASURE T-4: Implement parking and curb management procedures that support the mode shift goals of the overall transportation strategy

Measure T-4 will help create incentives for biking, walking, or other active transportation modes through improved curbside management procedures including dynamic parking pricing, better defined loading zones, improved use of parking space, and overall support for active transportation and EVs, in line with the City's Downtown Access Plan.

- **COMMUNITY COSTS:** Parking costs in

Downtown areas will likely increase during times of high usage and special events, but use of alternative modes of transport provided by improved transportation demand management would be free or low cost.

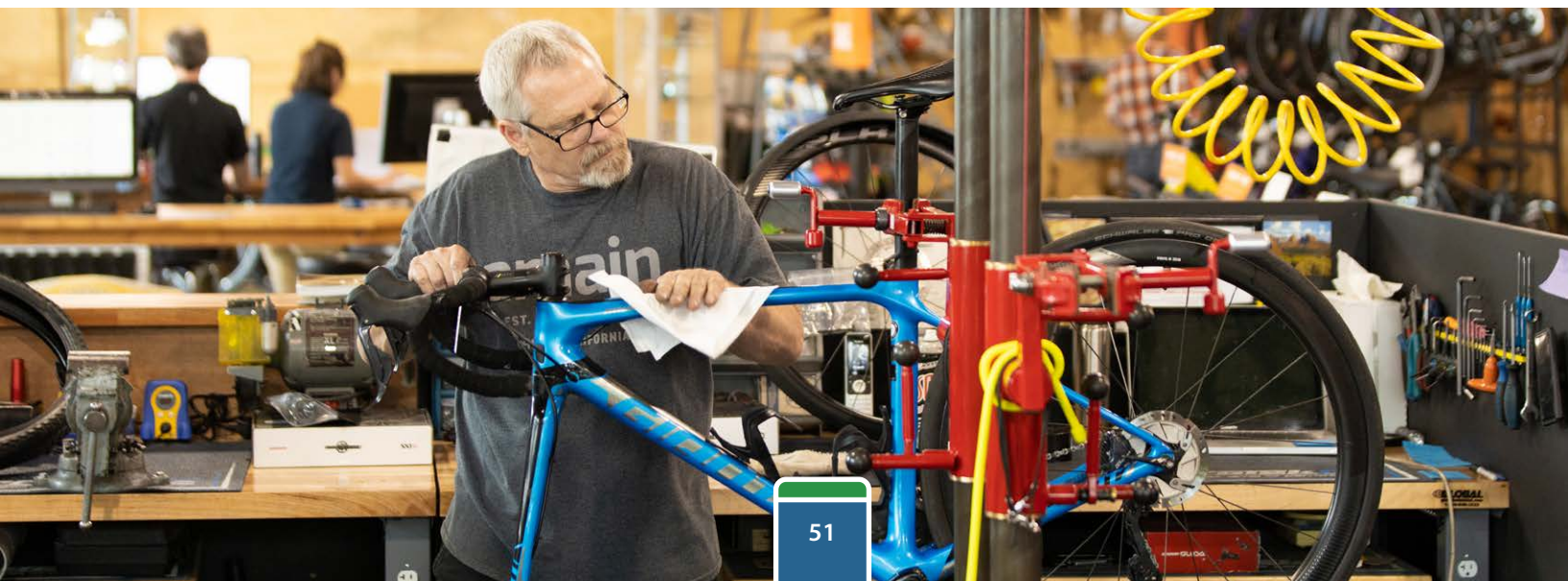
- **CITY COSTS:** The City will likely incur administrative costs for staff and consultant time to update the municipal and zoning code.

### MEASURE T-5: Support implementation of the City's General Plan that promotes sustainable infill development and mixed-use development in new growth areas to reduce vehicle miles traveled (VMT)

Measure T-5 will provide the long-term planning and development framework that will continue to make Chico highly accessible for active transportation and public transit options.

- **COMMUNITY COSTS:** No costs to the community are anticipated.

- **CITY COSTS:** City costs associated with this measure will include staff time for supporting measure integration with community development.





## WASTE

Emission reductions in the waste sector are driven by compliance with SB 1383, which requires all jurisdictions in California to reduce organic waste disposal 75% and increase edible food recovery 20% relative to 2014 levels by 2025. The main mechanism through which Chico will

comply with SB 1383 is by updating waste hauler franchise agreements and identifying and partnering with appropriate stakeholders to ensure requirements for organic waste reduction and edible food recovery are met.

### **MEASURE W-1: Update waste hauler franchise agreements to implement requirements of SB 1383 and achieve 75% reduction below 2014 levels in organic waste to 0.4 tons of waste/person by 2025 and maintain through 2045**

- **COMMUNITY COSTS:** The community may experience increased waste pickup rates. Calrecycle estimates \$17 annual costs per household and \$662 annual costs for small businesses in order to meet these State requirements.<sup>37</sup>
- **CITY COSTS:** The City will incur costs associated with staff time to coordinate measure implementation and work with local waste haulers and other partners. Finance options for expanding use of the biodigester at North State Rendering are included in the Climate Action Finance Map.

<sup>37</sup> [https://www.dof.ca.gov/Forecasting/Economics/Major\\_Regulations/Major\\_Regulations\\_Table/documents/Final\\_Sria\\_11-16%20.pdf#search=%22SB%201383%20Economic%20Analysis%22](https://www.dof.ca.gov/Forecasting/Economics/Major_Regulations/Major_Regulations_Table/documents/Final_Sria_11-16%20.pdf#search=%22SB%201383%20Economic%20Analysis%22)





## SEQUESTRATION

A carbon neutral future includes carbon sequestration mechanisms which take carbon out of the atmosphere. The best technology cities have for achieving higher rates of carbon sequestration is through increasing the urban tree canopy by planting more trees and

greenscaping. The primary actions under this sector strategy are implementing Chico's Urban Forest Revitalization Program, which establishes tree planting goals for the future, and developing and implementing an Urban Forest Master Plan.

### MEASURE S-1: Increase carbon sequestration by increasing urban canopy cover at least 10% by 2030 through new greenscaping programs

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- **COMMUNITY COSTS:** No costs to the community are anticipated.
- **CITY COSTS:** City costs will include staff time for tree planting (\$2 million) and maintenance (\$3 million) costs associated with

the Urban Forest Revitalization Plan. Capital needs for implementing this measure can be addressed through existing programs and initiatives, as well as pathways identified in the Climate Action Finance Map.

### MEASURE S-2: Develop and implement the Urban Forest Master Plan

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- **COMMUNITY COSTS:** No costs to the community are anticipated.
- **CITY COSTS:** City costs will include staff time for development of the Urban Forest Master Plan (\$140 thousand), tree planting (\$2 million) and maintenance (\$3 million) costs, currently being paid for with a grant. Capital needs for implementing this measure in the future can be addressed through existing programs and initiatives, as well as pathways identified in the Climate Action Finance Map.



## OUTREACH AND EDUCATION

A coordinated outreach and education effort is an important part of any CAP to provide the information and context to the community that is necessary for successful CAP implementation.

The many partners identified during the CAP development process will be crucial in the over-arching outreach and education efforts included here.

### **MEASURE O-1: Conduct a holistic community outreach and education program to optimize CAP implementation.**

- **COMMUNITY COSTS:** No costs to the community are anticipated.
- **CITY COSTS:** City costs will include staff time and materials associated with measure outreach.





## GHG REDUCTION MEASURES SUMMARY

Together, Chico’s CAP measures have the potential to reduce GHG emissions to Chico’s adopted 2030 target and to make substantial progress towards Chico’s 2045 carbon neutrality goal, as shown in Table 5-1. Remaining emissions in 2045 include some natural gas end-uses like stoves and dryers, transportation emissions from remaining fossil fuel-powered cars, and emissions from undiverted waste.

GHG emissions reductions from the measures are also demonstrated visually in Figure 5-1, which shows Chico’s per capita GHG emissions forecast with the measures incorporated (dark blue line), aligned with or below Chico’s target pathway (purple line) through 2030, then diverging above the target pathway after 2030. For more information about how these reductions were calculated, please see Appendix E.

**Table 5-1 Chico CAP Measure GHG Reductions Summary**



Measure Number	Measure	Estimated Minimum 2030 Reduction* (MT CO <sub>2</sub> e)	Estimated Minimum 2045 Reduction* (MT CO <sub>2</sub> e)
<b>Energy</b>			
E-1	Procure carbon-free electricity for the community through a CCA by 2024 and maintain opt-out rates of 5% for residential and 15% for commercial through 2030 and 2045	39,169	0
E-2	Eliminate natural gas in all new building construction starting in 2025 to reduce natural gas 6% by 2030 and 16% by 2045 compared to the adjusted forecast	6,729	19,565
E-3	Electrify existing residential buildings starting in 2027 to reduce overall natural gas consumption to 100 therms/person by 2030 and 30 therms/person by 2045	13,931	51,512
E-4	Increase generation and storage of local renewable energy	Supportive	Supportive
<b>Transportation</b>			
T-1	Improve active transportation infrastructure to achieve greater than 6% bicycle mode share by 2030 and 12% bicycle mode share by 2045	1,531	1,504
T-2	Improve EV infrastructure to achieve greater than 23% EV share of car registrations by 2030, and 90% by 2045	28,616	105,496
T-3	Improve shared mobility and transit programs and infrastructure	Supportive	Supportive
T-4	Implement parking and curb management procedures that support the mode shift goals of the overall transportation strategy	Supportive	Supportive
T-5	Support implementation of the City's General Plan that promotes sustainable infill development and mixed-use development in new growth areas to reduce vehicle miles traveled (VMT)	Supportive	Supportive
<b>Waste</b>			
W-1	Update waste hauler franchise agreements to implement requirements of SB 1383 and achieve 75% reduction below 2014 levels in organic waste to 0.4 tons of waste/person by 2025 and maintain through 2045	7,693	7,693
<b>Sequestration</b>			
S-1	Increase carbon sequestration by increasing urban canopy cover at least 10% by 2030 through new greenscaping programs	261	261

\* - Relative to the Adjusted Forecast



## 5. GHG REDUCTION STRATEGIES AND COSTS

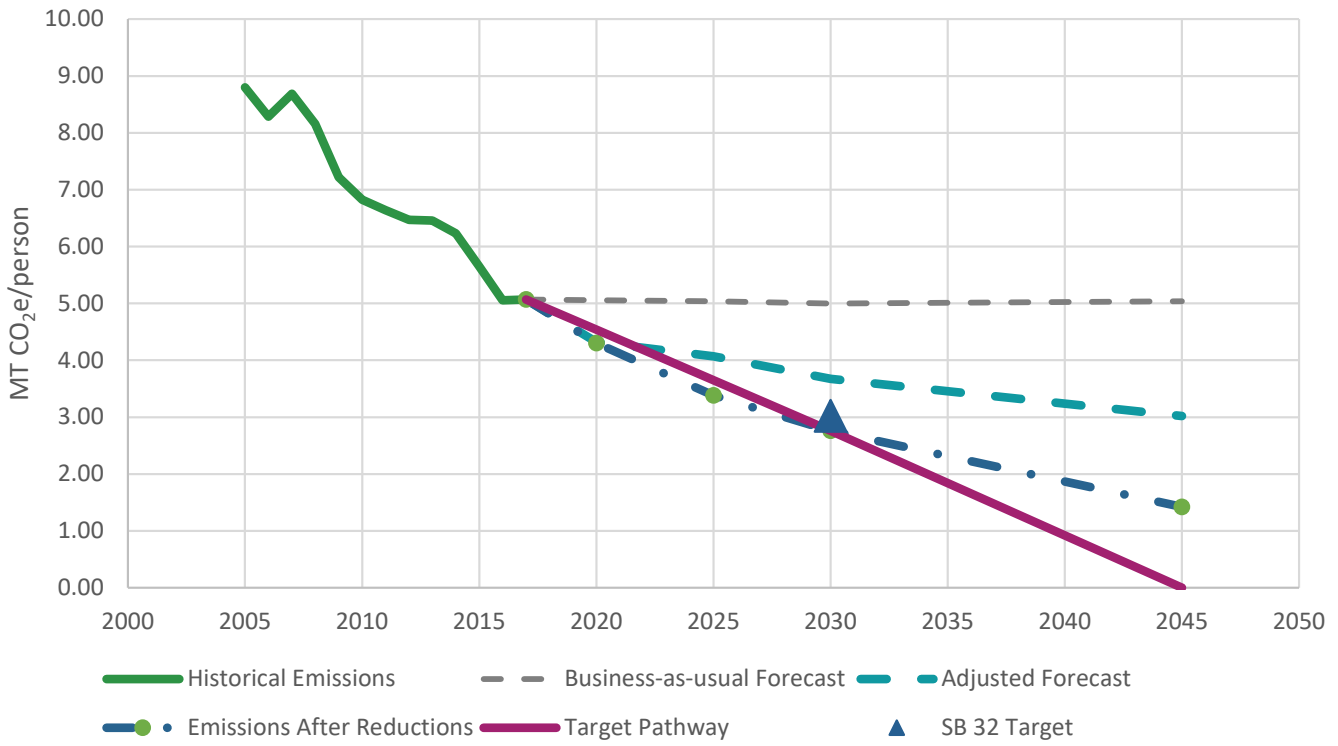
Measure Number	Measure	Estimated Minimum 2030 Reduction * (MT CO <sub>2</sub> e)	Estimated Minimum 2045 Reduction* (MT CO <sub>2</sub> e)
S-2	Develop and Implement the Urban Forest Master Plan	Supportive	Supportive
<b>Outreach and Education</b>			
O-1	Conduct a holistic community outreach and education program to optimize CAP implementation	Supportive	Supportive
<b>OVERALL REDUCTIONS</b>			
Total Reduction Needed to Meet Target/Goal		97,931	351,512
Estimated Reductions Achieved by Full Implementation of Measures		97,931	186,031
Absolute Emission Reductions from 1990 (%) <sup>1</sup>		-45%	-69%
Per Capita Emission Reductions from 1990 (%)		-80%	-90%
Gap to Target/Goal		0	165,482

1. Absolute emissions reduction values are estimated based on current population projections and are for reference. Actual progress toward the 2030 target will be determined by comparison to the per capita GHG emissions target of 2.7 MT of CO<sub>2</sub>e per person pursuant to the 2017 Scoping Plan Guidelines.

\* - Relative to the Adjusted Forecast

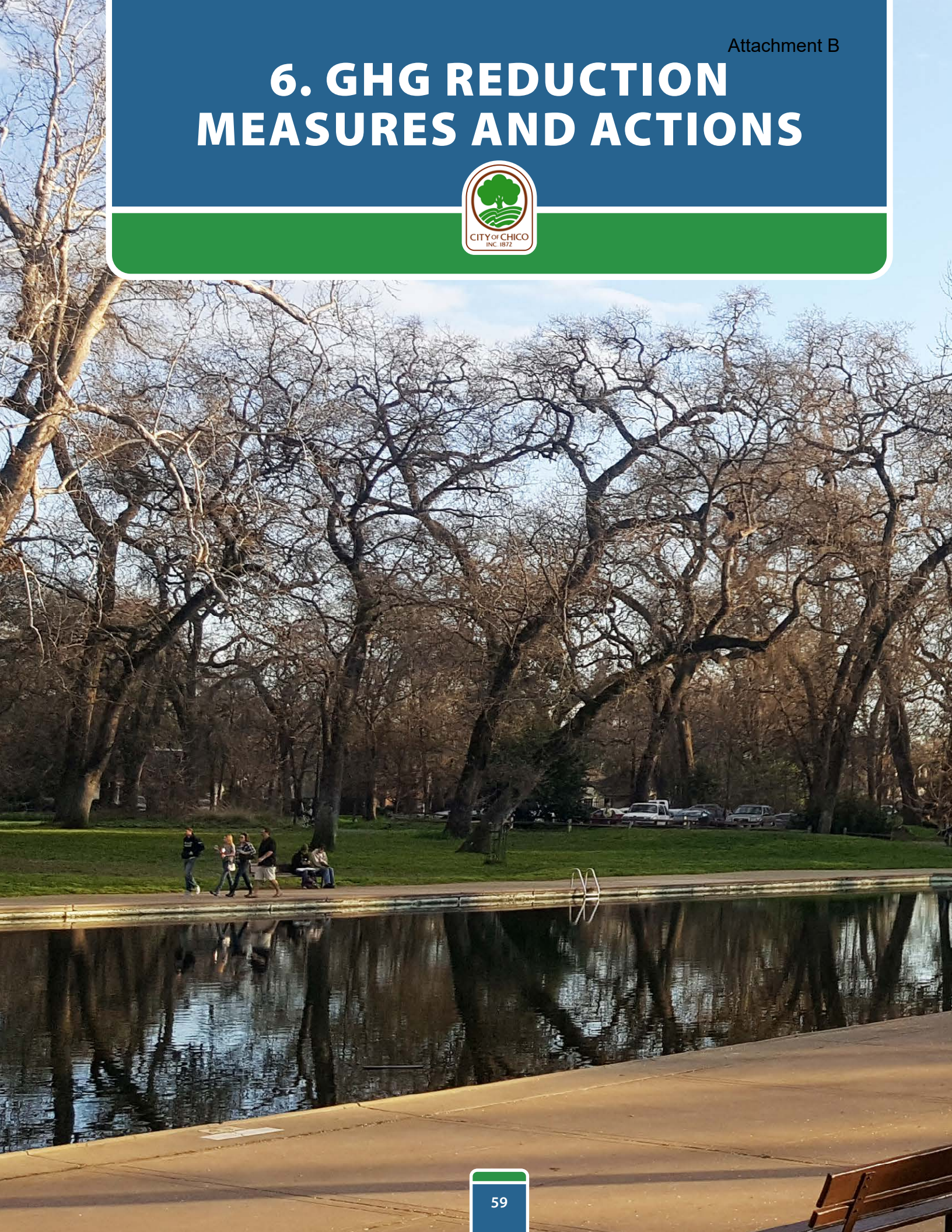


**Figure 5-1 Chico's Per Capita GHG Emissions After Reductions**





# 6. GHG REDUCTION MEASURES AND ACTIONS





## MEASURES AND ACTIONS

This chapter provides a detailed actions table including all the actions that support each measure, with detail on the key pillars supported, co-benefits, and GHG reductions expected from each action. The Climate Action Finance Plan shows funding and financing pathways

for measures and actions associated with higher capital costs. Please see Chapters 5 and 7 for a detailed discussion of City and community costs, as well as Appendix D for the Climate Action Finance Plan.

### ENERGY

#### MEASURE E-1

**Procure Carbon-Free Electricity for the Community Through a CCA by 2024 and Maintain Opt-Out Rates of 5% for Residential and 15% for Commercial Through 2030 and 2045**

#### Action E-1-1 Provide carbon neutral electricity to the community

Procure carbon neutral electricity for the community through Butte Choice Energy Community Choice Aggregation (CCA), in accordance with the ordinance authorizing the implementation of a CCA Program through a Joint Powers Agreement with Butte County, amending Title 15 of the Municipal Code. Automatically enroll community and municipal accounts in the 100% renewable energy option by 2024 (or as market conditions prove favorable) with an opt-out option.

Key Pillars Supported	GHG Reduction (MT CO <sub>2</sub> e)	Implementation Start	Monitoring and Implementation Responsibility
<ul style="list-style-type: none"> <li>■ Collaboration</li> <li>■ Socially equitable</li> <li>■ Cost-effective</li> </ul>	2030: 39,170 2045: 0	2024 (Preparation in progress)	<ul style="list-style-type: none"> <li>■ Planning Division</li> <li>■ Butte Choice Energy</li> <li>■ Public Works O&amp;M</li> </ul>



## 6. GHG REDUCTION MEASURES AND ACTIONS

### Action E-1-2 Partner with Butte Choice Energy to conduct community outreach and track opt-out rates

Work with Butte Choice Energy to conduct targeted community outreach with the aim of maintaining low opt-out rates (5% or less for residential accounts and 15% or less for commercial accounts). Track opt-out rates through Butte Choice Energy and share results publicly on an annual basis.

Key Pillars Supported	GHG Reduction (MT CO <sub>2</sub> e)	Implementation Start	Monitoring and Implementation Responsibility
<ul style="list-style-type: none"> <li>■ Collaboration</li> <li>■ Accountability</li> <li>■ Education and leadership</li> </ul>	Supportive	2024	<ul style="list-style-type: none"> <li>■ Planning Division</li> <li>■ Butte Choice Energy</li> <li>■ Public Works O&amp;M</li> </ul>

## MEASURE E-2

### Eliminate Natural Gas in All New Building Construction Starting in 2025 to Reduce Natural Gas 6% by 2030 and 16% by 2045 Compared to the Adjusted Forecast

#### Action E-2-1 Require new construction to be all-electric

Adopt a new ordinance which bans the installation of natural gas in new residential and commercial construction by 2025 if not already required by the State’s 2025 cycle update to the Building Energy Efficiency Standards (California Code of Regulations Title 24, Parts 6 and 11). The ordinance will only apply for building types where electrification is shown to be cost-effective. Implementation will consist of the following:

1. Engage and educate the community and stakeholders
2. Conduct a Cost-effectiveness Study
3. Develop and draft the new building ordinance for public process and revisions
4. Formally adopt the new building ordinance
5. Apply to the California Energy Commission for final ordinance approval

Key Pillars Supported	GHG Reduction (MT CO <sub>2</sub> e)	Implementation Start	Monitoring and Implementation Responsibility
<ul style="list-style-type: none"> <li>■ Cost-effective</li> <li>■ Education and leadership</li> <li>■ GHG reduction potential</li> </ul>	2030: 6,730 2045: 19,560	2025	<ul style="list-style-type: none"> <li>■ Planning Division</li> <li>■ Building Division</li> </ul>



## MEASURE E-3

### Electrify Existing Residential Buildings Starting in 2027 to Reduce Overall Residential Natural Gas Consumption to 100 Therms/Person by 2030 and 30 Therms/Person by 2045

#### Action E-3-1 Electrify existing residential buildings

If not already required by the State’s Building Energy Efficiency Standards (California Code of Regulations Title 24, Parts 6 and 11), adopt an electrification ordinance for existing residential buildings to transition natural gas to electric in two phases, to be implemented through the building permit process.

**PHASE I:** Limit expansion of natural gas lines in existing buildings by 2025.

**PHASE II:** Require HVAC system replacements and hot water heaters replacements to be all-electric by 2027.

Implementation will consist of the following:

1. Engage and educate the community and stakeholders
2. Conduct a Cost-effective study
3. Develop and draft the new building ordinance for public process and revisions
4. Formally adopt the new building ordinance
5. Apply to the California Energy Commission for final ordinance approval

Key Pillars Supported	GHG Reduction (MT CO <sub>2</sub> e)	Implementation Start	Monitoring and Implementation Responsibility
<ul style="list-style-type: none"> <li>■ GHG reduction potential</li> </ul>	2030: 13,470 2045: 50,360	2025	<ul style="list-style-type: none"> <li>■ Planning Division</li> <li>■ Building Division</li> </ul>



## 6. GHG REDUCTION MEASURES AND ACTIONS

### Action E-3-2: Update RECO to support electrification

Expand the City’s Residential Energy Conservation Ordinance (RECO), Title 16 of the Municipal Code, to cover substantial remodels (over 50%). Amend RECO to require electrification and/or energy conservation improvements for substantial remodels (over 50%) in the same way that RECO currently requires these types of upgrades upon transfer/sale of homes and apartments. The amendment will include electrification options such as installation of a 200 amp panel and/or installation of electric heat pump appliances for HVAC and hot water heaters as well as the option to go beyond the base requirements for energy conservation set forth in the State’s Building Energy Efficiency Standards (California Code of Regulations Title 24, Part 6).

Key Pillars Supported	GHG Reduction (MT CO <sub>2</sub> e)	Implementation Start	Monitoring and Implementation Responsibility
<ul style="list-style-type: none"> <li>Accountability</li> <li>GHG reduction potential</li> </ul>	Supportive	2022 (Preparation in progress)	<ul style="list-style-type: none"> <li>Planning Division</li> <li>Building Division</li> </ul>

### Action E-3-3 Decarbonize municipal buildings

Adopt decarbonization plan to decarbonize municipal buildings by 2045. This plan would include a new building electrification policy as well as an existing building natural gas phase-out policy. Decarbonization of municipal buildings will be driven by the PG&E Sustainable Solutions Turnkey Program, which aims to achieve net neutrality in electricity usage by 2030, and work towards full decarbonization by 2045.

Key Pillars Supported	GHG Reduction (MT CO <sub>2</sub> e)	Implementation Start	Monitoring and Implementation Responsibility
<ul style="list-style-type: none"> <li>Education and Leadership</li> <li>GHG reduction potential</li> </ul>	2030: 460 2045: 1,150	In progress	<ul style="list-style-type: none"> <li>Public Works O&amp;M</li> <li>PG&amp;E</li> </ul>

### Action E-3-4 Perform an electrification feasibility study

Conduct a feasibility study/existing building analysis to understand the costs associated with electrifying existing residential and commercial buildings in the City of Chico.

Key Pillars Supported	GHG Reduction (MT CO <sub>2</sub> e)	Implementation Start	Monitoring and Implementation Responsibility
<ul style="list-style-type: none"> <li>Socially equitable</li> <li>Cost-effective</li> </ul>	Supportive	2023	<ul style="list-style-type: none"> <li>Planning Division</li> </ul>



**Action E-3-5 Track electrification progress**

Develop a permit tracking program for existing building electrification to track annual progress in achieving the City’s electrification goals.

Key Pillars Supported	GHG Reduction (MT CO <sub>2</sub> e)	Implementation Start	Monitoring and Implementation Responsibility
<ul style="list-style-type: none"> <li>Accountability</li> </ul>	Supportive	2025	<ul style="list-style-type: none"> <li>Planning Division</li> <li>Building Division</li> </ul>

**Action E-3-6 Identify and partner with stakeholders to conduct electrification outreach, promotion, and education**

Leverage partnerships with stakeholders to conduct outreach, promotion, and education around new and existing building electrification, including:

- Induction/electric stove cooking competition to demonstrate the competitiveness of electric stoves for replacing gas stoves
- Information sessions/events that educate the public on safety concerns around gas stoves and health/cost benefits of replacing water heaters and space heaters with electric heat pumps
- Develop financial and technical resources, including hosting workforce development trainings for installers and building owners/operators to discuss benefits and technical requirements of electrification and move towards all-electric requirements
- Conduct internal trainings with planners and building officials on state decarbonization goals and incentives available for electric homes
- Establish a comprehensive, coordinated electrification education campaign for property owners and occupants, including an updated list of rebates and incentives available for residents wanting to electrify their homes

Key Pillars Supported	GHG Reduction (MT CO <sub>2</sub> e)	Implementation Start	Monitoring and Implementation Responsibility
<ul style="list-style-type: none"> <li>Collaboration</li> <li>Education and Leadership</li> <li>Socially equitable</li> </ul>	Supportive	2021 (In progress)	<ul style="list-style-type: none"> <li>Planning Division</li> </ul>



## 6. GHG REDUCTION MEASURES AND ACTIONS

### Action E-3-7 Partner with stakeholders to develop resident-level funding pathways for implementing electrification ordinance

Leverage partnerships with stakeholders and establish funding pathways to ease community members' costs when complying with an electrification ordinance or meeting State standards, including:

1. Investigation of a transfer tax rebate for electric panels and/or other upgrades
2. Partner with PG&E, Butte Choice Energy, and/or other stakeholders to create or expand electrification/retrofit programs and incentives, especially for low-income residents. These could include the PACE program, PG&E's low-income weatherization program, tariffed on-bill financing, metered energy efficiency, or others.

Key Pillars Supported	GHG Reduction (MT CO <sub>2</sub> e)	Implementation Start	Monitoring and Implementation Responsibility
<ul style="list-style-type: none"> <li>■ Collaboration</li> <li>■ Socially equitable</li> <li>■ Cost-effective</li> <li>■ Accountability</li> </ul>	Supportive	2023	<ul style="list-style-type: none"> <li>■ Planning Division</li> <li>■ Building Division</li> <li>■ PG&amp;E</li> <li>■ Butte Choice Energy</li> </ul>



## MEASURE E-4

### Increase Generation and Storage of Local Renewable Energy

#### **Action E-4-1 Coordinate with stakeholders to provide local energy generation support and incentives for the community**

Partner with PG&E and/or other stakeholders to support and incentivize local on-site energy generation and storage resources within the community with a focus on underserved communities. This could include a co-located community solar and storage project.

Key Pillars Supported	GHG Reduction (MT CO <sub>2</sub> e)	Implementation Start	Monitoring and Implementation Responsibility
<ul style="list-style-type: none"> <li>■ Collaboration</li> <li>■ Socially equitable</li> <li>■ Accountability</li> </ul>	Supportive	2023	<ul style="list-style-type: none"> <li>■ Public Works O&amp;M</li> <li>■ PG&amp;E</li> </ul>

#### **Action E-4-2 Streamline battery storage building permit requirements**

Coordinate City departments to establish and streamline battery storage building permit requirements to allow for easier implementation of these technologies within the community.

Key Pillars Supported	GHG Reduction (MT CO <sub>2</sub> e)	Implementation Start	Monitoring and Implementation Responsibility
<ul style="list-style-type: none"> <li>■ Cost-effective</li> <li>■ Accountability</li> </ul>	Supportive	2023	<ul style="list-style-type: none"> <li>■ Planning Division</li> <li>■ Building Division</li> </ul>





## 6. GHG REDUCTION MEASURES AND ACTIONS

### Action E-4-3 Conduct an energy generation feasibility study

Conduct a feasibility study through the PG&E Sustainable Solutions Turnkey (SST) program to assess cost and applicable locations for installation of battery back-up systems, generators, or a micro-grid throughout the City. Engage with the community to determine how local energy generation systems can support community infrastructure as well as critical public infrastructure.

Key Pillars Supported	GHG Reduction (MT CO <sub>2</sub> e)	Implementation Start	Monitoring and Implementation Responsibility
<ul style="list-style-type: none"> <li>■ Collaboration</li> <li>■ Accountability</li> </ul>	Supportive	In progress	<ul style="list-style-type: none"> <li>■ Public Works O&amp;M</li> <li>■ PG&amp;E</li> </ul>

### Action E-4-4 Install renewable energy technology at municipal facilities

Implement the comprehensive PG&E Sustainable Solutions Turnkey Program to install renewable energy technology at municipal facilities. Key energy conservation measures include:

- Increasing backup generation capacity and adding battery storage at City facilities
- Upgrading aeration systems at the Wastewater Treatment Plan to reduce energy consumption by 11%
- Upgrading and automating all City HVAC systems
- Installing solar PV at the Municipal Services Parking Lot to create 290 kW energy savings
- Replacing aging 1MW solar PV system at the Wastewater Treatment Plan, and adding an additional 738 kW of solar PV within the existing footprint to create a total of 1.75 MW energy savings
- Updating City-operated irrigation control system design and development City-wide.

Key Pillars Supported	GHG Reduction (MT CO <sub>2</sub> e)	Implementation Start	Monitoring and Implementation Responsibility
<ul style="list-style-type: none"> <li>■ Collaboration</li> </ul>	Supportive	In progress	<ul style="list-style-type: none"> <li>■ Public Works O&amp;M</li> <li>■ PG&amp;E</li> </ul>



## TRANSPORTATION

### MEASURE T-1

**Improve Active Transportation Infrastructure to Achieve Greater Than 6% Bicycle Mode Share by 2030 and 12% Bicycle Mode Share by 2045**

#### Action T-1-1 Implement Chico Bicycle Master Plan

Implement the Chico Bicycle Plan 2019 Update in accordance with the Plan’s goals, objectives, and policies. Implementation of the Plan may include:

- Adding additional miles to the bikeway network
- Implementing new end-of-trip facilities and enforcement protocols to reduce bicycle theft
- Conducting road repairs and road maintenance
- Improving/expanding wayfinding, safety, and comfort
- Integrating with transit and other transport modes
- Conducting promotion and education around biking in Chico
- Identifying and competing for funding sources

Key Pillars Supported	GHG Reduction (MT CO <sub>2</sub> e)	Implementation Start	Monitoring and Implementation Responsibility
<ul style="list-style-type: none"> <li>■ Socially equitable</li> <li>■ GHG reduction potential</li> </ul>	2030: 1,530 2045: 1,500	In progress	<ul style="list-style-type: none"> <li>■ Planning Division</li> <li>■ Public Works Engineering</li> </ul>

#### Action T-1-2 Require shaded and convenient bike parking

Require shaded Park-a-Bike style rack or equivalent when installing bike parking in new development.

Key Pillars Supported	GHG Reduction (MT CO <sub>2</sub> e)	Implementation Start	Monitoring and Implementation Responsibility
<ul style="list-style-type: none"> <li>■ Accountability</li> </ul>	Supportive	In progress	<ul style="list-style-type: none"> <li>■ Planning Division</li> </ul>



## 6. GHG REDUCTION MEASURES AND ACTIONS

### Action T-1-3 Require major road upgrades to include bicycle infrastructure

Require major road upgrades to include bicycle infrastructure and its maintenance unless a significant cost/feasibility issue is shown. Update Title 18 Standard Details on each roadway section type to include the applicable bikeway modifications such as Type II lanes and buffered bikeway.

Key Pillars Supported	GHG Reduction (MT CO <sub>2</sub> e)	Implementation Start	Monitoring and Implementation Responsibility
<ul style="list-style-type: none"> <li>Cost effectiveness</li> <li>Accountability</li> </ul>	Supportive	In progress	<ul style="list-style-type: none"> <li>Planning Division</li> <li>Public Works Engineering</li> </ul>

### Action T-1-4 Perform a street/intersection study

Conduct a street/intersection study to identify streets and intersections that can be improved for pedestrians and bicyclists through traffic calming measures and/or where multi-use pathway opportunities exist to increase active transportation.

Key Pillars Supported	GHG Reduction (MT CO <sub>2</sub> e)	Implementation Start	Monitoring and Implementation Responsibility
<ul style="list-style-type: none"> <li>Accountability</li> </ul>	Supportive	In progress	<ul style="list-style-type: none"> <li>Planning Division</li> <li>Public Works Engineering</li> </ul>

### Action T-1-5 Complete an Active Transportation Plan

Develop and implement an Active Transportation Plan (consistent with the General Plan) that identifies funding strategies and policies for development of pedestrian, bicycle, and other modes of alternative transportation projects. Work with the City’s bike/ped working group to identify high priority areas. Example improvements include:

- Pave shoulders of streets that have high traffic counts
- Separate bike lanes from motor traffic with concrete bumper blocks or better
- Establish a safe east-west connection over highway 99

Key Pillars Supported	GHG Reduction (MT CO <sub>2</sub> e)	Implementation Start	Monitoring and Implementation Responsibility
<ul style="list-style-type: none"> <li>Socially equitable</li> <li>Accountability</li> </ul>	Supportive	2023	<ul style="list-style-type: none"> <li>Planning Division</li> <li>Public Works Engineering</li> </ul>



**Action T-1-6 Identify and partner with stakeholders to conduct outreach, promotion, and education**

Leverage partnerships with stakeholders to conduct ongoing outreach, promotion, and education around active transportation in Chico. This could include:

- Establishing City-wide events or programs that promote active transportation in the community
- Regularly updating the City’s Bicycle and Pedestrian Network Map and sharing through City and stakeholder partnership platforms
- Supporting Chico Velo in hosting workshops and classes on bike riding, safety, and maintenance by certified instructors
- Instituting car-free days downtown, potentially coupled with Farmer’s Market or other large and regular events
- Consolidating a list of local employer-provided bicycle parking, lockers, showers, and incentives as a demonstration tool for other interested employers

Key Pillars Supported	GHG Reduction (MT CO <sub>2</sub> e)	Implementation Start	Monitoring and Implementation Responsibility
<ul style="list-style-type: none"> <li>■ Collaboration</li> <li>■ Education and Leadership</li> </ul>	Supportive	In progress	<ul style="list-style-type: none"> <li>■ Planning Division</li> <li>■ Public Works Engineering</li> </ul>

**Action T-1-7 Create a Bike/Ped/Parking Coordinator Position**

Create a Bike/Ped/Parking Coordinator position for the City to ensure implementation of active and shared mobility measures.

Key Pillars Supported	GHG Reduction (MT CO <sub>2</sub> e)	Implementation Start	Monitoring and Implementation Responsibility
<ul style="list-style-type: none"> <li>■ Accountability</li> </ul>	Supportive	2023	<ul style="list-style-type: none"> <li>■ Planning Division</li> <li>■ Public Works Engineering</li> </ul>



## 6. GHG REDUCTION MEASURES AND ACTIONS

### MEASURE T-2

#### Improve EV Infrastructure to Achieve Greater Than 23% EV Share of Car Registrations by 2030, and 90% by 2045

##### Action T-2-1 Increase privately owned EV charging infrastructure

If not already required by the State’s Building Energy Efficiency Standards, consistent with the Final Butte PEV Readiness Plan, amend the City’s Building Code by 2023 to require the following::

- EV capable private garages for new single-family and duplex residential development
- 20% EV charging capable spaces and panel capacity for new multi-family residential development
- 20% EV charging capable spaces for new commercial development
- At least 1% working EV charging spaces for all new development and major retrofits

Key Pillars Supported	GHG Reduction (MT CO <sub>2</sub> e)	Implementation Start	Monitoring and Implementation Responsibility
<ul style="list-style-type: none"> <li>■ Accountability</li> <li>■ GHG reduction potential</li> </ul>	2030: 28,616 2045: 105,496	2023	<ul style="list-style-type: none"> <li>■ Planning Division</li> <li>■ Public Works Engineering</li> </ul>

##### Action T-2-2 Increase publicly accessible EV charging infrastructure

Work with public and private partners to ensure there are at least 942 publicly accessible DCFC and Level 2 EV chargers with the City’s Sphere of Influence, with a focus on providing access to low-income households and affordable housing by 2030. Prioritize locations based on analysis in the Final Butte PEV Readiness Plan.

Key Pillars Supported	GHG Reduction (MT CO <sub>2</sub> e)	Implementation Start	Monitoring and Implementation Responsibility
<ul style="list-style-type: none"> <li>■ Collaboration</li> <li>■ Socially equitable</li> <li>■ GHG reduction potential</li> </ul>	Supportive	2022 (Preparation in progress)	<ul style="list-style-type: none"> <li>■ Planning Division</li> <li>■ Public Works Engineering</li> </ul>



### Action T-2-3 Increase City-owned EV charging infrastructure

Install new publicly accessible EV chargers at City-owned facilities. Develop and implement a fee for use of City-owned chargers to encourage efficient use and turnover, especially for those without home charging capability. Allocate parking fee revenue towards projects that support EV infrastructure, alternative fuel projects, and active transportation projects.

Key Pillars Supported	GHG Reduction (MT CO <sub>2</sub> e)	Implementation Start	Monitoring and Implementation Responsibility
<ul style="list-style-type: none"> <li>■ Socially equitable</li> <li>■ Accountability</li> <li>■ GHG reduction potential</li> </ul>	Supportive	2021 (In progress)	<ul style="list-style-type: none"> <li>■ Planning Division</li> <li>■ Public Works Engineering</li> <li>■ Public Works O&amp;M</li> </ul>

### Action T-2-4 Identify and partner with stakeholders to develop ZEV-related rebates

Investigate partnerships with public and private stakeholders to develop rebates on at-home electric circuits, panel upgrades, and Level 2 chargers.

Key Pillars Supported	GHG Reduction (MT CO <sub>2</sub> e)	Implementation Start	Monitoring and Implementation Responsibility
<ul style="list-style-type: none"> <li>■ Collaboration</li> <li>■ Socially equitable</li> <li>■ Cost effectiveness</li> </ul>	Supportive	2022 (Preparation in progress)	<ul style="list-style-type: none"> <li>■ Planning Division</li> </ul>



## 6. GHG REDUCTION MEASURES AND ACTIONS

### Action T-2-5 Encourage EV adoption and infrastructure improvements

Conduct outreach, promotion, and education to encourage EV adoption and infrastructure improvements. This could include the following:

- Providing education and outreach to the community on the benefits of ZEVs, availability of public charging, and relevant rebates and incentives available for businesses and residents
- Working with major employers (e.g., CSUC, Fifth Sun, Build.com, Enloe) to provide EV charging for employees and encourage EV adoption among employees

Key Pillars Supported	GHG Reduction (MT CO <sub>2</sub> e)	Implementation Start	Monitoring and Implementation Responsibility
<ul style="list-style-type: none"> <li>■ Collaboration</li> <li>■ Accountability</li> <li>■ Education and leadership</li> </ul>	Supportive	2022 (Preparation in progress)	<ul style="list-style-type: none"> <li>■ Planning Division</li> <li>■ Public Works Engineering</li> </ul>

### Action T-2-6 Establish universal EV signage

Establish universal signage and marking requirements for EV parking spaces.

Key Pillars Supported	GHG Reduction (MT CO <sub>2</sub> e)	Implementation Start	Monitoring and Implementation Responsibility
<ul style="list-style-type: none"> <li>■ Accountability</li> </ul>	Supportive	2022 (Preparation in progress)	<ul style="list-style-type: none"> <li>■ Planning Division</li> <li>■ Public Works Engineering</li> </ul>



**Action T-2-7 Streamline the EVSE permitting and inspection processes**

Streamline both the EVSE permitting and inspection processes, which may include:

- Prioritizing EVSE permitting for faster turnaround times
- Establishing flat fees for standard installations
- Enabling homeowners and licensed contractors to submit EVSE permit applications online
- Allowing EVSE across different zoning classifications
- Considering simple EVSE installations as exempt from CEQA on a case-by-case basis
- Allowing installation of EVSE as a mitigation measure for large projects
- Condensing inspections for more complex installations that do not include panel upgrades or underground conduit
- Establishing a 24-hour flexible inspection request program online
- Providing shorter inspection windows
- Removing requirement for electrician to be present during inspection to decrease consumer costs

Key Pillars Supported	GHG Reduction (MT CO <sub>2</sub> e)	Implementation Start	Monitoring and Implementation Responsibility
<ul style="list-style-type: none"> <li>■ Cost effectiveness</li> <li>■ Accountability</li> </ul>	Supportive	2022 (Preparation in progress)	<ul style="list-style-type: none"> <li>■ Planning Division</li> </ul>





## 6. GHG REDUCTION MEASURES AND ACTIONS

### MEASURE T-3

### Improve Shared Mobility and Transit Programs and Infrastructure

#### Action T-3-1 Partner with BCAG to improve and expand transit within the City

This could include:

- Expanded transit service, especially along transit priority corridors, and more frequent and reliable transit service. More frequent transit can begin to act as a shuttle, especially since downtown employees and CSUC students and faculty are eligible for free transit passes
- Improved and/or more efficient transit technology
- Improved service/communication through interactive service maps, app payments, and real time arrival info
- Increased active transportation access to transit stops
- Enhanced, comfortable stops and stations
- Education and outreach to the community on new and existing shared transit options
- Subsidized transit passes
- New electric hop-on hop-off trolley service through major points of interest (e.g., downtown, Bidwell Park, Bidwell Mansion, Sierra Nevada, fair grounds, Chico State)

Key Pillars Supported	GHG Reduction (MT CO <sub>2</sub> e)	Implementation Start	Monitoring and Implementation Responsibility
<ul style="list-style-type: none"> <li>■ Collaboration</li> <li>■ Socially equitable</li> <li>■ Education and leadership</li> </ul>	Supportive	In progress	<ul style="list-style-type: none"> <li>■ Planning Division</li> <li>■ BCAG</li> </ul>

#### Action T-3-2 Prepare for shared bike programs

Conduct an active transportation share (e.g., bike-share, scooter-share) feasibility study. Update municipal ordinances to prepare the City for shared mobility programs in accordance with the Bicycle Master Plan and the Downtown Access Plan. Consider starting a bike share pilot program in Downtown, ideally with docked e-bikes.

Key Pillars Supported	GHG Reduction (MT CO <sub>2</sub> e)	Implementation Start	Monitoring and Implementation Responsibility
<ul style="list-style-type: none"> <li>■ Accountability</li> <li>■ GHG reduction potential</li> </ul>	Supportive	2022 (Preparation in progress)	<ul style="list-style-type: none"> <li>■ Planning Division</li> <li>■ Public Works Engineering</li> </ul>



### Action T-3-3 New employer trip reduction programs

Implement General Plan Action CIRC 9.1.2 to reduce single occupancy vehicle trips associated with work commutes. As a condition of project approval, require new non-residential projects that will employ more than 100 people to submit a Travel Demand Management Plan that identifies strategies to reduce single-occupancy vehicle trips, including encouraging employers to provide transit subsidies, bicycle facilities, alternative work schedules, telecommuting and preferential parking for carpool/vanpools.

Key Pillars Supported	GHG Reduction (MT CO <sub>2</sub> e)	Implementation Start	Monitoring and Implementation Responsibility
<ul style="list-style-type: none"> <li>Accountability</li> </ul>	Supportive	2022 (Preparation in progress)	<ul style="list-style-type: none"> <li>Planning Division</li> </ul>

### Action T-3-4 Conduct a transportation equity study

Partner with CSUC to conduct a transportation equity study to investigate current barriers for minority, low-income, and senior populations in disadvantaged communities to take transit, walk, bike, use rideshare, or carshare.

Key Pillars Supported	GHG Reduction (MT CO <sub>2</sub> e)	Implementation Start	Monitoring and Implementation Responsibility
<ul style="list-style-type: none"> <li>Socially equitable</li> </ul>	Supportive	2023	<ul style="list-style-type: none"> <li>Planning Division</li> </ul>

### Action T-3-5 Conduct a local transportation survey

Support BCAG in conducting local transportation surveys every five years to better understand the community's needs and motivation for traveling by car versus other alternatives such as by bike or bus. Use survey results to inform transit expansion and improvement projects.

Key Pillars Supported	GHG Reduction (MT CO <sub>2</sub> e)	Implementation Start	Monitoring and Implementation Responsibility
<ul style="list-style-type: none"> <li>Accountability</li> </ul>	Supportive	2022 (Preparation in progress)	<ul style="list-style-type: none"> <li>Planning Division</li> <li>BCAG</li> </ul>



## 6. GHG REDUCTION MEASURES AND ACTIONS

### Action T-3-6 Encourage and facilitate carsharing services

Perform ongoing outreach to carsharing companies about the potential to implement a carsharing program in Chico, preferably electric.

Key Pillars Supported	GHG Reduction (MT CO <sub>2</sub> e)	Implementation Start	Monitoring and Implementation Responsibility
<ul style="list-style-type: none"> <li>■ Socially equitable</li> <li>■ Education and leadership</li> <li>■ Cost-effective</li> </ul>	Supportive	2022 (Preparation in progress)	<ul style="list-style-type: none"> <li>■ Planning Division</li> <li>■ Public Works Engineering</li> </ul>

### Action T-3-7 Encourage use of local transit

Promote use of B-Line for Downtown transit especially. This could include bus open houses and promotion of DoubleMap app.

Key Pillars Supported	GHG Reduction (MT CO <sub>2</sub> e)	Implementation Start	Monitoring and Implementation Responsibility
<ul style="list-style-type: none"> <li>■ Cost-effective</li> </ul>	Supportive	In progress	<ul style="list-style-type: none"> <li>■ Planning Division</li> <li>■ BCAG</li> </ul>

### Action T-3-8 Invest in TDM strategies

In accordance with the Downtown Access Plan, designate and use a portion of paid parking revenue to invest in TDM strategies including Actions T-3-1 to T-3-7 that will ensure cost-effective Downtown access by improving transit, bicycle facilities, and create incentives for people to avoid driving.

Key Pillars Supported	GHG Reduction (MT CO <sub>2</sub> e)	Implementation Start	Monitoring and Implementation Responsibility
<ul style="list-style-type: none"> <li>■ Accountability</li> </ul>	Supportive	Preparation in progress	<ul style="list-style-type: none"> <li>■ Planning Division</li> <li>■ Public Works Engineering</li> </ul>



## MEASURE T-4

### Implement Parking and Curb Management Procedures that Support the Mode Shift Goals of the Overall Transportation Strategy

#### Action T-4-1 Utilize dynamic parking pricing Downtown

In accordance with the Downtown Access Plan, utilize dynamic pricing for Downtown area parking, increasing costs of parking during times of high usage and special events.

Key Pillars Supported	GHG Reduction (MT CO <sub>2</sub> e)	Implementation Start	Monitoring and Implementation Responsibility
<ul style="list-style-type: none"> <li>Accountability</li> </ul>	Supportive	In progress	<ul style="list-style-type: none"> <li>Planning Division</li> <li>Public Works Engineering</li> </ul>

#### Action T-4-2 Improve curbside management

Improve curbside management in accordance with the Downtown Access Plan. This may include updating the Municipal Code to require active loading only, prohibit double parking, define locations for additional loading zones, and design loading zone signage.

Key Pillars Supported	GHG Reduction (MT CO <sub>2</sub> e)	Implementation Start	Monitoring and Implementation Responsibility
<ul style="list-style-type: none"> <li>Accountability</li> </ul>	Supportive	2022 (Preparation in progress)	<ul style="list-style-type: none"> <li>Planning Division</li> <li>Public Works Engineering</li> </ul>

#### Action T-4-3 Encourage parklets Downtown

Identify opportunities for development of parklets throughout the City’s Downtown, to replace parking spaces with bike parking or outdoor restaurant seating.

Key Pillars Supported	GHG Reduction (MT CO <sub>2</sub> e)	Implementation Start	Monitoring and Implementation Responsibility
<ul style="list-style-type: none"> <li>Accountability</li> </ul>	Supportive	In progress	<ul style="list-style-type: none"> <li>Planning Division</li> <li>Public Works Engineering</li> </ul>



## 6. GHG REDUCTION MEASURES AND ACTIONS

### Action T-4-4 Establish carpool/vanpool/shuttle parking minimums

Update the Municipal Code to establish minimums for carpool/vanpool/shuttle parking requirements in new non-residential development.

Key Pillars Supported	GHG Reduction (MT CO <sub>2</sub> e)	Implementation Start	Monitoring and Implementation Responsibility
<ul style="list-style-type: none"> <li>Accountability</li> </ul>	Supportive	2023	<ul style="list-style-type: none"> <li>Planning Division</li> </ul>

### MEASURE T-5

**Support Implementation of the City’s General Plan that Promotes Sustainable Infill Development and Mixed-Use Development in New Growth Areas to Reduce Vehicle Miles Traveled (VMT)**

### Action T-5-1 Support infill growth

Continue to support infill growth and thoughtful mixed-use development in new growth areas consistent with the Chico 2030 General Plan and the regional Sustainable Communities Strategy.

Key Pillars Supported	GHG Reduction (MT CO <sub>2</sub> e)	Implementation Start	Monitoring and Implementation Responsibility
<ul style="list-style-type: none"> <li>Accountability</li> </ul>	Supportive	In progress	<ul style="list-style-type: none"> <li>Planning Division</li> </ul>



## WASTE

### MEASURE W-1

**Update Waste Hauler Franchise Agreements to Implement Requirements of SB 1383 and Achieve 75% Reduction Below 2014 Levels in Organic Waste to 0.4 Tons of Waste/Person by 2025 and Maintain Through 2045**

#### Action W-1-1 Require residential and commercial organic waste collection through updated waste hauler contracts

Update waste hauler contracts to include expanded organic waste collection. Pass an ordinance by 2022 requiring residential and commercial organics generators to subscribe to organics collection programs or alternatively report organics self-hauling and/or backhauling. Allow limited waivers and exemptions to generators for de minimis volumes and physical space constraints and maintain records for waivers/exemptions.

Key Pillars Supported	GHG Reduction (MT CO <sub>2</sub> e)	Implementation Start	Monitoring and Implementation Responsibility
<ul style="list-style-type: none"> <li>Collaboration</li> <li>Accountability</li> <li>GHG reduction potential</li> </ul>	2030: 7,690 2045: 7,690	2022	<ul style="list-style-type: none"> <li>Planning Division</li> <li>Public Works O&amp;M</li> <li>Waste Management</li> <li>Recology</li> </ul>

#### Action W-1-2 Require edible food recovery

Adopt an edible food recovery ordinance or similarly enforceable mechanism to ensure edible food generators, food recovery services, and food recovery organizations comply with State requirements to increase recovery rates.

Key Pillars Supported	GHG Reduction (MT CO <sub>2</sub> e)	Implementation Start	Monitoring and Implementation Responsibility
<ul style="list-style-type: none"> <li>Collaboration</li> <li>Socially equitable</li> </ul>	Supportive	2022	<ul style="list-style-type: none"> <li>Planning Division</li> <li>Public Works O&amp;M</li> </ul>



## 6. GHG REDUCTION MEASURES AND ACTIONS

### Action W-1-3 Partner with North State Rendering to expand use of the digester

Work with North State Rendering to expand use of organics in the digester. Conduct a pilot to demonstrate effectiveness and identify funding sources for a larger expansion.

Key Pillars Supported	GHG Reduction (MT CO <sub>2</sub> e)	Implementation Start	Monitoring and Implementation Responsibility
<ul style="list-style-type: none"> <li>■ Collaboration</li> <li>■ GHG reduction potential</li> </ul>	Supportive	2022 (Preparation in progress)	<ul style="list-style-type: none"> <li>■ Planning Division</li> <li>■ Public Works O&amp;M</li> <li>■ North State Rendering</li> </ul>

### Action W-1-4 Conduct capacity planning for organic waste collection

Engage in organic waste collection capacity planning by executing the following:

- Estimate Chico’s disposal of organic waste in tons
- Identify and verify amount of available organics waste recycling infrastructure
- Estimate the amount of new or expanded capacity needed to process organic waste
- Work with the City of Chico’s Recycling and Solid Waste Division and waste haulers to coordinate organic waste delivery to Recology’s Oroville Transfer Station and Ostrom Road organics facility
- Develop and submit an implementation schedule highlighting planning effort to provide enough new or expanded organics capacity, including timelines and relevant milestones by the end of the report period
- Identify proposed new or expanded facilities that could be used for additional capacity

Key Pillars Supported	GHG Reduction (MT CO <sub>2</sub> e)	Implementation Start	Monitoring and Implementation Responsibility
<ul style="list-style-type: none"> <li>■ Accountability</li> </ul>	Supportive	2022 (Preparation in progress)	<ul style="list-style-type: none"> <li>■ Planning Division</li> <li>■ Public Works O&amp;M</li> <li>■ Recycling and Solid Waste Division</li> <li>■ Recology</li> </ul>



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- Identify proposed new or expanded facilities that could be used for additional capacity

Key Pillars Supported	GHG Reduction (MT CO <sub>2</sub> e)	Implementation Start	Monitoring and Implementation Responsibility
<ul style="list-style-type: none"> <li>■ Accountability</li> </ul>	Supportive	2022 (Preparation in progress)	<ul style="list-style-type: none"> <li>■ Planning Division</li> <li>■ Public Works O&amp;M</li> <li>■ Recycling and Solid Waste Division</li> <li>■ Recology</li> </ul>

**Action W-1-5 Conduct capacity planning for edible food recovery**

Engage in edible food recovery capacity planning by executing the following actions:

- Estimate the amount of edible food that will be disposed by organics generators in Chico
- Work with commercial food generators to reduce excess edible food generation
- Work regionally to establish a full list of food recovery organizations that can receive edible food from Chico businesses
- Identify proposed new or expanded food recovery capacity
- Identify the minimum capacity required to recover 20% of edible food that is estimated to be disposed
- If existing and planned capacity is insufficient based on the above process, the City of Chico must develop and submit an implementation schedule highlighting the planning effort to provide enough new or expanded capacity for increasing edible food donations and identify proposed new or expanded facilities to be used to for additional capacity

Key Pillars Supported	GHG Reduction (MT CO <sub>2</sub> e)	Implementation Start	Monitoring and Implementation Responsibility
<ul style="list-style-type: none"> <li>■ Accountability</li> </ul>	Supportive	2022 (Preparation in progress)	<ul style="list-style-type: none"> <li>■ Planning Division</li> <li>■ Public Works O&amp;M</li> </ul>





## 6. GHG REDUCTION MEASURES AND ACTIONS

### Action W-1-6 Develop and implement a partnered education and outreach program

Update waste hauler contracts and partner with stakeholders (e.g., Recology, CSUC, Chico State, BEC) to develop and implement an education and outreach program around SB 1383:

- Coordinate with Recology’s education and outreach personnel to expand on existing community outreach
- Conduct outreach and education at schools on composting, recycling, and waste reduction
- Provide education to the community on home composting techniques
- Inform organics generators/edible food generators on requirements to properly separate materials, organic waste prevention and on-site recycling, methane reduction benefits of composting, and information related to edible food donation
- Hold a compost give-away event for Chico residents
- Identify percentage of organics generators who are “limited English-Speaking households” or “linguistically isolated.” If more than five percent (5%) of Chico’s organics generators are defined as “limited English-speaking households” or linguistically isolated,” provide education and outreach in a language or languages that will assure the information is understood by that community

Key Pillars Supported	GHG Reduction (MT CO <sub>2</sub> e)	Implementation Start	Monitoring and Implementation Responsibility
<ul style="list-style-type: none"> <li>■ Collaboration</li> <li>■ Education and leadership</li> </ul>	Supportive	2022 (Preparation in progress)	<ul style="list-style-type: none"> <li>■ Planning Division</li> <li>■ Public Works O&amp;M</li> <li>■ Recology</li> </ul>

### Action W-1-7 Develop and implement an inspection and compliance program

Update waste hauler contracts to implement an inspection and compliance program for the edible food recovery program and organics procurement program with defined enforcement mechanisms and penalties, to begin prior to 2024. Maintain records of compliance in accordance with SB 1383.

Key Pillars Supported	GHG Reduction (MT CO <sub>2</sub> e)	Implementation Start	Monitoring and Implementation Responsibility
<ul style="list-style-type: none"> <li>■ Accountability</li> </ul>	Supportive	2022 (Preparation in progress)	<ul style="list-style-type: none"> <li>■ Planning Division</li> <li>■ Public Works O&amp;M</li> </ul>



## SEQUESTRATION

### MEASURE S-1

**Increase Carbon Sequestration by Increasing Urban Canopy Cover at Least 10% by 2030 Through New Greenscaping Programs**

#### Action S-1-1 Implement Chico’s Urban Forest Revitalization Program

Implement the Urban Forest Revitalization Program to plant 700 trees by March 2022 (adopted) and 4,500 trees by 2030 (new goal). Focus on areas of the City with low tree canopy cover based on canopy map and optimize carbon sequestration through management of the existing urban forest.

Key Pillars Supported	GHG Reduction (MT CO <sub>2</sub> e)	Implementation Start	Monitoring and Implementation Responsibility
<ul style="list-style-type: none"> <li>■ Socially equitable</li> <li>■ GHG reduction potential</li> </ul>	2030: 260 2045: 260	2022 (Preparation in progress)	<ul style="list-style-type: none"> <li>■ Public Works O&amp;M</li> </ul>

#### Action S-1-2 Increase greenspace in Chico

Identify and participate in partnership opportunities necessary to convert public and private spaces into water efficient greenspace and increase the City’s carbon sequestering greenspace by 2030.

Key Pillars Supported	GHG Reduction (MT CO <sub>2</sub> e)	Implementation Start	Monitoring and Implementation Responsibility
<ul style="list-style-type: none"> <li>■ Collaboration</li> </ul>	Supportive	2022 (Preparation in progress)	<ul style="list-style-type: none"> <li>■ Planning Division</li> <li>■ Public Works O&amp;M</li> </ul>



## 6. GHG REDUCTION MEASURES AND ACTIONS

### Action S-1-3 Improve greenspace management to maximize carbon sequestration

Improve management of public open space and park lands, including use of compost, to maximize carbon sequestration. Through permit review, evaluate and ensure that landscaping plans utilize native species identified in the Urban Forest Management Plan where feasible.

Key Pillars Supported	GHG Reduction (MT CO <sub>2</sub> e)	Implementation Start	Monitoring and Implementation Responsibility
<ul style="list-style-type: none"> <li>Accountability</li> </ul>	Supportive	2022 (Preparation in progress)	<ul style="list-style-type: none"> <li>Planning Division</li> <li>Public Works O&amp;M</li> </ul>

### Action S-1-4 Require shade trees in new major developments

Require new development to include shade trees for enhanced energy savings, provided it would not interfere with solar installation. Tree species and location would be determined in coordination with the City's Urban Forester. Street tree planting shall also be required for all new single-family subdivisions.

Key Pillars Supported	GHG Reduction (MT CO <sub>2</sub> e)	Implementation Start	Monitoring and Implementation Responsibility
<ul style="list-style-type: none"> <li>Accountability</li> </ul>	Supportive	In progress	<ul style="list-style-type: none"> <li>Planning Division</li> </ul>



## MEASURE S-2

### Develop and Implement the Urban Forest Master Plan

#### Action S-2-1 Develop, adopt and implement the Urban Forest Master Plan

Create an actionable strategic plan for the City’s urban forest that will guide it to its vision of a healthy, robust and resilient urban forest over the next 40 years. The plan shall include sections on work programs, policies, ordinances, sustainable urban forest management, design, planting, staffing, stewardship, carbon offset, storm water management, creek, open space and natural resource management, public tree inventory, and community participation and education.

Key Pillars Supported	GHG Reduction (MT CO <sub>2</sub> e)	Implementation Start	Monitoring and Implementation Responsibility
<ul style="list-style-type: none"> <li>■ Socially equitable</li> <li>■ GHG Reduction Potential</li> </ul>	Supportive	2022/2023 (Preparation in progress)	<ul style="list-style-type: none"> <li>■ Planning Division</li> <li>■ Public Works O&amp;M</li> </ul>

#### Action S-2-2 Conduct a canopy cover analysis

Conduct a tree canopy coverage analysis that includes all trees within the city limits, including public and private property trees, open space, natural resources area, creek and riparian areas, and golf courses. The resulting study should provide information on the number of trees and tree density on all identified areas and provide analysis if trees are equitably distributed throughout the city and present a clear picture on where city should strategically invest resources.

Key Pillars Supported	GHG Reduction (MT CO <sub>2</sub> e)	Implementation Start	Monitoring and Implementation Responsibility
<ul style="list-style-type: none"> <li>■ Accountability</li> </ul>	Supportive	2022	<ul style="list-style-type: none"> <li>■ Planning Division</li> <li>■ Public Works O&amp;M</li> </ul>



## 6. GHG REDUCTION MEASURES AND ACTIONS

### Action S-2-3 Conduct citywide tree planting analysis

Conduct a tree planting analysis to gain a better understanding of the urban forest’s overall condition. The resulting information should be used to develop management recommendations associated with tree removal, tree planting, trimming cycle adjustments and related maintenance activities. Additionally, the results of this analysis should be used to develop a list of recommended tree species that will be suitable for the city’s current environmental conditions as well as anticipated conditions caused by climate change.

Key Pillars Supported	GHG Reduction (MT CO <sub>2</sub> e)	Implementation Start	Monitoring and Implementation Responsibility
<ul style="list-style-type: none"> <li>Accountability</li> </ul>	Supportive	2023	<ul style="list-style-type: none"> <li>Planning Division</li> <li>Public Works O&amp;M</li> </ul>

## OUTREACH AND EDUCATION

### MEASURE O-1

#### Conduct a Holistic Community Outreach and Education Program to Optimize CAP Implementation

### Action O-1-1 Conduct partnered community outreach and education

Develop a plan for ongoing community outreach strategies to maintain education and promotion of the CAP. This includes regular maintenance of the City’s CAP webpage and ongoing PR, working with CUSD to create K-12 lesson plans, and partnering with CSUC and non-profits.

Key Pillars Supported	GHG Reduction (MT CO <sub>2</sub> e)	Implementation Start	Monitoring and Implementation Responsibility
<ul style="list-style-type: none"> <li>Collaboration</li> <li>Education and leadership</li> </ul>	Supportive	2022/2023 (Preparation in progress)	<ul style="list-style-type: none"> <li>Planning Division</li> </ul>



# 7. COMMUNITY ACTION GUIDE



Welcome to Bidwell Park





This community action guide includes actions that can be taken at the community level by residents, homeowners and property owners, businesses and employers, and developers to support Chico's GHG emissions reduction goals, improve sustainability, and help mitigate the impacts of climate change. This section also

includes resources specific to Chico that make taking these actions possible. In general, these actions support Chico's efforts to decarbonize electricity, electrify its buildings, reduce fossil-fuel based transportation, divert organic waste from the landfill, and conserve water.

## RESIDENTS

Residents play a big role in helping Chico to achieve its GHG targets. If you are a resident of Chico, this section includes information and

resources related to actions you can take that will make the biggest impacts.

## BIKE, WALK, SKATEBOARD, SCOOTER, TAKE THE BUS, OR CARPOOL WHEN POSSIBLE

**IMPACT:** Moderate to high. Finding alternative transportation options to single-occupancy vehicles is key to reducing your transportation footprint. Biking, walking, skateboarding, scootering, taking the bus, and carpooling are all good alternative transportation options, and support Chico's efforts to increase active and shared transportation (Measures T-1 and T-3).

**COST:** Walking and biking/skateboarding/scootering are great low/no cost alternatives to driving and can help improve resident's health and wellness. Taking the bus or carpooling can also help save on your transportation costs. Taking the B-Line in Chico costs \$1.75 for a local trip and \$2.40 for a regional trip. Butte Regional Transit also offers cost-saving multi-day passes.

### RESOURCES:

- [Explore Chico's bike path map \(186 rideable bike paths\)](#)
- [Explore Chico Velo's guide to bike routes in Chico](#)
- [Review Chico's guide to bike safety](#)
- [Find all B-Line routes and schedules](#)
- [Free B Line Transit for downtown workers and students](#)





## BUY AN ELECTRIC VEHICLE WHEN IT'S TIME FOR A NEW CAR

**IMPACT:** High. Gasoline and diesel usage are the largest contributor to Chico's GHG emissions. Chico's transportation strategy includes electrifying car trips to the greatest extent possible (Measure T-2). Buying an electric vehicle will directly support this strategy and may provide life cycle cost savings in the long run.

**COST:** Costs for residents who choose to buy EVs are highly dependent on vehicle choice. Many EV's are comparable in cost to gasoline-powered vehicles and can be comparatively less expensive over the full life of the car.<sup>37</sup> Costs can also be associated with installing an EV charger in your home. Level 1 chargers can cost between \$300 to \$600 to install.

### RESOURCES:

- [Evaluate the GHG footprint of different cars](#)
- [Explore a list of affordable electric cars on the market](#)
- [Review a summary of EV and charging costs in Chapter 10 of BCAG's EV Readiness Plan](#)



## COMPOST YOUR YARD AND FOOD WASTE

**IMPACT:** Low to moderate. Chico has adopted a strategy to divert organic waste from the landfill through enhanced composting programs in the City (Measure W-1). You can support this work by doing your own composting and recycling now. It's low cost and has the added benefit of reducing strain on local landfills.

**COST:** Low to none.

### RESOURCES:

- [Recycle your yard waste with Chico's Curbside yard waste recycling program](#)
- [Compost at home](#)
- [Drop off your compost at CSU Chico's Compost drop off](#)

- Buy compost from [Waste Management, Earthworm Soil Factory, or The Worm Farm](#)
- [Learn about all the ways to recycle in Butte County](#)



<sup>37</sup> <https://www.carboncounter.com/#!/explore>



## HOMEOWNERS AND PROPERTY OWNERS

Homeowners and property owners have power over how their property uses resources like energy for heating and cooling, and water for washing and landscaping. If you are a homeowner or property owner in Chico, this section

includes a list of suggested actions for reducing the energy and water usage of your property while maintaining comfort in a cost-effective way.

### INSTALL SOLAR PANELS AND/OR BATTERY STORAGE

**IMPACT:** High. Installing solar panels on your property reduces your electricity emissions directly to zero and increases Chico's electrical grid resiliency. These are key aspects of Chico's energy strategy (see Measures E-1 and E-4). Battery storage takes this one step further by allowing you to store solar energy for use at night, decreasing your emissions footprint even further at the time when the grid is supplying the most carbon intensive electricity. Battery storage can also increase your property's resiliency by providing electricity during power outages or disasters.

**COST:** Up-front cost for installing solar panels and batteries on your home can be high (currently anywhere from \$5,000 to \$17,000 after tax breaks for solar and \$11,000 to \$18,000 for batteries), but on-bill cost savings start right away and can pay off the installation in 7 to 20 years for solar and 6 to 12 years for battery storage. Average savings for solar after 20 years is \$20,000 on average. PG&E and other programs provide financing options for installing solar.

#### RESOURCES:

- [Learn about PG&E's steps to install and connect renewable energy](#)
- [Use PG&E's solar calculator tool to estimate your solar savings potential](#)
- [Apply for a residential solar permit from the City online](#)
- [Explore opportunities to get free solar installed on your home through Grid Alternatives Energy for All Program for families with limited or fixed incomes](#)



## INSTALL AN ELECTRIC WATER HEATER, HEAT PUMP HVAC, AND/OR STOVE TOP

**IMPACT:** High. All-electric appliances will be GHG-free with Chico's switch to carbon-free electricity through Butte Choice Energy (Measure E-1), and support the effort to electrify existing buildings (Measure E-3). Investigate the electrification process now so that you are prepared to replace your gas unit with an electric alternative once it breaks down. Focusing on time of replacement will help keep costs lower for homeowners and property owners.

**COST:** In general, all-electric models are more expensive than natural-gas fueled counterparts upfront but provide long term on-bill savings. Current marginal costs (the cost increase compared to replacement with a natural gas appliance) after rebates for a heat pump HVAC (which also provides cooling) is about \$3,600 to \$8,200 before incentives. However, if a household expects to replace both an air conditioner and a furnace, a single heat pump unit provides the same heating and cooling at a lower upfront cost. Heat pump hot water heaters represent a marginal cost between \$1,700 and \$2,600 before incentives and offers significant cost savings over time.<sup>38</sup> These marginal costs can vary depending on the age of the building and the electrical infrastructure present. PG&E currently offers rebates on all-electric equipment.

### RESOURCES:

- [Explore Services from Royal Heating and Air](#)
- [Explore Rebated from Climate and Energy Solutions](#)
- [Learn more about installing electric appliances from The Switch is On](#)
- [Find rebates and contractors for installing electric appliances from The Switch is On](#)



<sup>38</sup> E3 Residential Building Electrification in CA 2019



## REDUCE YOUR WATER USAGE

**IMPACT:** Low. While water usage is only a small contributor to GHG emissions in Chico, smart water usage is imperative to maintaining the agricultural industry in California and reducing the impacts of drought.

**COST:** Low to none.

### RESOURCES:

- [Replace your lawn and turf with water wise landscaping](#)
- [Tune up your irrigation system for free through CalWater](#)
- [Explore CalWater rebates for water conservation appliances](#)



## BUSINESSES AND EMPLOYERS

Businesses and employers will play a key role in reducing GHG emissions in Chico and supporting this CAP. This section provides a list of

actions that businesses and employers can take to support GHG emissions reductions in Chico.

### INSTALL BIKE-FRIENDLY FACILITIES FOR YOUR EMPLOYEES AND ENCOURAGE PUBLIC TRANSIT

**IMPACT:** High. You can help your employees decarbonize their commute and bike, walk, or take the bus to work. Consider installing bike racks or bike lockers for employees to safely store their bikes during the workday, providing showering facilities, and/or offering financial incentives for employees to bike, walk, carpool, or take the bus to work. Also consider partnering with Chico Velo, the local bicycle advocacy group, to further support Chico's bike culture.

#### RESOURCES:

- [\*Explore more ways to encourage your employees to bike to work\*](#)
- [\*Advertise free B Line transit for downtown workers to your employees\*](#)
- [\*Contact Chico Velo to discuss partnership options\*](#)





## INSTALL EV CHARGERS IN THE EMPLOYEE PARKING LOT AND CONVERT FLEET TO ELECTRIC WHEN POSSIBLE

**IMPACT:** High. Gasoline and diesel usage are the largest contributor to Chico's GHG emissions. Chico's transportation strategy includes electrifying car trips to the greatest extent possible (Measure T-2). Converting your fleet to electric, installing EV chargers in your workplace parking lot, and developing a workplace charging program for your employees will support this important effort.

### RESOURCES:

- [Review this guide for developing a workplace charging program in Chapter 8 of BCAG's EV Readiness Plan](#)
- [Explore this Business Clean Vehicle Fleet Program](#)

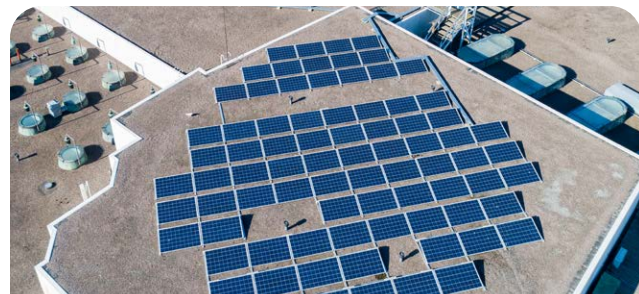


## INSTALL SOLAR PANELS AND/OR BATTERY STORAGE AT YOUR BUSINESS

**IMPACT:** High. Installing solar on at your business reduces your electricity emissions and increases Chico's electrical grid resiliency. These are key aspects of Chico's energy strategy (see Measures E-1 and E-4). Battery storage takes this one step further by allowing you to store solar energy for use at night, decreasing your emissions footprint even further at the time when the grid is supplying the most carbon intensive electricity. Battery storage can also increase your business's resiliency by providing electricity during power outages or disasters.

### RESOURCES:

- [Get your business started with solar](#)
- [Use PG&E's solar calculator tool to estimate your solar savings potential](#)
- [10 benefits of solar energy for commercial buildings](#)

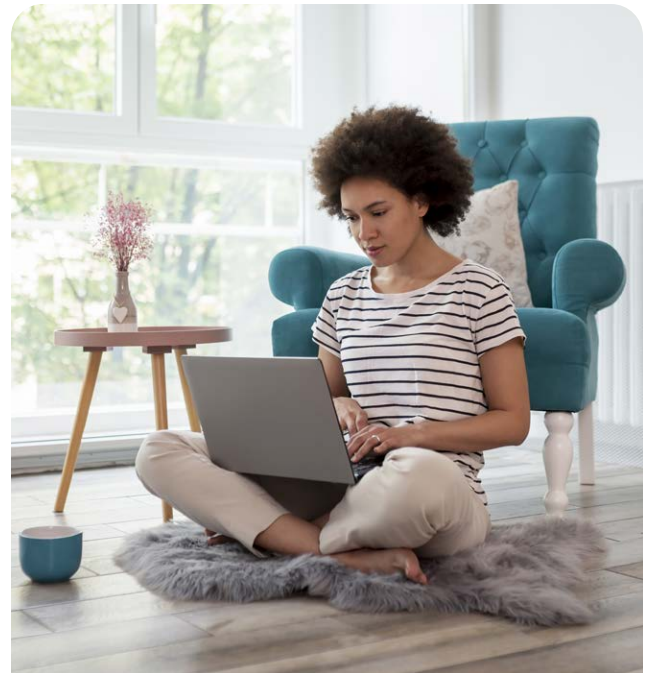


## DEVELOP WORK-FROM-HOME POLICIES FOR EMPLOYEES

**IMPACT:** Moderate to high. Allowing your employees to work from home, even one day per week, will reduce vehicle miles traveled in Chico, save your employees money, improve air quality, and reduce traffic impacts. Most passenger vehicle miles in California are from commuting to and from work. Removing the need to commute to work via car supports Chico's efforts to reduce vehicle miles traveled and helps reduce Chico's GHG emissions.

### RESOURCES:

- [Review suggestions for how to create an effective work-from-home policy from BuiltIn](#)
- [Take a look at this sample telecommuting policy from Global Workplace Analytics](#)



## REDUCE YOUR WATER USAGE

**IMPACT:** Low. While water usage is only a small contributor to GHG emissions in Chico, smart water usage is imperative to maintaining the agricultural industry in California and reducing the impacts of drought.

### RESOURCES:

- [Explore CalWater Rebates for commercial properties](#)





## REDUCE FOOD WASTE

**IMPACT:** Low to moderate. Chico has adopted a strategy to divert organic waste from the landfill through enhanced composting programs in the City (Measure W-1). You can support this effort by reducing your food waste at your business.

### RESOURCES:

- [Managing food waste at the workplace](#)
- [Managing food waste at your restaurant](#)
- [Learn about food donation programs](#)
- [Donate your left-over food to a local shelter such as the Torres Shelter](#)



## PRACTICE SUSTAINABLE BUSINESS

**IMPACT:** Low to moderate. You can reduce your organization's GHG emissions by procuring sustainable materials and developing other employee-focused sustainability policies.

### RESOURCES:

- [Review this business guide to sustainable business practices](#)
- [Learn more about small businesses and sustainability](#)
- [Explore rebates and incentives for energy savings](#)
- [Get innovative with energy saving solutions](#)
- [Explore energy saving options for the hospitality industry](#)





## DEVELOPERS

Developers in Chico hold the keys to making new buildings in Chico less GHG intensive. A primary way to do that is by building all-electric

and ensuring all new development comes with EV charging infrastructure.

## BUILD ALL-ELECTRIC MULTIFAMILY AND SINGLE FAMILY HOMES

**IMPACT:** High. New multifamily and single family developments represent a unique opportunity for developers to save money and reduce GHG emissions at the same time by building all-electric. This action is consistent with Chico's efforts to eliminate natural gas in new building construction through an electrification ordinance starting in 2025 (Measure E-2). If you are a developer in Chico, you can support Chico's energy strategy and take advantage of the cost-saving benefits of building all-electric now.

**COST:** Building all-electric generally costs less for the developer and for the residents of the building. Especially high savings, between \$85,000 to \$100,000 are associated with avoiding the cost to run natural gas to the building. Additional cost savings are associated with avoiding the need to locate gas meters, lower Title 24 requirements, and expedited timelines from avoiding installing natural gas infrastructure. Cost increases from building all-electric may result from buying heat pump water heaters, which cost about \$800 more than their natural gas counterparts. Building all-electric developments can be difficult without the right expertise. Make sure you are working with an architect and Title 24 team that understands electrification.

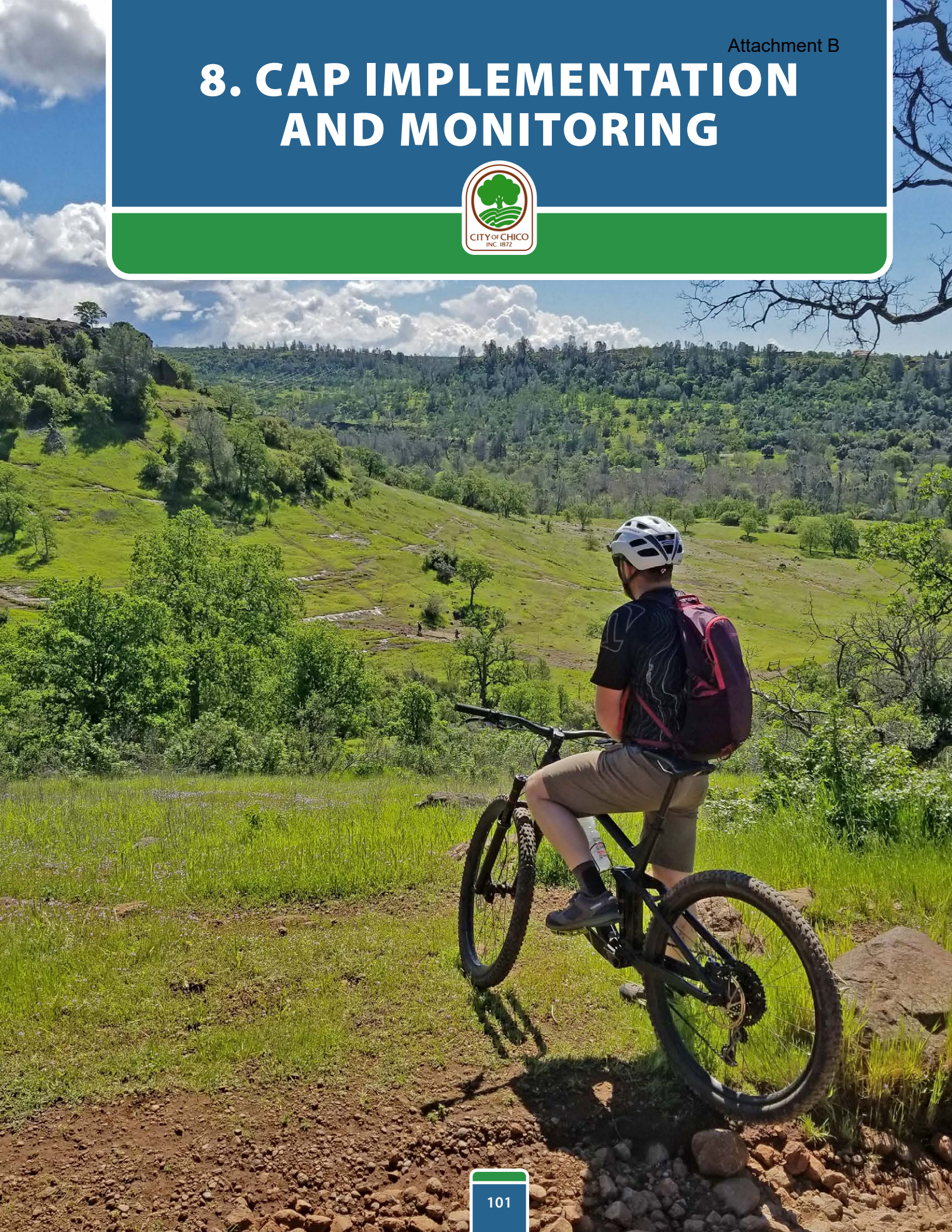
### RESOURCES:

- [\*Building Decarbonization Coalition's best practices for designing decarbonized buildings\*](#)
- [\*Redwood Energy's Guide to zero emissions all-electric single family construction\*](#)
- [\*Redwood Energy's guide to zero emissions all-electric multifamily construction\*](#)





# 8. CAP IMPLEMENTATION AND MONITORING





Chico's CAP includes a suite of strategies, measures, and actions that have been designed to achieve GHG emissions reductions in line with the City's 2030 emissions target and make substantial progress towards achieving the 2045 GHG emissions goal. As part of the CAP development process, the City also established a 2025 GHG emissions milestone to measure short-term progress. While the third-party evidence included in Appendix E establishes that the measures and actions in this CAP will achieve the 2025 milestone and 2030 target and make substantial progress towards the 2045 carbon neutrality goal, actual progress is best tracked

by comparing Chico's GHG emissions targets to quantified GHG emissions in future years using activity data. As with any forecast there is some degree of uncertainty associated with implementation of the CAP, as adoption rates of new technologies and services, costs of each measure, changes to technology, and legislative changes will evolve over time. To help ensure this CAP is implemented, responsive to evolving real world conditions, and achieves the GHG emissions targets, this section includes a plan for funding, implementing, monitoring, and updating the CAP over time.

## RESPONSIBLE PARTIES FOR IMPLEMENTATION

The CAP's implementation will be led by the City, with support from the community partners identified in the GHG reduction strategies and other key stakeholders identified in

Appendix A, as well as the community itself, as detailed below and represented in Figure 8-1. The implementation and monitoring leads are identified for each CAP action in Chapter 6.

## CITY RESPONSIBILITIES

The City is directly responsible for updating building codes, developing ordinances, conducting outreach, education, promotion, and feasibility studies, fostering partnerships, and providing specific infrastructure updates (e.g., EV charging infrastructure, bike lanes, municipal building electrification, etc.) from the CAP actions. As policies and programs are

developed and infrastructure is constructed in alignment with the CAP's strategies, measures, and actions, City staff will engage the Chico community on opportunities or requirements for participating in these new structures as they become available.



## **PARTNER RESPONSIBILITIES**

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While the City is responsible for driving implementation of the CAP, local businesses, special districts, regional jurisdictions, community organizations, and other local groups are often better positioned to implement CAP actions. For example, Butte Regional Transit is better positioned to improve local transit than the City as it has responsibility for the B-Line. Through relationships identified and fostered by the City, key partners of the CAP will be responsible for assisting the City with outreach and promotion, conducting program tracking, developing incentives, rebates, and funding pathways for community level appliance upgrades, installing renewable energy and EV technologies, improving and expanding transit, and increasing organic waste collection capacity. Key partners include, but are not limited to:

- Build.com
- Butte Choice Energy (BCE)

- Butte County
- Butte County Association of Governments (BCAG)
- Butte Environmental Council
- California State University, Chico (CSU Chico)
- Chico Unified School District (CUSD)
- Chamber of Commerce
- Chico Builders Association
- Chico Velo
- Enloe Medical Center
- Fifth Sun
- North State Rendering
- Pacific Gas & Electric (PG&E)
- Recology
- Sierra Nevada Brewing Co.
- Valley Contractors Exchange
- Waste Management

## **COMMUNITY RESPONSIBILITIES**

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While the City and its partners will be responsible for CAP implementation, it is ultimately up to the broader community to embrace new services and technologies and gain the benefits outlined in this plan. Residents, local business owners, local developers, and building owners will be able to leverage new services and adopt new practices enabled by the CAP strategies. The key actions for the community are outlined in Chapter 7. Participation in these measures,

feedback on implementation successes and hurdles, and ongoing collaboration with the City will all drive the successful implementation of the CAP.



Figure 8-1 CAP Implementation Responsible Parties



## IMPLEMENTATION FUNDING AND COSTS

The strategies, measures, and actions developed for the CAP prioritize steps towards implementation that are low-cost to the community or have a positive return on investment. For example, CAP Measure E-1 decarbonizes Chico’s electricity and reduces electricity emissions 90% by 2030 at low cost to the Chico community.<sup>39</sup> Other measures in the CAP, including the eventual electrification of existing buildings (Measure E-3) and buildout of active transportation infrastructure (Measure T-1), will require more significant cost investments for successful implementation but provide immediate GHG emissions reductions and a positive return on investment over time.

To help identify feasible cost pathways for the measures that require a higher capital

investment, the CAP includes a Climate Action Financing Plan (Appendix D). The Climate Action Financing Plan identifies specific grant, partnership, loan, bond, fee, and tax pathways (prioritized in that order) as potential solutions to offset community costs and mitigate the larger City costs associated with the measures. Some expenditures will not represent net cost increases, but instead will involve the purchase of similar-cost climate-friendly alternatives to typically carbon intensive equipment, practices, and technologies. For example, home-owners and businesses are encouraged to make investments in water and energy conservation improvements, for which the initial expenditure will be offset by long-term savings from reduced water or energy usage. The CAP also includes actions that involve working

<sup>39</sup> While the costs for Butte Community Energy are not yet known, 100% renewable electricity options from other community choice aggregators are approximately \$4-\$6 more per month for the average homeowner depending on rate plan. [https://www.pge.com/pge\\_global/common/pdfs/customer-service/other-services/alternative-energy-providers/community-choice-aggregation/ebce\\_rateclasscomparison.pdf](https://www.pge.com/pge_global/common/pdfs/customer-service/other-services/alternative-energy-providers/community-choice-aggregation/ebce_rateclasscomparison.pdf)



## 8. CAP IMPLEMENTATION AND MONITORING

with partners to develop and provide rebates and other low-cost financing programs to the community to close the cost-gap on higher cost climate friendly appliance or technology alternatives. The expected costs to the City and community for each measure in the CAP are described in Chapter 5, with additional detail added on residential, homeowner/property owner, business/employer, and developer costs in Chapter 7.

While funding and financing solutions have been identified for the CAP in the Climate Action Financing Plan, the City will ultimately identify the best funding pathway at the time of implementation of each action. The CAP's strategies, measures, and actions will be implemented over time, according to the specific implementation dates identified in Chapter 6.

### TIMING OF IMPLEMENTATION

Implementation of the CAP's measures and actions will begin before the end of 2021 and continue through at least 2045. The implementation

start date and other details on timing are identified for each action in Chapter 6.

### MONITORING AND REPORTING

Monitoring of the CAP Update will be conducted by City departments with the aid of the CAP's partners listed above. Monitoring will consist of the following activities to be conducted on at least a bi-annual basis:

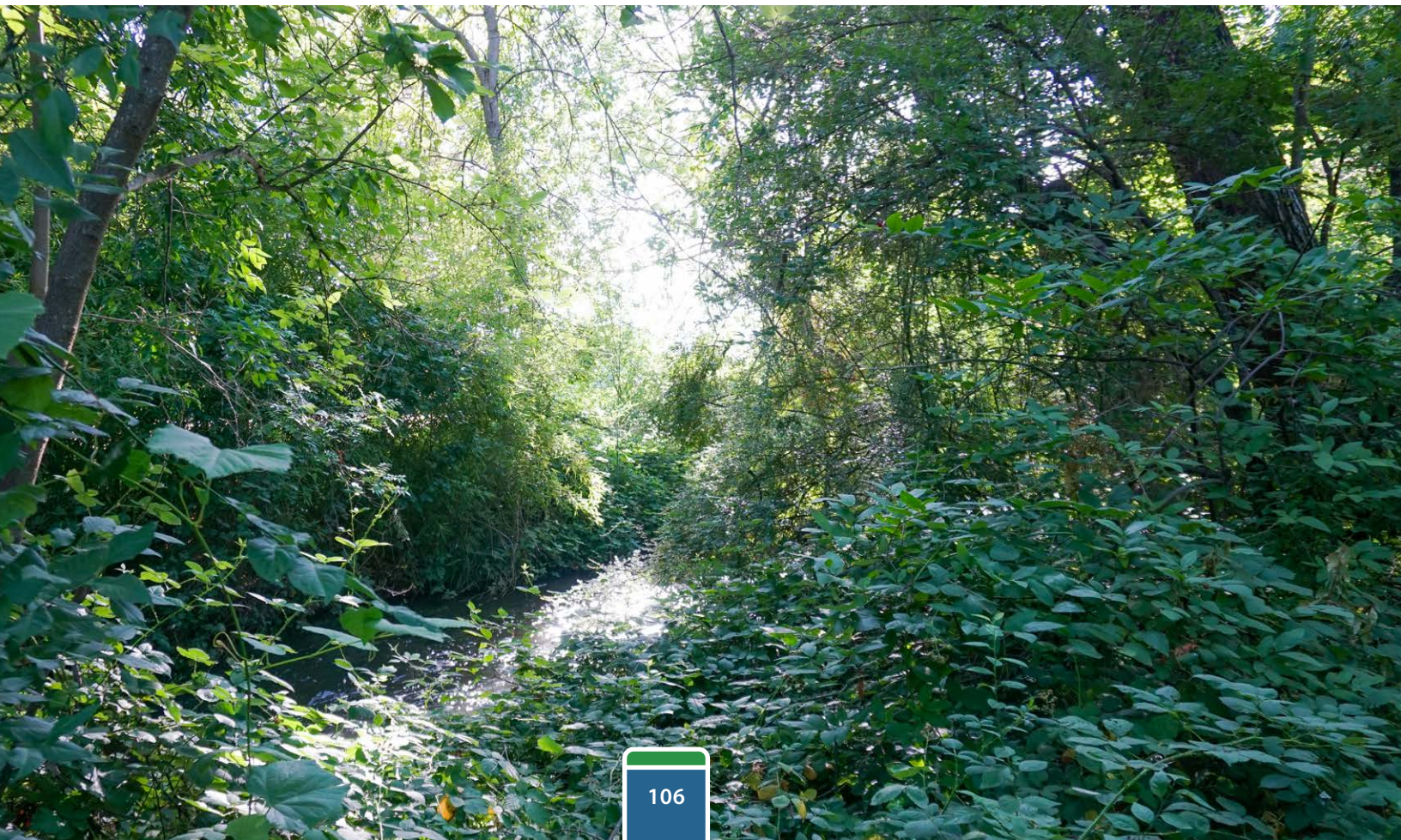
1. Identifying the implementation status for each CAP measure and action, and evaluating this against each action's implementation timeline
2. Completing an updated GHG emissions inventory, and evaluating the results against the City's GHG emissions targets
3. Providing a report with the above information and analysis to the Climate Action Commission and City Council

The monitoring activities and resulting reports will inform whether the City is on track to reach its 2030 target, or if changes to or additional measures and actions are needed. If the City is unable to achieve the 2025 GHG emissions milestone by 2025, the City will work to develop additional measures and actions beyond those identified here as part of a CAP update for Chico to stay on-track to meet the 2030 GHG emissions target. Based on progress towards the CAP targets, Chico may opt to conduct an update to the CAP after the milestone year of 2025 to ensure the 2030 targets are met.



## CAP UPDATES

Regardless of potential interim updates for the CAP, a complete CAP update for post-2030 emissions reduction targets will be required, and the City's Planning Division will begin this effort in 2028. The CAP update will revisit and update the approach for reducing GHG emissions in Chico outlined in this CAP and establish new GHG emissions reduction targets based on current State legislation. It is anticipated that new technologies and legislation will facilitate GHG emissions reductions beyond what is currently possible and allow the City to continue towards its long-term goal of carbon neutrality by 2045.





# APPENDICES



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# APPENDIX

# A



# Chico Climate Action Plan

ONLINE COMMUNITY QUESTIONNAIRE SUMMARY • JUNE / JULY 2020

## Introduction

The City of Chico is developing a Climate Action Plan, which will provide the basis for prioritizing, budgeting, implementing, and monitoring greenhouse gas reduction strategies. The CAP will be the City's roadmap for achieving newly established greenhouse gas emission reduction goals for 2030-2050. Development of the Plan will be done in collaboration with decision makers and community leaders to increase awareness of climate change, establish new greenhouse gas emission reduction goals, and inform key CAP measures which will enable the City to achieve or exceed these goals.

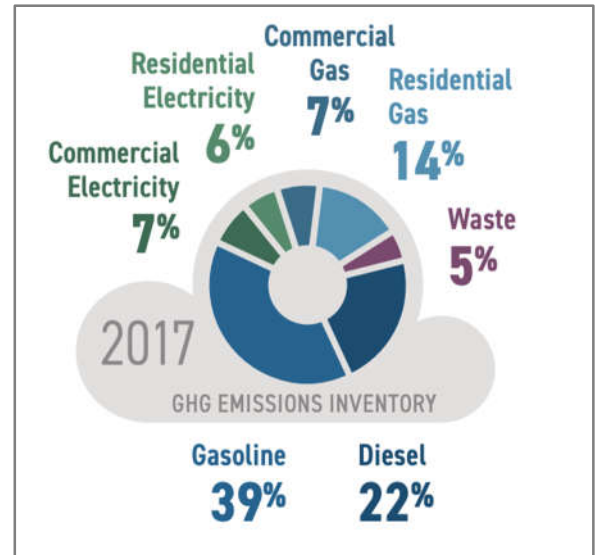
## Methodology

The [informational and animated video](#), online quiz, and community survey provided participants with an opportunity to test their knowledge about Chico's current greenhouse gas emission contributions, learn about the plan, and provide their thoughts on high-level potential climate action strategies at the early phase of the process.

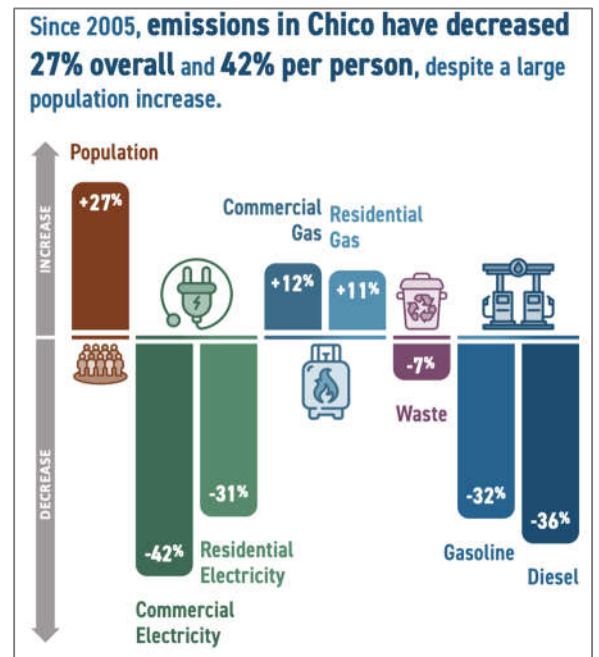
The project team received 349 submissions from community members. A full list of the comments submitted is available in this document's appendix.

The online questionnaire consisted of fifteen questions on:

- How important it is for the City to implement programs and policies to reduce greenhouse gas emissions
- Concerns about climate change impacts
- Potential high-level greenhouse gas reduction strategies
- Concerns about the cost of implementing programs and policies to reduce greenhouse gas emissions
- Perceived barriers around switching to all-electric appliances and solar panels
- Barriers to walking, biking, and taking transit as a primary mode of transportation
- Compost services



Chico's greenhouse gas emissions inventory from 2017.

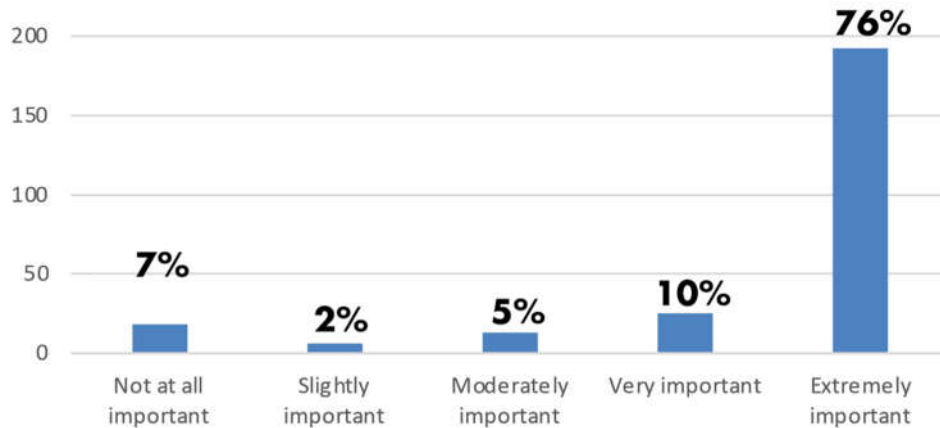


Data illustrating the decrease in Chico's greenhouse gas emissions since 2005.



## Overview of Results

How important is it for the City to implement programs and policies to reduce greenhouse gas emissions?



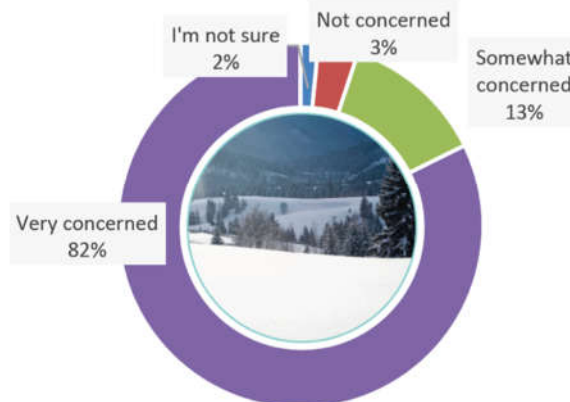
The majority of respondents – more than 90% - identified reducing greenhouse gas emissions as at least a moderately important priority for the City.

Climate change is expected to impact Chico in several ways including more extreme heat events, less but more intense rainfall, wildfires, and reduced water availability. How concerned are you about the following climate change impacts in Chico?

Heavy rainfall and flooding

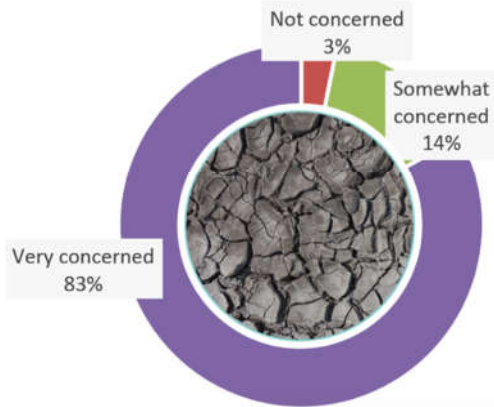


Changes to snowpack and water availability

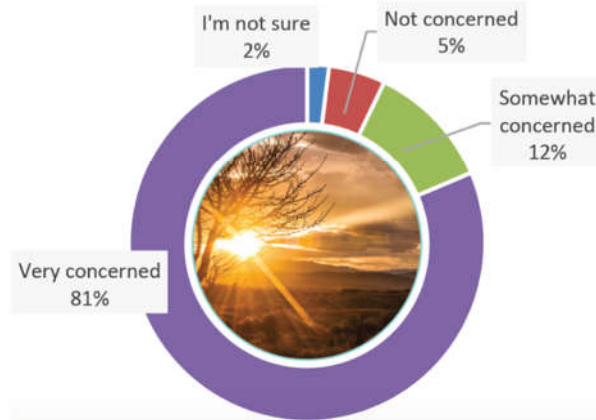




## Drought risk



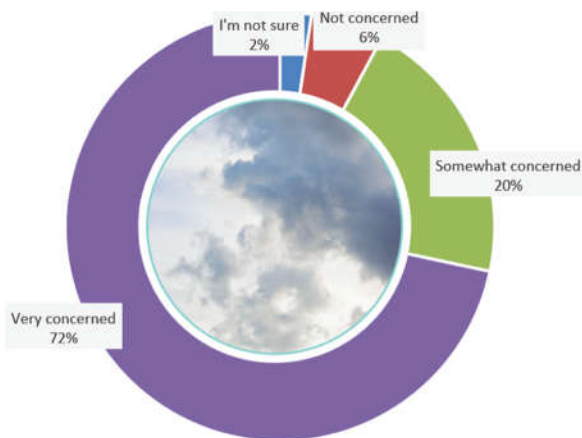
## Extreme heat



More than 80% of participants expressed they are very concerned about the risk of drought, extreme heat, and changes to snowpack and water availability as anticipated climate change impacts in Chico. Less than half identified heavy rainfall and flooding as an impact they are very concerned about, while 36% shared they were only somewhat concerned about this impact.

How concerned are you about the following climate change impacts in Chico?

## Air quality related health risks

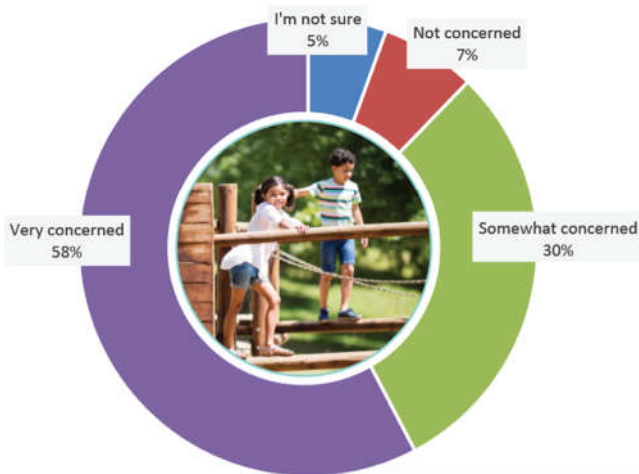


## Risks to agriculture

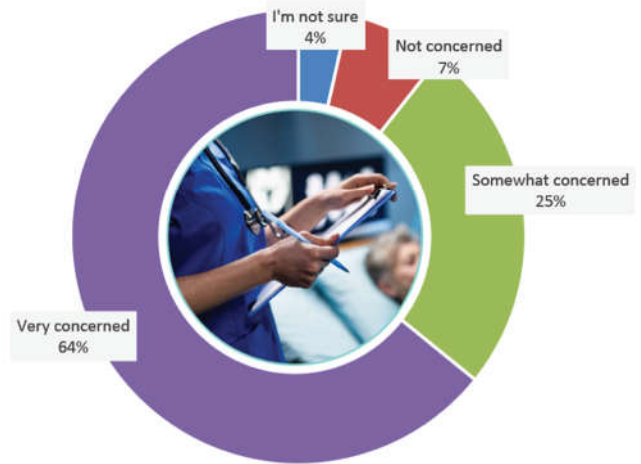




## Loss of recreational opportunities



## Health-related risks

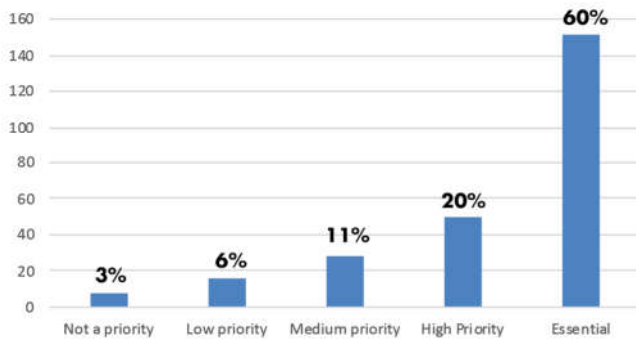


72% of respondents expressed the most concern about air quality related health risks and risks to agriculture as a result of climate change in Chico. Less than a third of community members, 30% and 25% respectively, expressed a loss of recreational opportunities and general health-related risks as impacts they are somewhat concerned about.

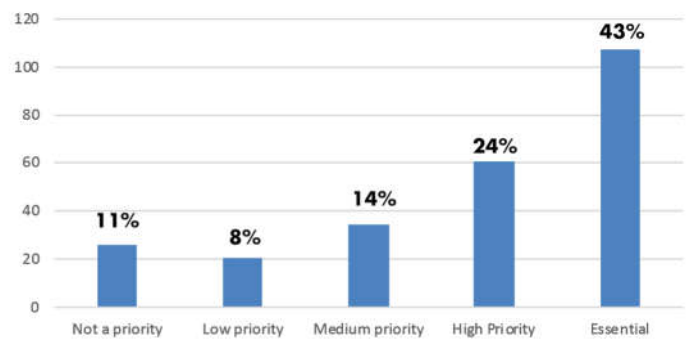


How should the City government prioritize the following GHG reduction strategies?

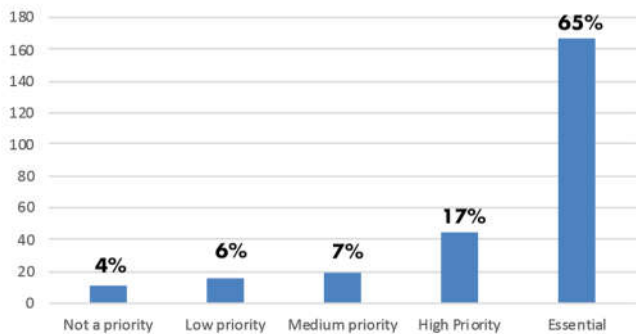
Energy efficient upgrades for buildings



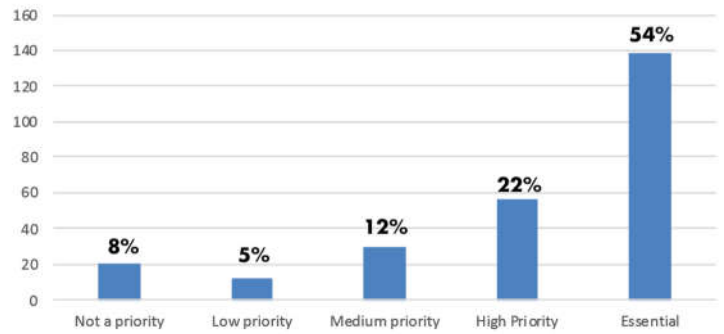
Electrification of buildings



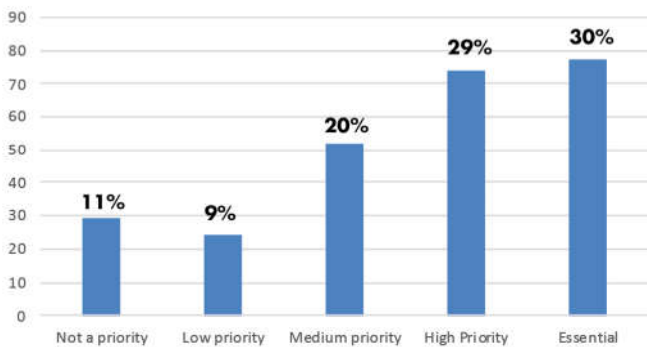
Solar panel and/or battery storage on buildings



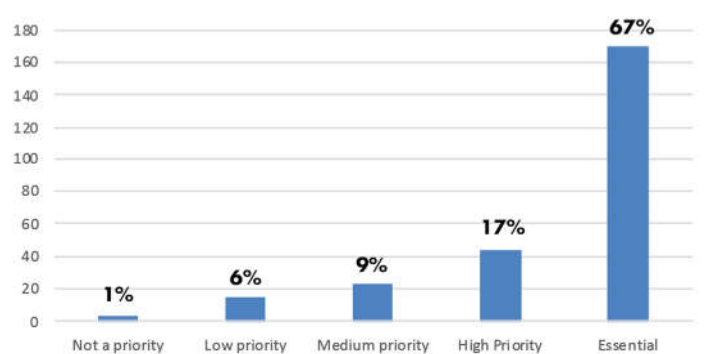
Improved infrastructure for cyclists & pedestrians



More electric vehicle chargers and infrastructure



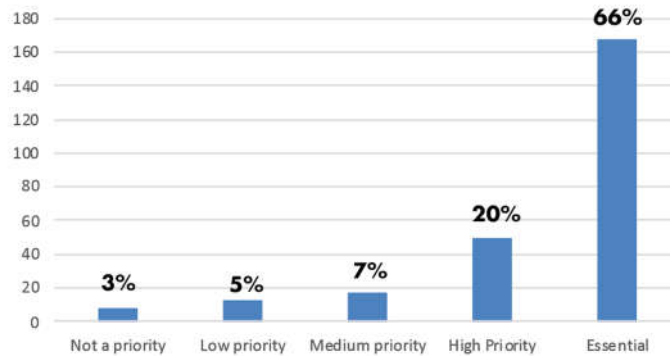
Water conservation







## Waste reduction



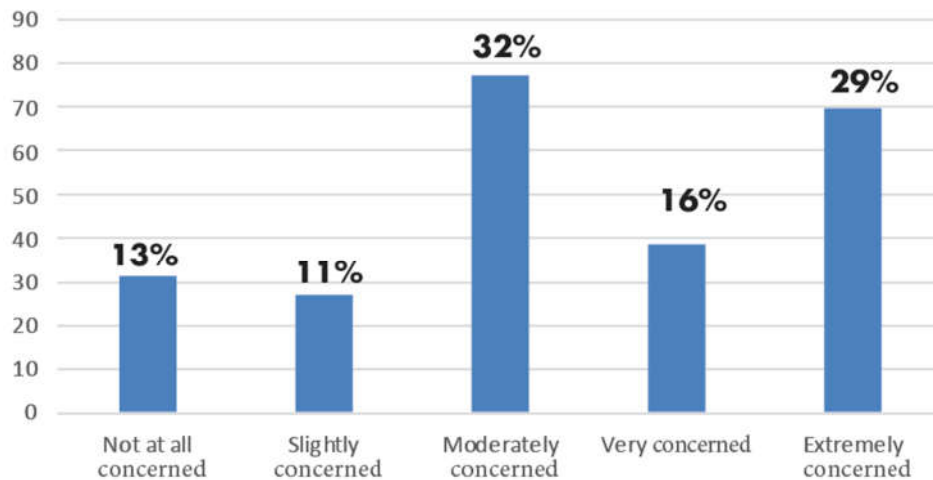
Water conservation received the largest number of respondents, 67%, prioritizing it as an essential reduction strategy for the City. At least 60% agreed that solar panel and/or battery storage on buildings in addition to energy efficient upgrades for buildings and waste management strategies are also essential strategies. Meanwhile, only 30% of participants expressed that more electric vehicle chargers and infrastructure should be an essential priority for the City.

Some of the other greenhouse gas reduction strategies suggested by participants include:

- Encourage localized production and consumption of goods
- Improve public transportation and create disincentives for driving cars
- Create gardens in empty lots
- Ban Styrofoam
- Make downtown Chico open to only pedestrians
- Plant more native trees to create shade throughout the city
- Build smaller and more efficient new buildings
- Increase community education about climate change

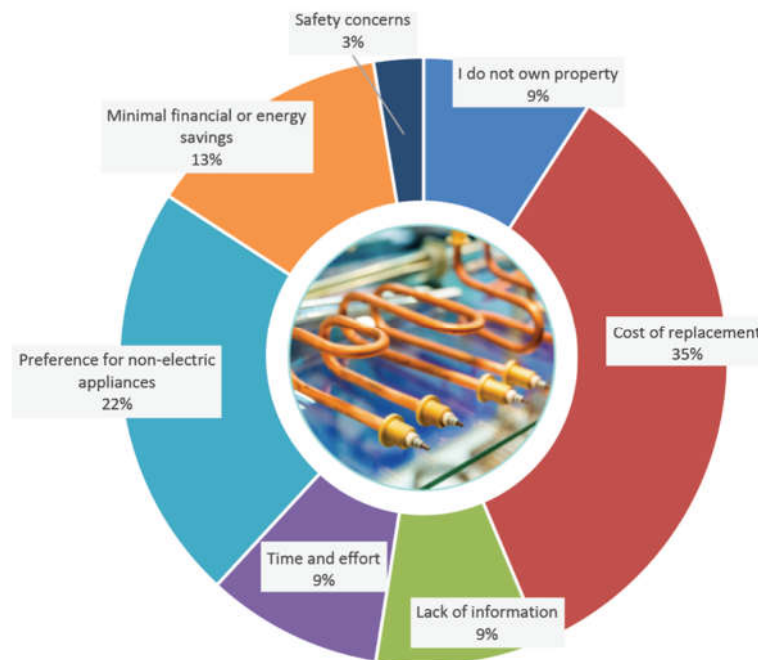


How concerned are you about the cost of implementing programs and policies to reduce greenhouse gas emissions?



Approximately 77% of respondents said they were at least moderately concerned about the cost of implementing programs and policies to reduce greenhouse gas emissions.

Which of the following perceived barriers would keep you from switching to all-electric appliances, such as electric or induction stovetops, electric furnace, etc.?



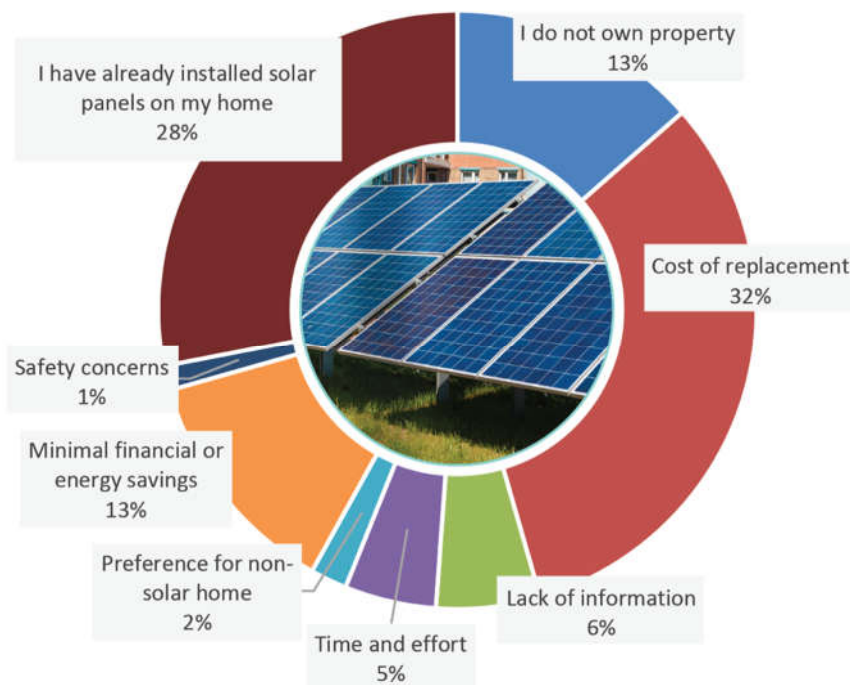


35% of participants said the cost of replacing the all-electric appliances is a key perceived barrier they have around switching their household appliances to all-electric ones. Additionally, 22% said they have a preference for non-electric appliances, and 13% shared they thought the electric appliances would not provide them with sufficient financial or energy savings.

Other perceived barriers respondents said would keep them from switching to electric appliances include:

- Safety concerns for children
- Power outages
- Associated waste of decommissioning existing functional appliances
- Cost of electricity bills
- Source of electricity and its impact on the natural environment

Which of the following perceived barriers would keep you from installing solar panels on your home?



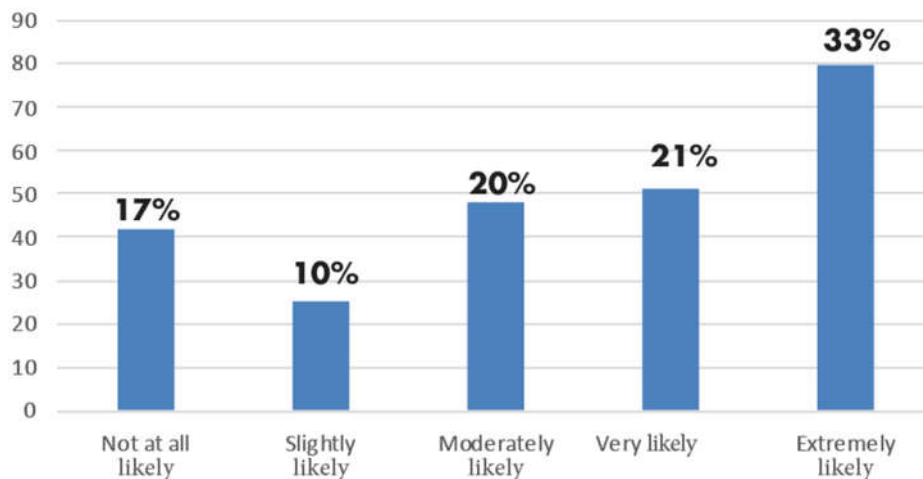
28%, more than a quarter, of respondents said they already have installed solar panels on their home. Meanwhile, of the participants who did not have solar panels on their home already, 32% they had concerns around the cost of replacing the panels. In addition, 13% of respondents said they do not own their home, and thus would not be able to make the decision regarding installing solar panels.



Other perceived barriers respondents said would keep them from installing solar panels in their home include:

- Minimal sun exposure
- Lack of knowledge about the best systems and management
- Homeowner association restrictions
- Disposal of the panels after their life is exhausted

How likely would you be to switch to walking/biking as your primary mode of transportation if this infrastructure was significantly improved in Chico?



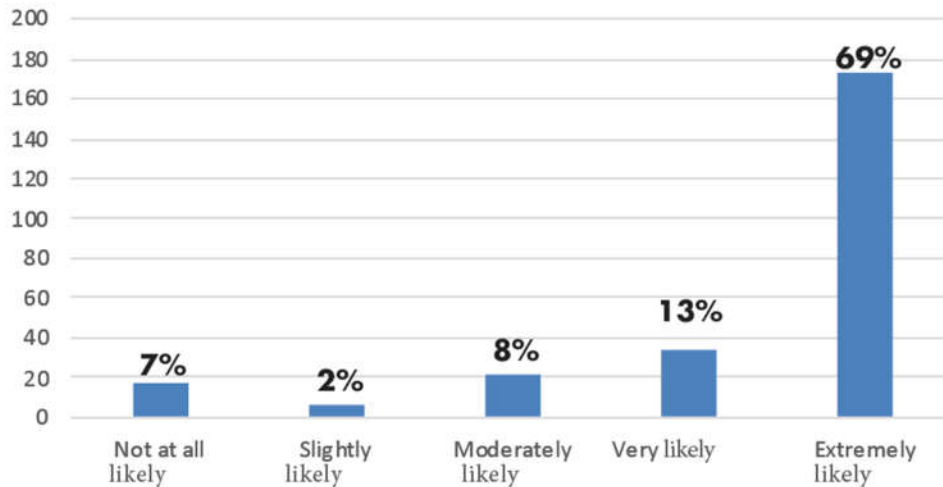
Approximately one-third of respondents (33%) said they would be extremely likely to switch to walking / biking as their primary mode of transportation if the infrastructure in Chico was significantly improved. A total of 74% said they would be at least moderately likely to make the switch, while 17% shared they would not be likely to at all.

**What other hurdle, if removed, would encourage you to use biking/walking or transit as your primary mode of transportation?**

The majority of respondents expressed a need for improved safety, especially at busy intersections and on bike trails, to encourage them to bike and/or walk as a main transportation mode. Other respondents shared that they have physical health issues that keep them from walking and/or biking, while some live too far away from their place of employment to feasibly walk or bike. Convenience was another key factor in whether or not a participant said they would be willing to bike, walk, or take transit; several respondents said they either did not have the time to use these alternate modes, or they have schedules that do not always allow for flexibility. There was also an expressed desire for more trees and shade, as summer months in Chico tend to be in the higher temperatures, which can be uncomfortable to walk and bike in. Finally, more frequent bus routes and places to shower at work upon arrival would also help community members make the transition from driving to biking, walking, and taking transit.



## How likely would you be to compost, if compost services were provided to you?



The majority of respondents (90%) shared that they would be at least moderately likely to compost, if those services were provided to them.

## What are the primary barriers you face in switching from a gasoline fueled car to some other form of transportation, such as walking, biking, public transit, carpool, or using a hybrid or electric vehicle?

Participants identified cost was the most common barrier associated with switching from a gas-fueled car to a hybrid or electric car. In addition to the cost of the new vehicle, the cost of charging it as well as the limited driving range were also key barriers discussed. While some participants expressed an interest in taking public transit, they stated a need for the City's bus service to be more frequent and convenient. For the respondents who identified biking as a potential mode of transportation, they identified the lack of safety for cyclists as a major concern in addition to concerns around bike theft, weather, and long distances.

## What are your thoughts on an electrification ordinance in Chico?

Approximately 47% of respondents said they would support an electrification ordinance, while 15% said they would oppose it. However, 38% of participants said they did not have enough information about the cost, implementation, or impacts on residents versus businesses to determine if they would support or oppose such an ordinance. Of the respondents opposing the idea, many said they wanted more details about how the ordinance would be implemented and how the City would handle costs. Additionally, some of these respondents identified that while it may be necessary to transition to electric buildings, it may not be feasible or the best approach to pass an ordinance to achieve this goal.



## What are some important strategies the City could do to reduce its emissions to zero by 2045?

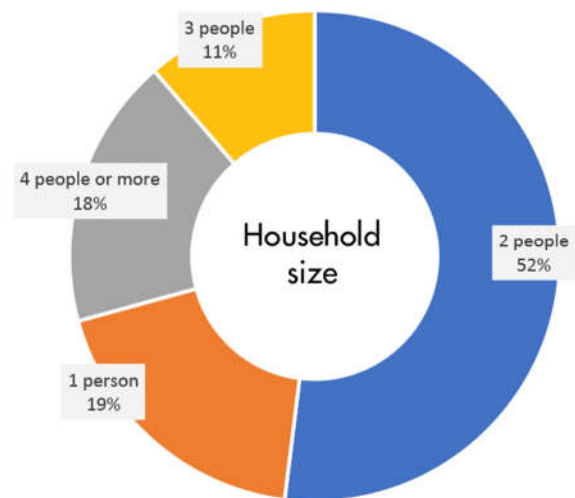
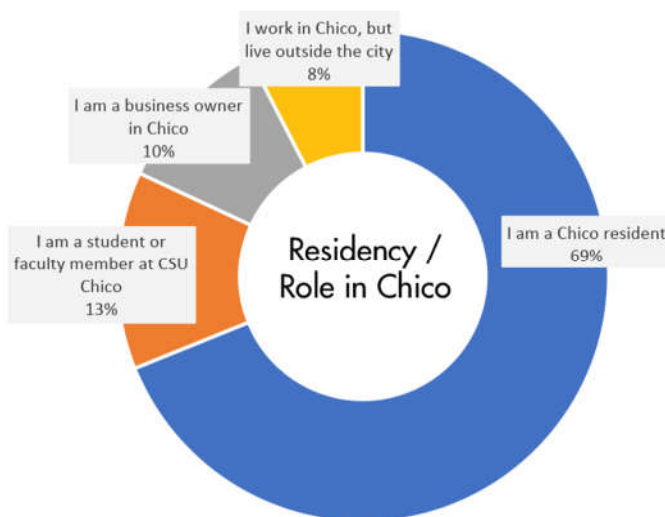
Some of the respondents' suggested strategies focused on a need for community education about the realities of the climate crisis and the potential to do something about it. Several participants said they would like to see public transit improved to encourage ridership and make it a feasible transportation mode for residents, and others shared the need for more accessible bike paths throughout the City. A few respondents shared that they thought the City could implement better waste management strategies, as well as ban Styrofoam. Finally, one respondent suggested the City partner with businesses to offer more telecommuting options for employees to reduce the number of vehicle trips in and out of Chico.

## What else would you like the City to consider while developing their Climate Action Plan Update?

Participants shared a multitude of ideas for the City to consider as it develops the Climate Action Plan. Some of these ideas include: provide transportation services for the elderly who live in their homes; identify ways to protect Chico's parks and waterways from pollution; identify funding sources to implement the plan's strategies; and ensure low income and vulnerable populations have a voice and representation in the plan's development and implementation.

## Demographics

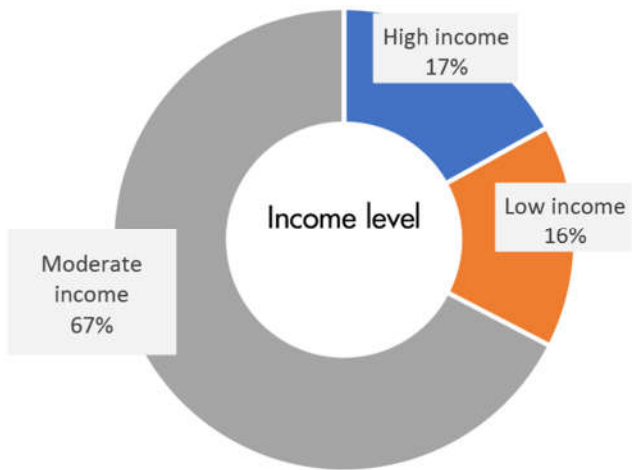
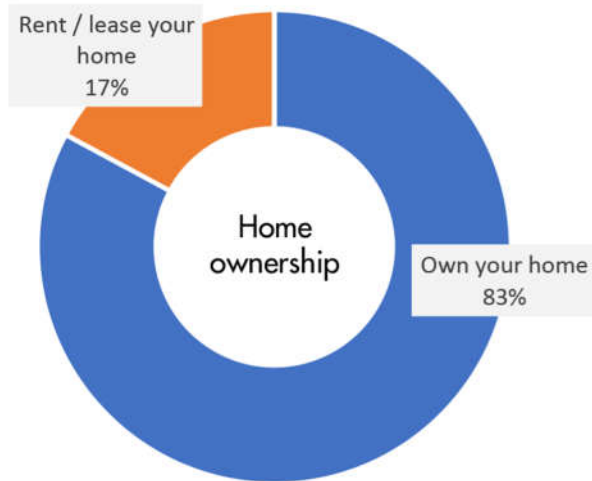
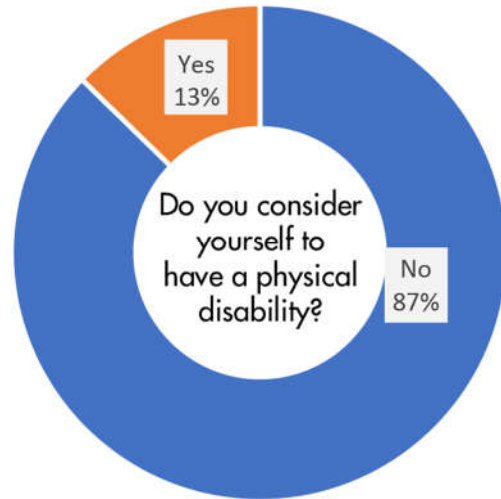
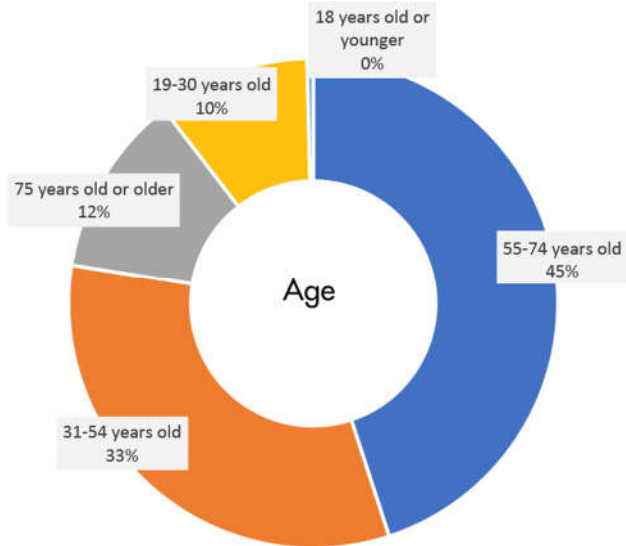
The online questionnaire also asked a series of optional demographics questions. Participants' responses are summarized by the graphs below.





# Chico Climate Action Plan

ONLINE COMMUNITY QUESTIONNAIRE SUMMARY • JUNE / JULY 2020





# Chico Climate Action Plan

ONLINE COMMUNITY QUESTIONNAIRE SUMMARY • JUNE / JULY 2020

## Notification

The City of Chico posted the online community questionnaire on the project website: <http://chicocap.rinconconsultants.com/>

Several email notifications were distributed to a database of more than 350 recipients, which included residents, businesses, and community groups.

Social media messages were posted on Facebook, Twitter, Instagram and Nextdoor resulting in more than 4,500 impressions.

The City shared the informational video via their email and social media. The City also coordinated with Telemundo, which aired a news story on the project and online questionnaire.

The project team reached out to more than 45 groups through personal phone calls and emails to notify them about the project and available outreach opportunity.



Thirteen groups agreed to share information with their members, including:

- Chico Sustainability
- Sunrise Movement Chico
- CSU Chico Gateway Science Museum
- Butte County Air Quality Management
- 350 Butte County
- Avenues Neighborhood Association
- North Valley Property Owners Association
- Valley Contractors Exchange
- Sierra Club – Yahi Group
- Butte Environmental Council
- CalWater
- Butte County Association of Governments
- Chico Buildres Association

Additionally, 10 community members shared information on social media through their personal pages.



## Virtual Community Workshop Summary

### Introduction

The City of Chico is developing a Climate Action Plan (CAP), which will provide the basis for prioritizing, budgeting, implementing, and monitoring greenhouse gas reduction strategies. The CAP will be the City's roadmap for achieving newly established greenhouse gas emission reduction goals for 2030-2050. Based upon an inventory analysis of Chico's current greenhouse gas emissions, best practices in the environmental science and planning industry, and stakeholder and community input, the City and project team have developed a list of proposed climate action measures.

The City hosted a virtual community workshop in both English and Spanish to build awareness about the CAP effort, present key proposed strategies that will support the City's goal of reducing greenhouse gas emissions and obtain informed input on these key strategies. The virtual workshop was open for one month, from November 19 through December 20.

Approximately 57 households participated and provided more than 275 comments and responses to the workshop prompts.

### Methodology

The virtual community workshop consisted of a short informational video and nine-page interactive document. The video provided an introduction to the CAP effort and an overview of the eight key proposed strategies, or measures, developed for the plan.

You can watch the video at the following link:

<https://www.youtube.com/watch?v=OQxsRtbqThw>

The interactive document included an introduction page and one page explaining each proposed measure, how it might be implemented, and anticipated associated costs. Each proposed measure page asked participants to respond to a yes or no question, "Do you think this measure could work in Chico?"

Additionally, respondents were able to submit open-ended comments about each measure, view other respondents' comments, and reply to them.

## Chico Climate Action Plan

Help bring the City of Chico into the future!

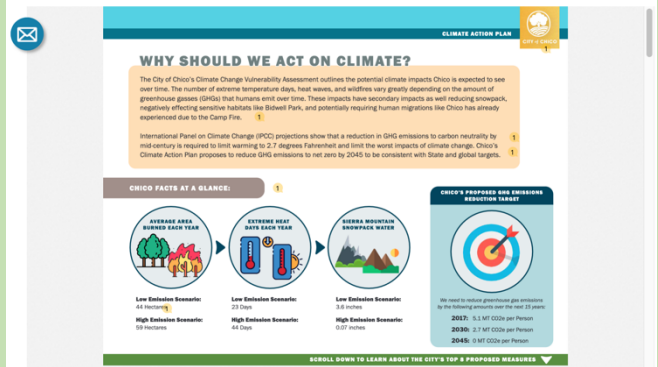
Welcome to the online workshop for the City of Chico's Climate Action Plan Update. We appreciate you taking the time to help plan for our city's future.

To get started, watch a short video below to learn about the plan and eight of the proposed measures to help Chico reduce its greenhouse gas emissions.

Then, provide your input on the proposed measures in the interactive document.

**You can choose to comment on just one of the measures, or all of them!**

Taller comunitario  
en línea en Español



*An overview of the virtual community workshop.*

The proposed measures described in the workshop are as follows:

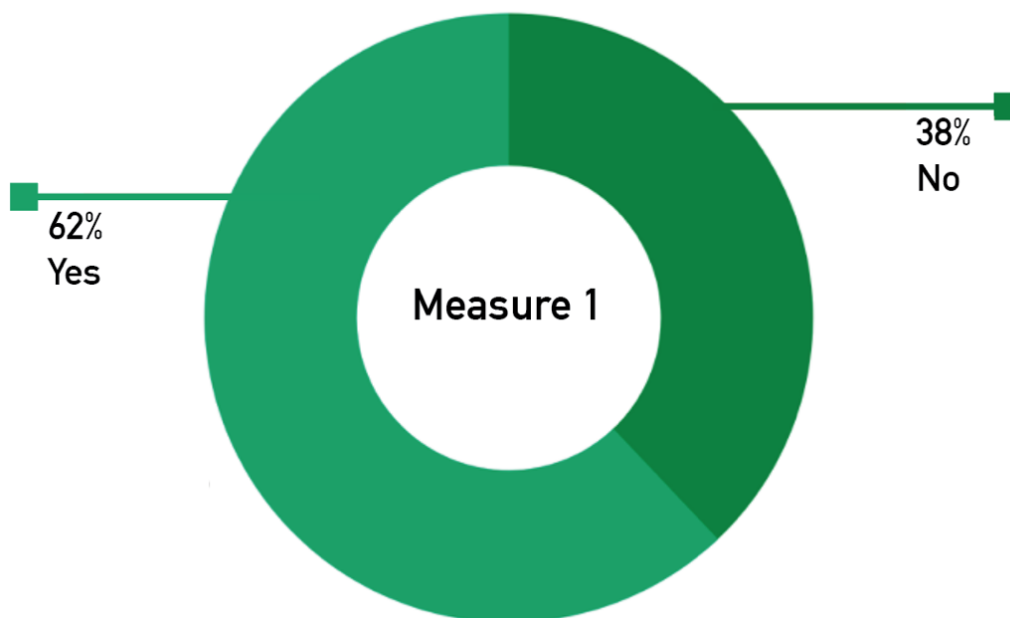
1. Require new construction to be all-electric: Adopt a new building ordinance which bans the installation of natural gas in new construction for building types where electrification is shown to be cost-effective.
2. Electrify existing residential buildings in two phases: first incentivize, and then require, electrification of existing buildings. Adopt an electrification ordinance for existing residential buildings in 2025 to transition natural gas appliances to electric at time-of-replacement.
3. Electrify municipal buildings: Adopt an electrification plan to convert municipal buildings to all-electric.
4. Provide 100% renewable electricity to the community.
5. Continue to implement the Chico Bicycle Master Plan.
6. Improve ZEV (zero emission vehicle) infrastructure to allow for a 25% shift from combustion vehicles to ZEVs by 2030.
7. Work with waste haulers and other stakeholders to meet the goals of SB1383 and divert at least 75% of organic waste from the landfill through an expansion of composting services and edible food diversion.
8. Expand the urban tree canopy by 700 trees by 2022 and 4,500 trees by 2030 to sequester carbon, decrease temperatures, save energy, and improve air quality within Chico.

## Results

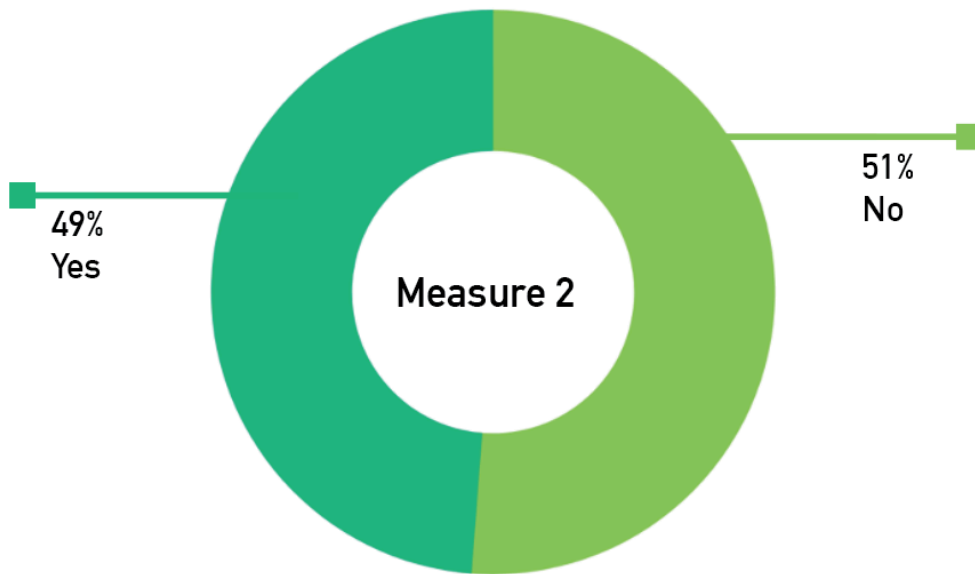
Below is a summary of community responses to the workshop, represented by graphs. A full list of all comments is available in this document's Appendix.

### Measure 1: Require new construction to be all-electric

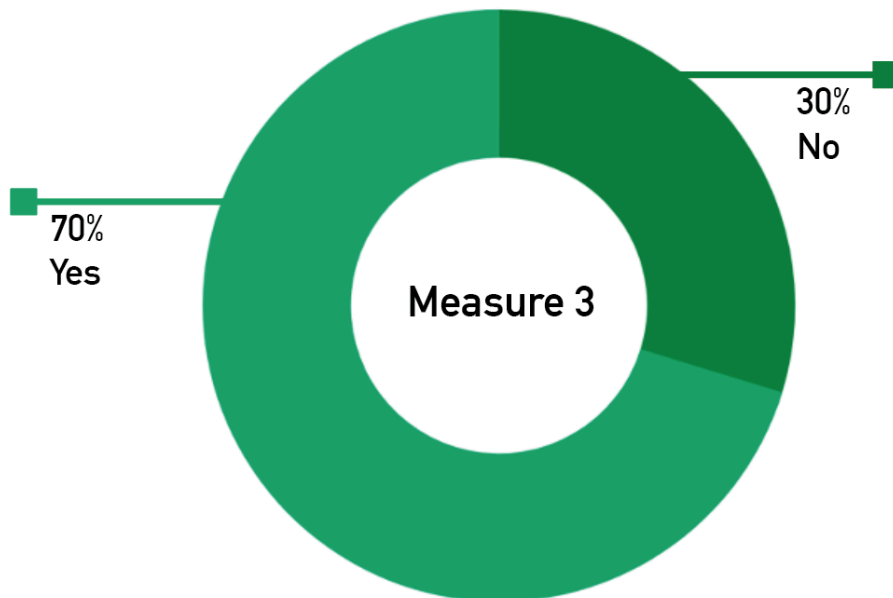
Do you think this measure could work in Chico?



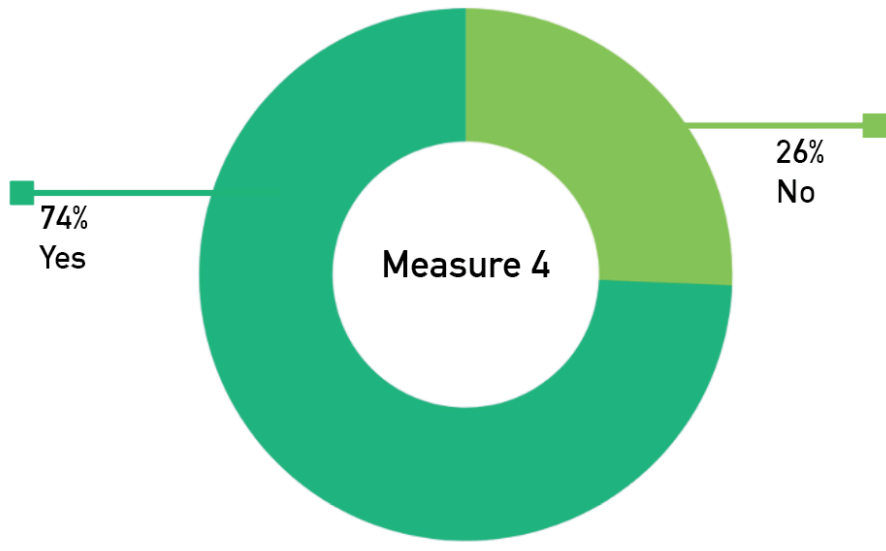
Measure 2: Electrify existing residential buildings  
Do you think this measure could work in Chico?



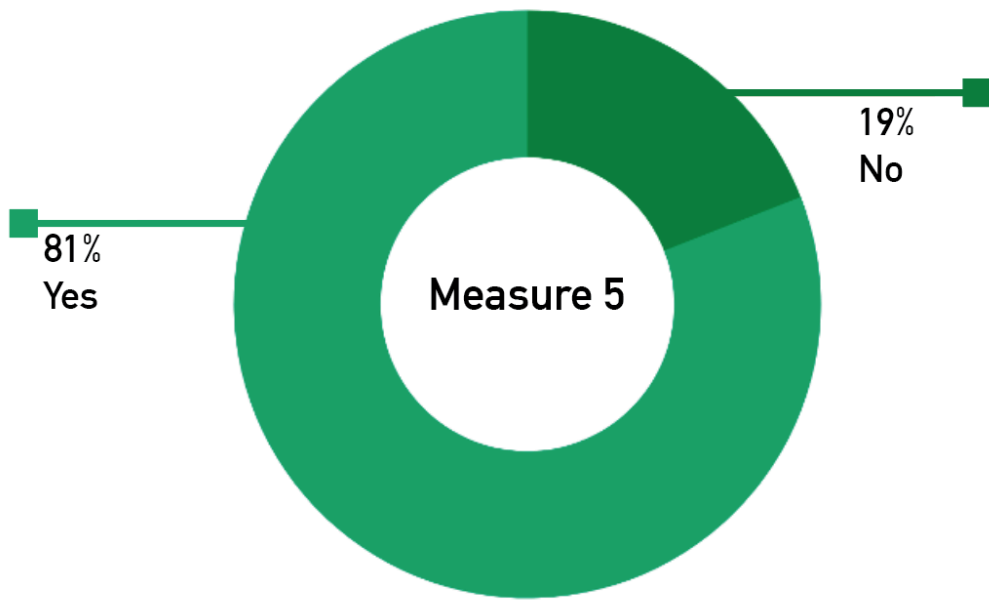
Measure 3: Electrify municipal buildings  
Do you think this measure could work in Chico?



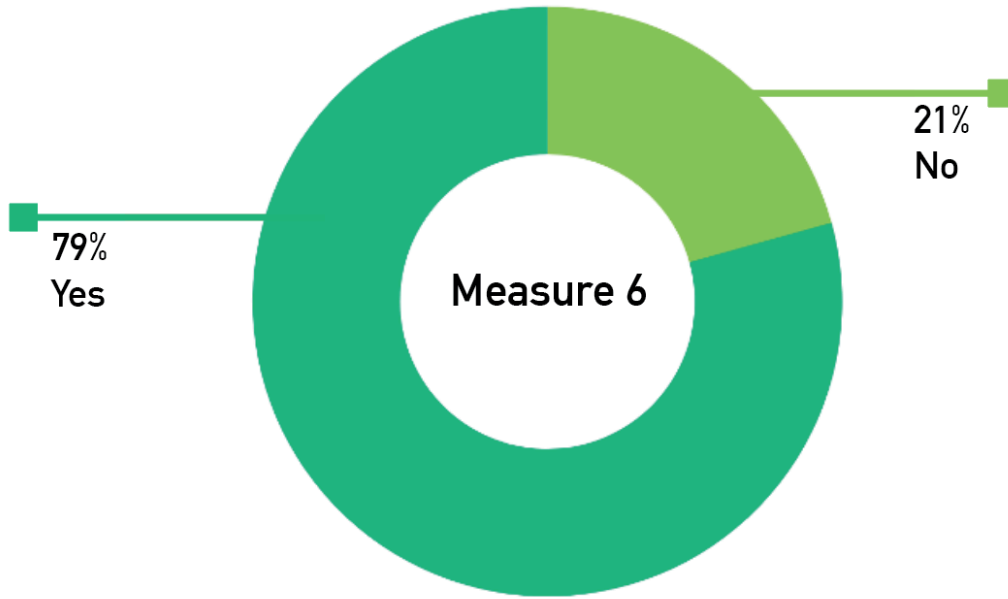
Measure 4: 100% renewable energy  
Do you think this measure could work in Chico?



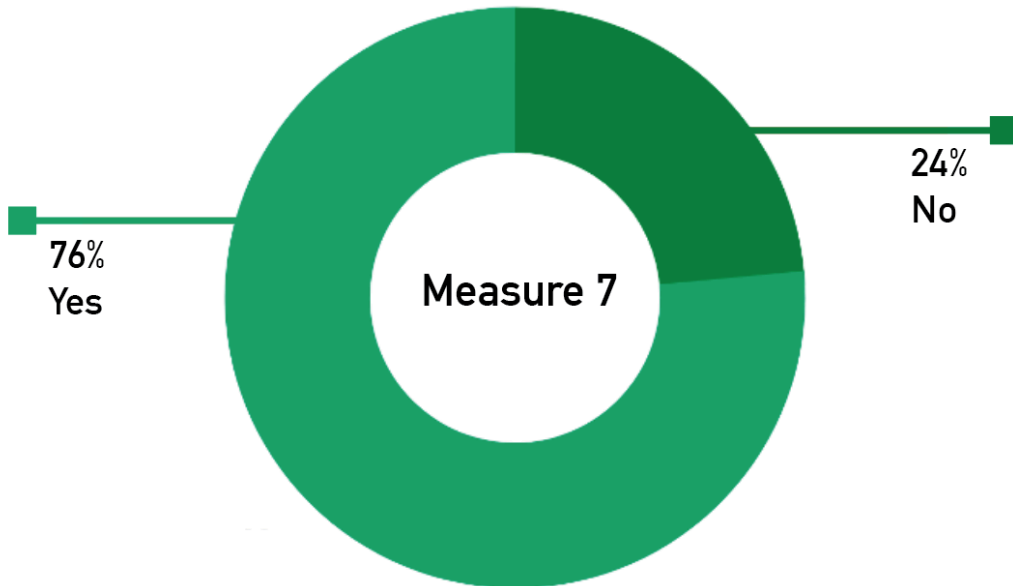
Measure 5: Implement the Chico Bicycle Master Plan  
Do you think this measure could work in Chico?



Measure 6: Improve zero-emission vehicle infrastructure  
Do you think this measure could work in Chico?

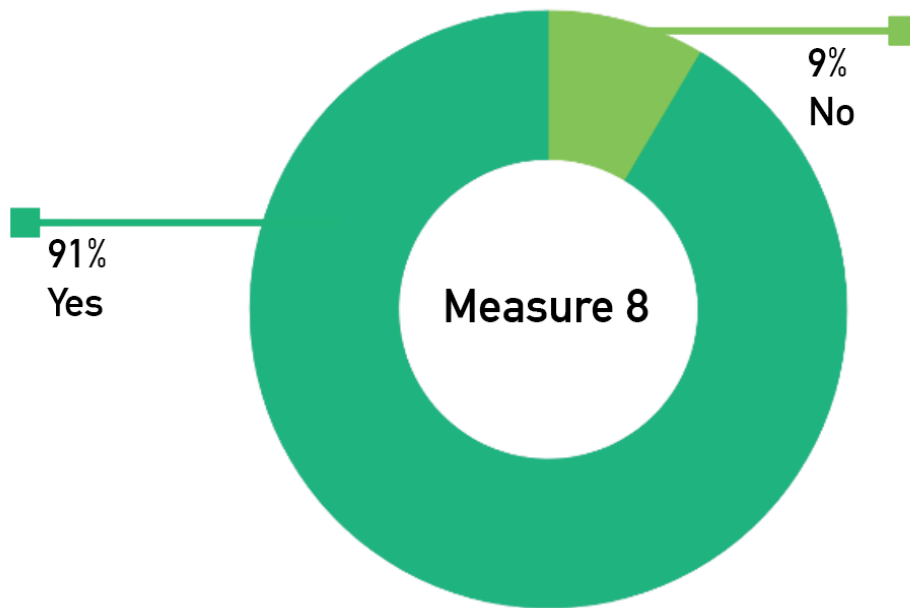


Measure 7: Reduce organic waste  
Do you think this measure could work in Chico?



## Measure 8: Expand the urban tree canopy

### Do you think this measure could work in Chico?



## Building Awareness

The overall virtual workshop effort included a public information campaign to build awareness about the project and the City of Chico's goal to reduce greenhouse gas emissions. The project team implemented a variety of strategies to reach the community at large and inform them about the second phase of the Chico Climate Action Plan and the virtual workshop. The project team reached more than 4,490 community members in the Chico area through the strategies described below.

## Community Partnerships

Fifty stakeholders received personal calls and emails asking them to share information about the virtual workshop and project with their organization through their existing communication links, including e-newsletters and social media. The following organizations shared information:

- 350 Butte County – social media, email distribution
- Butte County Air Quality Management – email distribution
- Butte Environmental Council – email distribution
- California State University Chico – campus announcement to students / faculty / staff, Green Campus social media, Campus Sustainability Committee
- Chico Builders Association – email newsletter
- Chico Chamber of Commerce – information on their public calendar



- Chico Noon Rotary Club – email distribution
- Chico Unified School District – social media
- Chico Velo Cycling Club- social media
- City of Chico – news release to local and regional media outlets, social media
- Enloe Medical Center – email to staff
- Environmental Coalition of Butte County – email distribution
- Holiday Inn Express and Suites Chico – posted in lobby
- Sierra Club - Yahi Group – email distribution
- Valley Contractors Exchange – email newsletter

### Digital Content Distribution

Email notifications were sent to more than 200 community members in the Chico area with information about the virtual workshop and a call to action to participate. The emails received a 39% open rate and 35% click rate.

The City of Chico shared information about the virtual workshop on their website, social media pages, and via a media release to local and regional news outlets.

### Social Media Targeted Advertisements

*The following social media analytics include reach, post engagement, and link clicks. Reach refers to the total number of people who have viewed the social media advertisement. Post engagement includes all actions that people take involving ads while they are running. Post engagements can include actions such as reacting to, commenting on or sharing the ad, claiming an offer, viewing a photo or video, or clicking on a link.*

#### By Geographic Location

Post #1: Chico (11/20 – 11/25)

- Reach: 1,016
- Engagement: 58

Post #2: Chico (12/8 – 12/15)

- Reach: 622
- Engagement: 50

Post #3: Chico (12/8 – 12/15)

- Reach: 531
- Engagement: 12

#### By Demographic

Post #2: Spanish-speaking community (11/20 – 11/25)

- Reach: 624
- Engagement: 11



Social media messages were posted on Facebook and Instagram and reached a total of more than 4,490 residents.

### Page Views

Based on the virtual community workshop website analytics report, workshop received approximately 2,375 views with more than 950 unique pages views. On average, workshop visitors spent about forty minutes reviewing the workshop's interactive document content.

### **Appendix**

- Interactive Workshop Document
- Comprehensive List of Workshop Comments
- Notification Flier



# Appendix

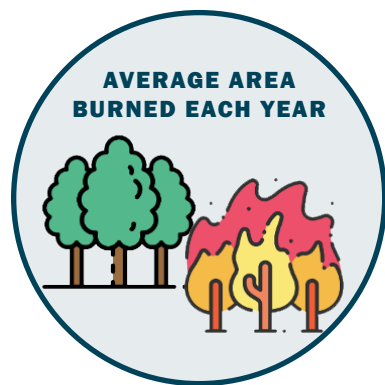
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# WHY SHOULD WE ACT ON CLIMATE?

The City of Chico’s Climate Change Vulnerability Assessment outlines the potential climate impacts Chico is expected to see over time. The number of extreme temperature days, heat waves, and wildfires vary greatly depending on the amount of greenhouse gasses (GHGs) that humans emit over time. These impacts have secondary impacts as well reducing snowpack, negatively effecting sensitive habitats like Bidwell Park, and potentially requiring human migrations like Chico has already experienced due to the Camp Fire.

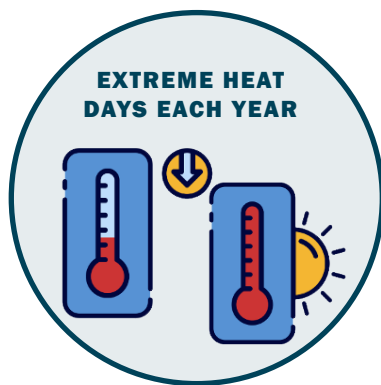
International Panel on Climate Change (IPCC) projections show that a reduction in GHG emissions to carbon neutrality by mid-century is required to limit warming to 2.7 degrees Fahrenheit and limit the worst impacts of climate change. Chico’s Climate Action Plan proposes to reduce GHG emissions to net zero by 2045 to be consistent with State and global targets.

## CHICO FACTS AT A GLANCE:



**Low Emission Scenario:**  
44 Hectares

**High Emission Scenario:**  
59 Hectares



**Low Emission Scenario:**  
23 Days

**High Emission Scenario:**  
44 Days



**Low Emission Scenario:**  
3.6 inches

**High Emission Scenario:**  
0.07 inches

## CHICO'S PROPOSED GHG EMISSIONS REDUCTION TARGET



*We need to reduce greenhouse gas emissions by the following amounts over the next 15 years:*

- 2017:** 5.1 MT CO<sub>2</sub>e per Person
- 2030:** 2.7 MT CO<sub>2</sub>e per Person
- 2045:** 0 MT CO<sub>2</sub>e per Person



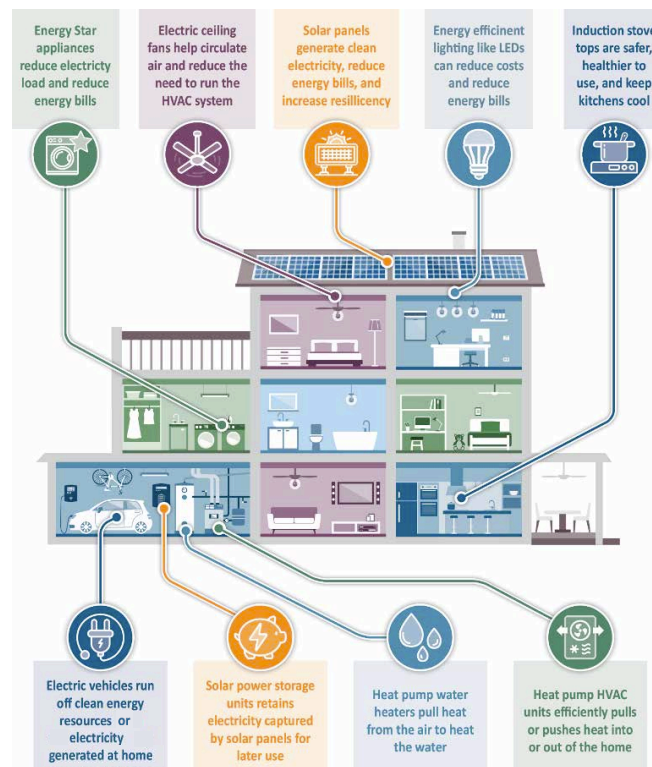


### PROPOSED MEASURE

Require new construction to be all-electric: Adopt a new building ordinance which bans the installation of natural gas in new construction for building types where electrification is shown to be cost-effective.

### MORE ABOUT THE MEASURE

- This proposed ordinance takes advantage of increasingly renewable electricity in California and prevents future expensive retrofits to new natural gas equipment and infrastructure.
- This proposed ordinance will help support electric vehicle (EV) adoption by providing the necessary infrastructure for home charging in new developments.
- This ordinance would be implemented for new residential construction by 2022 and for new commercial construction by 2025.
- The ordinance would only apply for building types where electrification is shown to be cost-effective.
- Co-benefits of this ordinance include lower home-owner costs, improved air quality, and enhanced building safety.



Chico's 2030 GOAL

Estimated carbon emissions reduced: 8,973 MT CO2e

### WONDERING ABOUT COSTS?

- All-electric new construction is typically less expensive for contractors to build and for homeowners to live in when high efficiency appliances and solar are also installed.
- You can review a LocalEnergyCodes feasibility study at the following link: <https://explorer.localenergycodes.com/studies/county-butte/>

### 1. CLICK THE SPEECH BUBBLE ICON TO LET US KNOW:

*Do you think this could work in Chico? Why or why not?*

### 2. SHARE YOUR THOUGHTS ABOUT THIS PROPOSED MEASURE! COMMENT BELOW.



PROPOSED MEASURE



Electrify existing residential buildings in two phases: first incentivize, and then require, electrification of existing buildings. Adopt an electrification ordinance for existing residential buildings in 2025 to transition natural gas appliances to electric at time-of-replacement.

By adopting reach codes that incentivize energy efficiency & building electrification, cities can lead the way to a healthier and more sustainable future.

BENEFITS

 <b>LOWER UTILITY BILLS</b> Renewable energy is becoming cheaper while natural gas prices are rising rapidly in many states.	 <b>SAFER BUILDINGS</b> In case of building damage (such as after an earthquake or other natural disaster), all-electric buildings are not exposed to fires from gas pipe breaks.	 <b>IMPROVED PUBLIC HEALTH</b> Electrification avoids prolonged exposure to natural gas fumes, which can lead to respiratory issues like asthma.
 <b>CLEANER AIR</b> All-electric buildings mean no natural gas combustion that generates toxic pollutants.	 <b>MORE AFFORDABLE HOUSING</b> All-electric homes cost less to build and operate than homes powered by natural gas.	 <b>LOWER CLIMATE IMPACT</b> Powering buildings with renewable energy is better for the climate.

Reach codes are local codes or ordinances that exceed the state code, providing increased flexibility to achieve local policy objectives. Reach codes must meet a particular set of criteria to be passed.

Chico's 2030 GOAL

Estimated carbon emissions reduced: 20,390 MT CO2e

MORE ABOUT THE MEASURE

- Voluntary adoption would be the focus of the first five years with education, outreach, and linking community to incentives from PG&E and others.
- The ordinance would also be implemented in two steps through the building permit process:
  - o Phase I: Limit expansion of natural gas lines in existing buildings by 2022
  - o Phase II: Starting in 2025, require HVAC systems and hot water heaters to be replaced with all-electric models at time of replacement.
- Starting in 2025, Chico residents would be required to meet building permit requirements by installing electric equipment when their water heaters and HVAC systems need to be replaced. The average life span of a water heater is 10 years and of an HVAC system is 18 years.

WONDERING ABOUT COSTS?

- The biggest barrier to this proposed ordinance is the potentially higher up-front cost for Chico residents. That's why Chico would only require all-electric equipment to be installed in existing buildings at time-of-replacement once funding or financing strategies are in place. While all-electric equipment is usually more expensive than natural gas equipment, this cost increase would be offset by incentives, rebates, and financing programs. In addition, when replacing both an HVAC and air conditioner with a single heat pump (that heats and cools) costs of electrification are actually lower!

1. CLICK THE SPEECH BUBBLE ICON TO LET US KNOW:

Do you think this could work in Chico? Why or why not?

2. SHARE YOUR THOUGHTS ABOUT THIS PROPOSED MEASURE! COMMENT BELOW.



**PROPOSED MEASURE**

Electrify municipal buildings: Adopt an electrification plan to convert municipal buildings to all-electric



**MORE ABOUT THE MEASURE**

- Municipal building electrification would be completed by 2045
- The electrification plan would include a new building electrification policy as well as an existing building natural gas phase-out policy
- Municipal electrification will help the City do its fair share in moving Chico to carbon neutrality by 2045
- When combined with a micro-grid electrification would allow municipal buildings to operate during power shutoffs or other emergencies.

**Chico's 2030 GOAL**

Estimated carbon emissions reduced:  
460 MT CO2e



**1. CLICK THE SPEECH BUBBLE ICON TO LET US KNOW:**

*Do you think this could work in Chico?  
Why or why not?*

**2. SHARE YOUR THOUGHTS ABOUT THIS PROPOSED MEASURE! COMMENT BELOW.**



**PROPOSED MEASURE**

Provide 100% renewable electricity to the community.



**CCA PURCHASES / GENERATES POWER**



**PG&E DELIVERS POWER, MAINTAINS LINES, BILLS CUSTOMERS**



**RESIDENTS RECEIVE POWER AT COMPETITIVE / LOWER RATES + HAVE MORE LOCAL CONTROL**

**MORE ABOUT THE MEASURE**

- Through this measure, the City of Chico will procure 100% renewable electricity for the community through Butte Choice Energy Community Choice Aggregation (CCA), in accordance with the ordinance authorizing the implementation of a CCA Program through a Joint Powers Agreement with Butte County, amending Title 15 of the Municipal Code. Automatically enroll community and municipal accounts to 100% renewable energy option by 2022 with an opt-out option.
- CCAs use the purchasing power of the community to procure electricity directly from electricity generators. This allows the community to choose its own grid mix, with an option to procure electricity from 100% carbon free generation sources.
- PG&E will continue to deliver power, maintain lines and infrastructure, and coordinate billing.
- To maximize the GHG reduction opportunity this presents, the City will automatically enroll all community accounts in a 100% carbon free option. Customers will have the option to opt-out of the CCA back to PG&E or opt-down to another grid mix option. It is expected that about 5% of residential customers and 15% of commercial customers will choose to opt-out. Municipal accounts will have 0% opt-out.

**WONDERING ABOUT COSTS?**

- By 2022, BCE is expected to provide three power mix options for community members to choose from:
  - o Base Renewable Portfolio Standards (RPS) option with 33% renewable and 80% GHG free sourcing offered at a 2% rate savings
  - o 50% renewable option with 80% GHG free in 2020 and 95% GHG free in 2030 offered at a 2% rate savings
  - o A 100% renewable option offered at a slight price premium
  - o You can learn more at the following feasibility study link: [http://buttecounty.granicus.com/MetaViewer.php?view\\_id=2&clip\\_id=512&meta\\_id=87146](http://buttecounty.granicus.com/MetaViewer.php?view_id=2&clip_id=512&meta_id=87146)

**Chico's 2030 GOAL**

Estimated carbon emissions reduced: 39,170 MT CO2e



**1. CLICK THE SPEECH BUBBLE ICON TO LET US KNOW:**

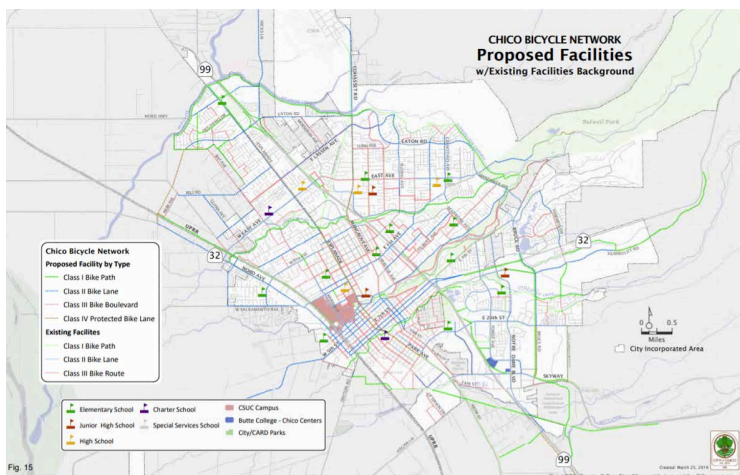
*Do you think this could work in Chico? Why or why not?*

**2. SHARE YOUR THOUGHTS ABOUT THIS PROPOSED MEASURE! COMMENT BELOW.**



**PROPOSED MEASURE**

Continue to implement the Chico Bicycle Master Plan.



**Chico's  
2030 GOAL**

Estimated carbon  
emissions reduced:  
1,531 MT CO2e

**MORE ABOUT THE MEASURE**

- The Chico Bicycle Master Plan 2019 Update would be implemented by 2030 in accordance with the Plan's goals, objectives, and policies. Implementation of the Plan will include:
  - o Adding approximately 140 miles to the bikeway network
  - o Improving/expanding wayfinding, trail maintenance, safety, comfort, enforcement, and end-of-trip facilities
  - o Integrating with transit and other transport modes
  - o Conducting promotion and education around biking in Chico
  - o Identifying and competing for funding sources
- The overall goal of the Chico Bicycle Master Plan is to continue making Chico a more bike-friendly community, where people of all ages and abilities feel comfortable and safe choosing bicycles for transportation needs.
- A complete description of the goals, strategy, policy, and implementation framework for expanding and improving Chico's bikeway network is included in the Chico Bicycle Master Plan 2019 Update.

**WONDERING ABOUT COSTS?**

- Bicycle and pedestrian infrastructure has one of the highest price tags of the proposed measures due to the relatively high cost of infrastructure.
- Costs to cover the bike ped plan could be covered by a green bond (tax measure), grants, or other financing mechanisms.

**1. CLICK THE SPEECH BUBBLE ICON TO LET US KNOW:**

*Do you think this could work in Chico?  
Why or why not?*

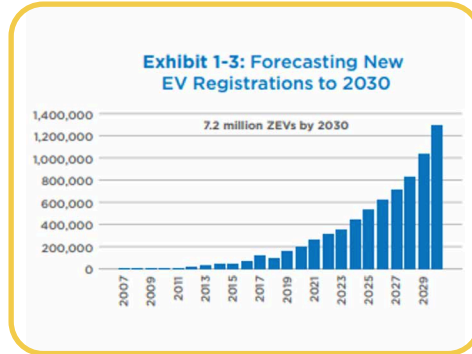
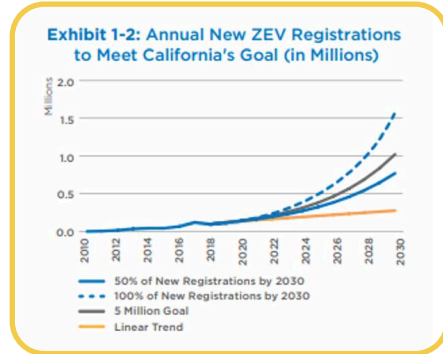
**2. SHARE YOUR THOUGHTS ABOUT THIS PROPOSED MEASURE! COMMENT BELOW.**





### PROPOSED MEASURE

Improve ZEV (zero emission vehicle) infrastructure to allow for a 25% shift from combustion vehicles to ZEVs by 2030



### Chico's 2030 GOAL

Estimated carbon emissions reduced: 27,338 MT CO2e



### MORE ABOUT THE MEASURE

- The City of Chico will encourage the community to increase EV adoption and prepare for an all EV future by providing the infrastructure necessary to support this shift. The state has established a goal of putting 5 million EVs on the road by 2030 and recent regulations require 100% of passenger vehicles sold to be electric by 2030 and 100% of commercial vehicles be electric by 2045.
- The City has established its own goal in line with State targets and aims to reach 23% EV adoption by 2030. Approximately 950 new public chargers are needed to meet the forecasted demand in Chico by 2030.
- Actions under this measure will include:
  - o Amending the City building code, in accordance with the Final Butte PEV (plug in electric vehicle) Readiness Plan, to require new construction and major retrofits to provide between 20%-30% EV capable charging spaces and panel capacity with 1% (at least 1) operable charger.
  - o Continue to work with public and private partners to install additional publicly accessible Direct Current Fast Chargers (DCFC's) and Level 2 EV chargers around the City, with a focus on providing access to low-income households and affordable housing.

### WONDERING ABOUT COSTS?

- The cost to install EV ready spaces at time of construction is between \$860 and \$920. That same space costs between \$3,710-\$2,370 to retrofit. Since we know we need this infrastructure, we should do it now at a lower cost.
- Installation and operation of new electric vehicle (EV) chargers in existing spaces can be paid for through public/private partnerships, grants, or through financings.

**EV CHARGERS: BY THE HOUR**

- LEVEL 1** 4-5 MILES
- LEVEL 2** 12-60 MILES
- LEVEL 3** FULL CHARGE



### 1. CLICK THE SPEECH BUBBLE ICON TO LET US KNOW:

*Do you think this could work in Chico? Why or why not?*

### 2. SHARE YOUR THOUGHTS ABOUT THIS PROPOSED MEASURE! COMMENT BELOW.



### PROPOSED MEASURE

Work with waste haulers and other stakeholders to meet the goals of SB1383 and divert at least 75% of organic waste from the landfill through an expansion of composting services and edible food diversion.

### Jurisdiction Responsibilities



### MORE ABOUT THE MEASURE

- This measure aligns the City of Chico with state efforts to reduce organic waste statewide 75% by 2025 through Senate Bill 1383
- Require residential and commercial organic waste collection through updated waste hauler contracts
- Pass an ordinance by 2022 requiring residential and commercial organics generators to subscribe to organics collection programs or alternatively report organics self-hauling and/or backhauling. Allow limited waivers and exemptions to generators for minor volumes and physical space constraints and maintain records for waivers/exemptions.
- Both waste haulers in Chico have been working diligently to expand composting services, and Recology is in the process of building their first composting facility. Chico residents are currently able to drop off yard and greenwaste at the composting facility at the airport. This action will capitalize on those efforts and expand them to meet the necessary composting capacity.

### WONDERING ABOUT COSTS?

- CALRecycle estimates that full implementation of SB1383 will increase waste cost for households approximately \$17 per year on average, depending on volumes collected. Direct costs to organic waste producing businesses will be approximately \$662 on average.

### Chico's 2030 GOAL

Estimated carbon emissions reduced: 7,693 MT CO2e



### 1. CLICK THE SPEECH BUBBLE ICON TO LET US KNOW:

*Do you think this could work in Chico? Why or why not?*

### 2. SHARE YOUR THOUGHTS ABOUT THIS PROPOSED MEASURE! COMMENT BELOW.



**PROPOSED MEASURE**

Expand the urban tree canopy by 700 trees by 2022 and 4,500 trees by 2030 to sequester carbon, decrease temperatures, save energy, and improve air quality within Chico.

TREES OFFER MANY BENEFITS...



- REDUCES URBAN HEAT ISLAND EFFECT
- IMPROVES PUBLIC HEALTH
- SAVES ENERGY
- INCREASES BUSINESS
- CAPTURES RAINWATER
- COMBATS CLIMATE CHANGE
- CLEANER AIR & WATER

**Chico's Chico reaches 2030 GOAL!**

Estimated carbon emissions reduced:  
261 MT CO2e

**MORE ABOUT THE MEASURE**

- Planting trees will help sequester carbon within the City and provide a host of co-benefits like air quality improvements and providing shade and reduced temperatures.

**WONDERING ABOUT COSTS?**

- City costs associated with planting trees include planting, watering, and maintenance. Chico has received a grant to fund the planting of 700 trees by 2022.
- Additionally, trees provide a positive cost benefit ratio when all of their costs and benefits are summed.

**1. CLICK THE SPEECH BUBBLE ICON TO LET US KNOW:**

*Do you think this could work in Chico? Why or why not?*

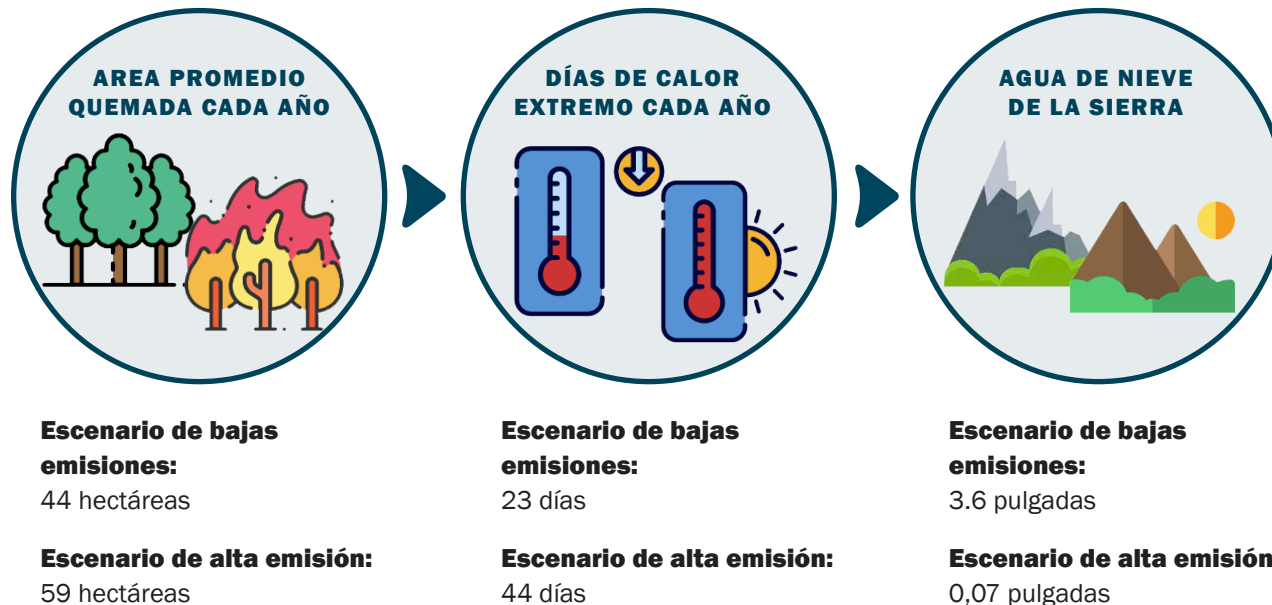
**2. SHARE YOUR THOUGHTS ABOUT THIS PROPOSED MEASURE! COMMENT BELOW.**

# ¿POR QUÉ DEBEMOS ACTUAR SOBRE EL CLIMA?

La Evaluación de vulnerabilidad al cambio climático de la ciudad de Chico describe los posibles impactos climáticos que se espera que Chico vea con el tiempo. La cantidad de días de temperaturas extremas, olas de calor e incendios forestales varía mucho según la cantidad de gases de efecto invernadero (GEI) que los humanos emiten con el tiempo. Estos impactos tienen impactos secundarios, además de reducir la capa de nieve, afectar negativamente a hábitats sensibles como Bidwell Park, y potencialmente requerir migraciones humanas como Chico ya ha experimentado debido al Camp Fire.

Las proyecciones del Panel Internacional sobre Cambio Climático (IPCC) muestran que se requiere una reducción en las emisiones de GEI a neutralidad de carbono para mediados de siglo para limitar el calentamiento a 2.7 grados Fahrenheit y limitar los peores impactos del cambio climático. El Plan de Acción Climática de Chico propone reducir las emisiones de GEI a cero neto para 2045 para ser consistente con los objetivos estatales y globales.

## HECHOS DE CHICO DE UN VISTAZO:



## OBJETIVO DE REDUCCIÓN DE EMISIONES DE GEI PROPUESTO POR CHICO:



Necesitamos reducir las emisiones de gases de efecto invernadero en las siguientes cantidades durante los próximos 15 años:

- 2017:** 5.1 MT CO2e por persona
- 2030:** 2.7 MT CO2e por persona
- 2045:** 0 MT CO2e por persona





**MEDIDA PROPUESTA**

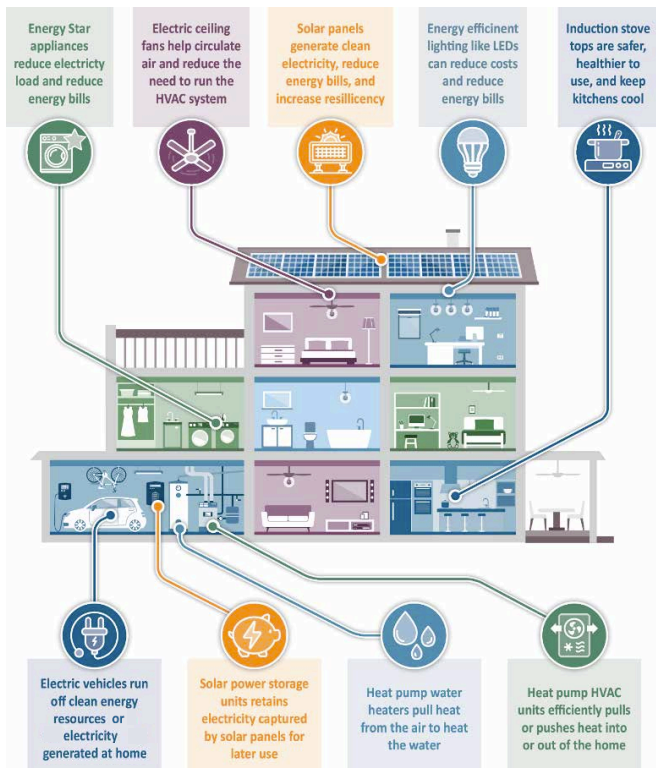
Exigir que las nuevas construcciones sean totalmente eléctricas: Adopte una nueva ordenanza de construcción que prohíba la instalación de gas natural en nuevas construcciones para los tipos de edificios en los que se demuestra que la electrificación es rentable.

**OBJETIVO 2030 DE CHICO**

Emisiones de carbono estimadas reducidas:  
8,973 TM de CO2e

**MORE ABOUT THE MEASURE**

- Esta ordenanza propuesta aprovecha la electricidad cada vez más renovable en California y previene futuras modificaciones costosas a nuevos equipos e infraestructura de gas natural.
- Esta ordenanza propuesta ayudará a respaldar la adopción de vehículos eléctricos (EV) al proporcionar la infraestructura necesaria para la carga doméstica en nuevos desarrollos.
- Esta ordenanza se implementaría para nuevas construcciones residenciales para 2022 y para nuevas construcciones comerciales para 2025.
- La ordenanza solo se aplicaría a los tipos de edificios donde se demuestre que la electrificación es rentable.
- Los beneficios colaterales de esta ordenanza incluyen menores costos para los propietarios de viviendas, mejor calidad del aire y mayor seguridad en los edificios.



**1. HAGA CLIC EN EL ICONO DE BURBUJA DE DISCURSO PARA HACERLO SABER:**

¿Crees que esto podría funcionar en Chico? ¿Por qué o por qué no?

**2. ¡COMPARTA SUS PENSAMIENTOS SOBRE ESTA MEDIDA PROPUESTA! COMENTA ABAJO.**

**¿SE PREGUNTA SOBRE LOS COSTOS?**

- Las construcciones nuevas completamente eléctricas suelen ser menos costosas para los contratistas y para los propietarios de viviendas cuando también se instalan electrodomésticos de alta eficiencia y energía solar.
- Puede revisar un estudio de viabilidad de LocalEnergyCodes en el siguiente enlace:  
<https://explorer.localenergycodes.com/studies/county-butte/>

**MEDIDA PROPUESTA**



Electrificar los edificios residenciales existentes en dos fases: primero incentivar y luego exigir la electrificación de los edificios existentes. Adoptar una ordenanza de electrificación para edificios residenciales existentes en 2025 para hacer la transición de los electrodomésticos de gas natural a eléctricos en el momento del reemplazo.

*By adopting reach codes that incentivize energy efficiency & building electrification, cities can lead the way to a healthier and more sustainable future.*

**BENEFITS**

 <p><b>LOWER UTILITY BILLS</b> Renewable energy is becoming cheaper while natural gas prices are rising rapidly in many states.</p>	 <p><b>SAFER BUILDINGS</b> In case of building damage (such as after an earthquake or other natural disaster), all-electric buildings are not exposed to fires from gas pipe breaks.</p>	 <p><b>IMPROVED PUBLIC HEALTH</b> Electrification avoids prolonged exposure to natural gas fumes, which can lead to respiratory issues like asthma.</p>
 <p><b>CLEANER AIR</b> All-electric buildings mean no natural gas combustion that generates toxic pollutants.</p>	 <p><b>MORE AFFORDABLE HOUSING</b> All-electric homes cost less to build and operate than homes powered by natural gas.</p>	 <p><b>LOWER CLIMATE IMPACT</b> Powering buildings with renewable energy is better for the climate.</p>

Los códigos de alcance son códigos u ordenanzas locales que exceden el código estatal, lo que proporciona una mayor flexibilidad para lograr los objetivos de la política local. Los códigos de alcance deben cumplir con un conjunto particular de criterios para ser aprobados.

**OBJETIVO 2030 DE CHICO**

Emisiones de carbono estimadas reducidas: 20,390 TM de CO2e

**MÁS SOBRE LA MEDIDA**

- La adopción voluntaria sería el enfoque de los primeros cinco años con educación, alcance y vinculación de la comunidad con incentivos de PG&E y otros.
- La ordenanza también se implementaría en dos pasos a través del proceso del permiso de construcción:
  - o Fase I: Limitar la expansión de las líneas de gas natural en los edificios existentes para 2022
  - o Fase II: a partir de 2025, se requiere que los sistemas de HVAC y los calentadores de agua caliente se reemplacen por modelos totalmente eléctricos al momento del reemplazo.
- A partir de 2025, los residentes de Chico deberán cumplir con los requisitos de permisos de construcción instalando equipos eléctricos cuando sus calentadores de agua y sistemas HVAC necesiten ser reemplazados. La vida útil promedio de un calentador de agua es de 10 años y de un sistema HVAC es de 18 años.

**¿SE PREGUNTA SOBRE LOS COSTOS?**

- La barrera más grande para esta ordenanza propuesta es el costo inicial potencialmente más alto para los residentes de Chico. Es por eso que Chico solo requeriría que se instalen equipos totalmente eléctricos en los edificios existentes en el momento del reemplazo una vez que se hayan implementado los fondos o las estrategias de financiamiento. Si bien los equipos totalmente eléctricos suelen ser más costosos que los equipos de gas natural, este aumento de costos se compensaría con incentivos, reembolsos y programas de financiamiento. Además, al reemplazar tanto un HVAC como un aire acondicionado con una sola bomba de calor (que calienta y enfría), los costos de electrificación son en realidad más bajos.

**1. HAGA CLIC EN EL ICONO DE BURBUJA DE DISCURSO PARA HACERLO SABER:**

*¿Crees que esto podría funcionar en Chico? ¿Por qué o por qué no?*

**2. ¡COMPARTA SUS PENSAMIENTOS SOBRE ESTA MEDIDA PROPUESTA! COMENTA ABAJO.**



**MEDIDA PROPUESTA**

Electrificar los edificios municipales: adoptar un plan de electrificación para convertir los edificios municipales en totalmente eléctricos



**MÁS SOBRE LA MEDIDA**

- La electrificación del edificio municipal se completará en 2045
- El plan de electrificación incluiría una nueva política de electrificación de edificios, así como una política de eliminación de gas natural de edificios existentes.
- La electrificación municipal ayudará a la Ciudad a hacer lo que le corresponde en llevar a Chico a la neutralidad de carbono para 2045
- Cuando se combina con una micro-red, la electrificación permitiría que los edificios municipales funcionen durante cortes de energía u otras emergencias.

**OBJETIVO 2030 DE CHICO**

Emisiones de carbono estimadas reducidas: 460 MT CO2e



**1. HAGA CLIC EN EL ICONO DE BURBUJA DE DISCURSO PARA HACERLO SABER:**

*¿Crees que esto podría funcionar en Chico? ¿Por qué o por qué no?*

**2. ¡COMPARTA SUS PENSAMIENTOS SOBRE ESTA MEDIDA PROPUESTA! COMENTA ABAJO.**



**MEDIDA PROPUESTA**

Proporcionar electricidad 100% renovable a la comunidad.



**CCA ADQUIERE /  
GENERA ENERGÍA**



**PG&E ENTREGA ENERGÍA,  
MANTENGA LÍNEAS, FACTURAS  
A LOS CLIENTES**



**LOS RESIDENTES RECIBEN  
ENERGÍA A TARIFAS COMPETITIVAS  
/ MÁS BAJAS Y TIENEN MÁS  
CONTROL LOCAL**

**MÁS SOBRE LA MEDIDA**

- A través de esta medida, la Ciudad de Chico adquirirá electricidad 100% renovable para la comunidad a través de Butte Choice Energy Community Choice Aggregation (CCA), de acuerdo con la ordenanza que autoriza la implementación de un Programa CCA a través de un Acuerdo de Poderes Conjuntos con el Condado de Butte, enmendando Título 15 del Código Municipal. Inscriba automáticamente las cuentas comunitarias y municipales en la opción de energía 100% renovable para 2022 con una opción de exclusión voluntaria.
- Las CCA utilizan el poder adquisitivo de la comunidad para adquirir electricidad directamente de los generadores de electricidad. Esto permite que la comunidad elija su propia combinación de redes, con la opción de adquirir electricidad de fuentes de generación 100% libres de carbono.
- PG&E continuará entregando energía, manteniendo líneas e infraestructura y coordinando la facturación.
- Para maximizar la oportunidad de reducción de GEI que esto presenta, la Ciudad inscribirá automáticamente todas las cuentas de la comunidad en una opción 100% libre de carbono. Los clientes tendrán la opción de optar por no participar en el CCA de regreso a PG&E o optar por otra opción de combinación de red. Se espera que alrededor del 5% de los clientes residenciales y el 15% de los clientes comerciales opten por no participar. Las cuentas municipales tendrán 0% de exclusión.

**¿SE PREGUNTA SOBRE LOS COSTOS?**

- Para el 2022, se espera que BCE brinde tres opciones de combinación de energía para que los miembros de la comunidad elijan:
  - o Opción de estándares de cartera renovable básica (RPS) con un 33% de fuentes renovables y un 80% de fuentes libres de gases de efecto invernadero que se ofrecen a una tasa de ahorro del 2%
  - o Opción 50% renovable con 80% libre de GEI en 2020 y 95% libre de GEI en 2030 ofrecida a una tasa de ahorro del 2%
  - o Una opción 100% renovable ofrecida a un precio reducido
- o Puede obtener más información en el siguiente enlace del estudio de viabilidad:  
[http://buttecounty.granicus.com/MetaViewer.php?view\\_id=2&clip\\_id=512&meta\\_id=87146](http://buttecounty.granicus.com/MetaViewer.php?view_id=2&clip_id=512&meta_id=87146)

**OBJETIVO 2030  
DE CHICO**

Emissiones de  
carbono estimadas  
reducidas:  
39,170 TM de CO2e



**1. HAGA CLIC EN EL ICONO DE BURBUJA  
DE DISCURSO PARA HACERLO SABER:**

*¿Crees que esto podría funcionar en Chico? ¿Por qué o por qué no?*

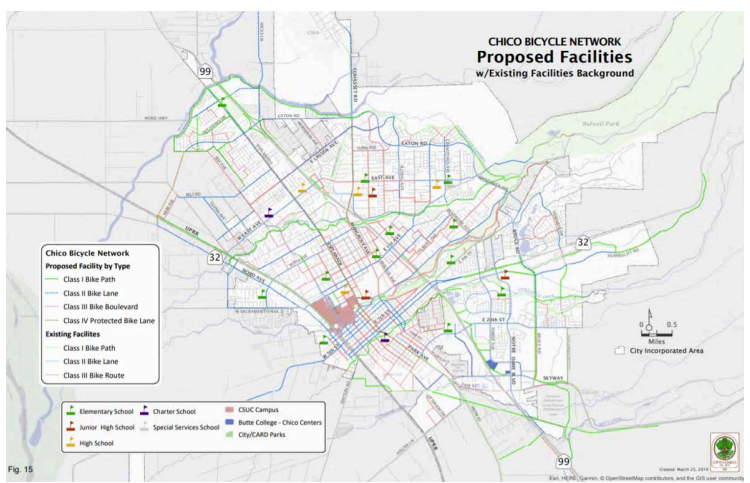
**2. ¡COMPARTA SUS PENSAMIENTOS SOBRE  
ESTA MEDIDA PROPUESTA! COMENTA ABAJO.**





**MEDIDA PROPUESTA**

Continuar implementando el Plan Maestro de Bicicletas Chico.



**OBJETIVO 2030 DE CHICO**

Emisiones de carbono estimadas reducidas: 1,531 TM de CO2e

**MÁS SOBRE LA MEDIDA**

- La Actualización 2019 del Plan Maestro de Bicicletas Chico se implementaría para 2030 de acuerdo con las metas, objetivos y políticas del Plan. La implementación del Plan incluirá:
  - o Agregar aproximadamente 140 millas a la red de ciclovías
  - o Mejorar / expandir la localización de caminos, el mantenimiento de senderos, la seguridad, la comodidad, el cumplimiento y las instalaciones para el final del viaje.
  - o Integrarse con el tránsito y otros modos de transporte
  - o Realización de promoción y educación en torno al ciclismo en Chico
  - o Identificar y competir por fuentes de financiamiento
- El objetivo general del Plan Maestro de Bicicletas de Chico es continuar haciendo de Chico una comunidad más amigable con las bicicletas, donde las personas de todas las edades y habilidades se sientan cómodas y seguras eligiendo bicicletas para sus necesidades de transporte.
- Se incluye una descripción completa de los objetivos, la estrategia, la política y el marco de implementación para expandir y mejorar la red de ciclovías de Chico en la Actualización del Plan Maestro de Bicicletas de Chico 2019.

**¿SE PREGUNTA SOBRE LOS COSTOS?**

- La infraestructura para bicicletas y peatones tiene uno de los precios más altos de las medidas propuestas debido al costo relativamente alto de la infraestructura.
- Los costos para cubrir el plan de bicicletas públicas podrían cubrirse con un bono verde (medida tributaria), subvenciones u otros mecanismos de financiamiento.



**1. HAGA CLIC EN EL ICONO DE BURBUJA DE DISCURSO PARA HACERLO SABER:**

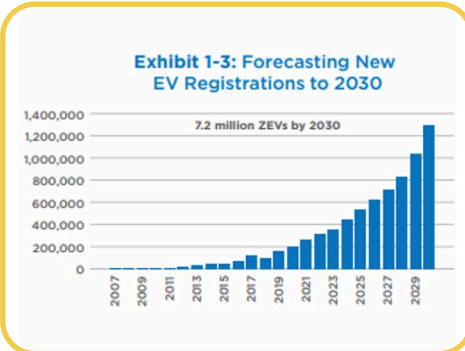
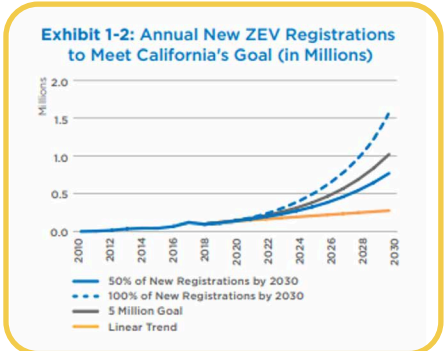
*¿Crees que esto podría funcionar en Chico? ¿Por qué o por qué no?*

**2. ¡COMPARTA SUS PENSAMIENTOS SOBRE ESTA MEDIDA PROPUESTA! COMENTA ABAJO.**



**MEDIDA PROPUESTA**

Mejorar la infraestructura ZEV (vehículo de emisión cero) para permitir un cambio del 25% de vehículos de combustión a ZEV para 2030.



**MÁS SOBRE LA MEDIDA**

- La ciudad de Chico alentará a la comunidad a aumentar la adopción de vehículos eléctricos y prepararse para un futuro de vehículos eléctricos proporcionando la infraestructura necesaria para respaldar este cambio. El estado ha establecido el objetivo de poner 5 millones de vehículos eléctricos en las carreteras para 2030 y las regulaciones recientes requieren que el 100% de los vehículos de pasajeros vendidos sean eléctricos para 2030 y el 100% de los vehículos comerciales sean eléctricos para 2045.
- La ciudad ha establecido su propia meta en línea con los objetivos estatales y apunta a alcanzar una adopción de vehículos eléctricos del 23% para 2030.
- Se necesitan aproximadamente 950 nuevos cargadores públicos para satisfacer la demanda prevista en Chico para 2030.
- Las acciones bajo esta medida incluirán:
  - o Modificar el código de construcción de la ciudad, de acuerdo con el PEV Final Butte (enchufe en vehículo eléctrico) Plan de preparación, para requerir nuevas construcciones y reformas importantes para proporcionar entre 20% y 30%
  - o Espacios de carga con capacidad para vehículos eléctricos y capacidad del panel con un 1% (al menos 1) de cargador operativo.
  - o Continuar trabajando con socios públicos y privados para instalar adicionales accesibles al público
- Cargadores rápidos de corriente continua (DCFC) y cargadores de EV de nivel 2 en la ciudad, con un enfoque en brindar acceso a hogares de bajos ingresos y viviendas asequibles.

**¿SE PREGUNTA SOBRE LOS COSTOS?**

- El costo de instalar espacios preparados para vehículos eléctricos en el momento de la construcción es de entre \$ 860 y \$ 920. Ese mismo espacio cuesta entre \$ 3,710 y \$ 2,370 para modernizar. Como sabemos que necesitamos esta infraestructura, deberíamos hacerlo ahora a un costo menor.
- La instalación y operación de nuevos cargadores de vehículos eléctricos (EV) en espacios existentes se puede pagar a través de asociaciones públicas / privadas, subvenciones o financiamiento.

**CARGADORES EV: POR LA HORA**

<b>NIVEL 1</b>	4-5 MILLAS
<b>NIVEL 2</b>	12-60 MILLAS
<b>NIVEL 3</b>	CARGA COMPLETA

**OBJETIVO 2030 DE CHICO**

Emisiones de carbono estimadas reducidas: 27,338 TM de CO<sub>2</sub>e



**1. HAGA CLIC EN EL ICONO DE BURBUJA DE DISCURSO PARA HACERLO SABER:**

*¿Crees que esto podría funcionar en Chico? ¿Por qué o por qué no?*

**2. ¡COMPARTA SUS PENSAMIENTOS SOBRE ESTA MEDIDA PROPUESTA! COMENTA ABAJO.**



## MEDIDA PROPUESTA

Trabajar con los transportistas de desechos y otras partes interesadas para cumplir con los objetivos de SB1383 y desviar al menos el 75% de los desechos orgánicos del vertedero a través de una expansión de los servicios de compostaje y la desviación de alimentos comestibles.

### Jurisdiction Responsibilities



## MÁS SOBRE LA MEDIDA

- Esta medida alinea a la Ciudad de Chico con los esfuerzos estatales para reducir los desechos orgánicos en todo el estado en un 75% para 2025 a través del Proyecto de Ley del Senado 1383.
- Exigir la recolección de desechos orgánicos residenciales y comerciales a través de contratos actualizados de transportistas de desechos.
- Aprobar una ordenanza para el 2022 que requiera que los generadores de productos orgánicos residenciales y comerciales se suscriban a programas de recolección de productos orgánicos o, alternativamente, informen sobre el transporte y / o retroceso de productos orgánicos. Permitir exenciones y exenciones limitadas a los generadores para volúmenes menores y limitaciones de espacio físico y mantener registros de exenciones / exenciones.
- Ambos transportistas de desechos en Chico han estado trabajando diligentemente para expandir los servicios de compostaje y Recology está en el proceso de construir su primera instalación de compostaje. Actualmente, los residentes de Chico pueden depositar los desechos verdes y los jardines en las instalaciones de compostaje del aeropuerto. Esta acción capitalizará esos esfuerzos y los ampliará para alcanzar la capacidad de compostaje necesaria.

## ¿SE PREGUNTA SOBRE LOS COSTOS?

- CALRecycle estima que la implementación completa de SB1383 aumentará el costo de desechos para los hogares aproximadamente \$ 17 por año en promedio, dependiendo de los volúmenes recolectados. Los costos directos para las empresas productoras de desechos orgánicos serán de aproximadamente \$662 en promedio.

## OBJETIVO 2030 DE CHICO

Emissiones de carbono estimadas reducidas:  
7693 TM de CO<sub>2</sub>e

### 1. HAGA CLIC EN EL ICONO DE BURBUJA DE DISCURSO PARA HACERLO SABER:

*¿Crees que esto podría funcionar en Chico? ¿Por qué o por qué no?*

### 2. ¡COMPARTA SUS PENSAMIENTOS SOBRE ESTA MEDIDA PROPUESTA! COMENTA ABAJO.



**MEDIDA PROPUESTA**

Expandir el dosel de árboles urbanos en 700 árboles para 2022 y 4.500 árboles para 2030 para secuestrar carbono, disminuir las temperaturas, ahorrar energía y mejorar la calidad del aire dentro de Chico.

LOS ÁRBOLES OFRECEN MUCHOS BENEFICIOS...



- AUMENTA EL NEGOCIO** (Icon: Bar chart with upward arrow)
- CAPTURA DE AGUA DE LLUVIA** (Icon: Cloud with raindrops)
- COMBATE EL CAMBIO CLIMÁTICO** (Icon: Thermometer with circular arrows)
- AIRE Y AGUA MÁS LIMPIOS** (Icon: Water drop with leaf)
- REDUCE EL EFECTO DE ISLA DE CALOR URBANO** (Icon: Buildings with sun)
- MEJORA LA SALUD PÚBLICA** (Icon: Heart with cross)
- AHORRA ENERGÍA** (Icon: Lightbulb with leaf)

**MÁS SOBRE LA MEDIDA**

- La plantación de árboles ayudará a secuestrar carbono dentro de la ciudad y proporcionará una serie de beneficios colaterales como mejoras en la calidad del aire y proporcionar sombra y temperaturas reducidas.

**¿SE PREGUNTA SOBRE LOS COSTOS?**

- Los costos de la ciudad asociados con la plantación de árboles incluyen la plantación, el riego y el mantenimiento. Chico ha recibido una subvención para financiar la plantación de 700 árboles para 2022.
- Además, los árboles proporcionan una relación costo-beneficio positiva cuando se suman todos sus costos y beneficios.

**OBJETIVO 2030 DE CHICO**

Emisiones de carbono estimadas reducidas:  
261 MT CO2e



**1. HAGA CLIC EN EL ICONO DE BURBUJA DE DISCURSO PARA HACERLO SABER:**

¿Crees que esto podría funcionar en Chico? ¿Por qué o por qué no?

**2. ¡COMPARTA SUS PENSAMIENTOS SOBRE ESTA MEDIDA PROPUESTA! COMENTA ABAJO.**

# Appendix of Comments

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### Measure 1: Require new construction to be all-electric

- I have an electric car and do not usually charge in town but have noted how hard it is to locate and sort out what entity controls the chargers and how to pay, what type they are... Cities that are most successful have clear, frequent signage and they locate chargers in comfortable, shaded places that are not hidden. They also keep the chargers maintained and do not allow nonelectric cars to park in the EV charger slots. There are apps for EV chargers-- Plug Share and Charge Point are the two I use. I noted that in Fort Bragg some chargers are free for an hour or two in tourist areas. Obviously, you need some chargers near Hwy 99, but you need others downtown and at both malls... if electric cars finally do dominate it will be important to have rapid chargers, regular chargers... many more parking spots for chargers! The simplest is to allow just a debit card for payment rather than proprietary chargers. It is very overwhelming to have Blink, plug share, Charge Point etc. cards as one moves across the west. Standardization would be fantastic within California or at least on the 99 corridor. Public parking is critical. In many towns they are only linked to motels! Please don't put them at gas stations in the sun... which is miserable! Thanks
- I am grateful to live in a town that seems to be taking the impacts of climate change seriously.
- This plan is packed! So much information in such a small, but readable package. We must act on multiple fronts, in multiple ways. This plan gives us a visual guide to what those actions should be or could be for Chico. We often think of the costs of acting on these plans in terms of dollars. We should be thinking instead of the impact to the quality of life with inaction. I am curious about the type of building, size, placement and the impact on climate change (e.g., sprawl into the Wildland-Urban Interface). I also am curious if this

plan needs to address the future of water for Chico. Maybe both of these questions are answered, but as I said earlier...there's a lot packed into this plan.

- What about a climate resilience plan? Does Chico have a climate disaster plan to ensure economic-social-cultural-basic needs are met during these times? What are the systems that can be created for community resilience, which is the local equitable access to healthy food, clean water, clean air, comfortable shelter, mental and physical health care, and cultural/artistic expression? What about supporting local projects focused on mutual aid, skill sharing programs, etc.
- I appreciate your putting this interactive document together and offering opportunities for public input on this important matter of policy and action.
- Great info, and thanks for providing it. One suggestion: The average Chico citizen doesn't know what hectares are. Let's be sure, moving forward, that we're speaking a language most people understand. Educating and communicating clearly about the situation will be vital to galvanizing grassroots support!

#### Measure 2: Electrify existing residential buildings

- Incentivizing construction of smaller housing units would be a great addition to this (it's often more affordable to live in too!). Smaller housing units use less energy for heating, cooling, water, and lights. Not to mention reducing the high up-front energy involved in construction. Allowing for "alternative" sustainable building materials is also a way to reduce the initial GHG impacts of construction.
  - Yes, small affordable housing why don't we start thinking apartment complexes or multi-family units bring the duplex back.
- Trying to install solar panels on existing and new construction will be difficult unless we can figure out how do protect a dwelling's sunlight. We may have to do this off-site.
- We couldn't do even a burning firewood ban in this city or even require EPA stoves since some people's only source of heating is wood burning.'
- Electric homes with power supplied by renewable energy are a must for the future. However affordable renewable energy must be made available to the public either via regional solar or wind generation. Also, storage facilities must be part of the plan so that when PG&E's power grid goes down people still have power available.
- The ordinance might also encourage the installation of residential natural gas-powered backup generators to provide electricity during power outages. This will be especially important for vulnerable populations harmed by temperature extremes.
  - Yes, and maybe in the future, we can have cooling or warming buildings for the most vulnerable to extreme heat and cold. A building with snacks and movie nights when it is too hot or too cold. Kind of like a community center.
- I like having the choice of gas or electric. The power lines are unsightly and when the grid goes down my gas hot water heater and stove still work. A better solution would be to require fewer houses per acre, quit packing them so close to each other and encourage the planting of trees and other native species of plants in everybody's yard.
- Yes, and it needs to work in order for Chico to survive and thrive in the future.

- Great Work thank you.
- I would expand on this to include electric charging stations in multifamily housing and even new construction of homes. Electric vehicles are key to climate resilience.
  - I would add that the actual construction of the house could be improved with thicker walls, so the design would reduce the need for heating and cooling. Why are houses still being built with designs that don't work for our hot, dry climate?
- Does this conflict with the desire to build more affordable housing? How do we do this with "Tiny Houses"?
  - Well affordable housing should be sustainable for future needs I don't think they are separate issues. Tiny Houses are not my forte so I can't comment on those but affordable housing complexes that are sustainable do exist and we need large-scale affordable houses, not individual tiny homes. There is not enough land for individual tiny homes in Chico. We need to build up not out because of the constraints of the city.
- It seems that most developers are stuck in the old ways of doing things - how are you going to get them to buy into this without giving them money or letting them get away with not adhering to environmental protections?
  - Chico has held educational training in the past explaining that electrical is cheaper and most developers were happy to go cheaper. If we wanted to do something like Colorado, we could implement a list of materials that developers are allowed to use. But most people pay Chico to build here and hopefully we will get some permanently affordable housing coming our way with all the housing stock taken from the fires.
- While I think that this will work the timeline for requiring compliance is too short. There are already projects well into the planning stage that could not meet the 2022 deadline.
  - I think 2030 will be too late. The world has only a handful of years left, and the past years have been kind of squandered.
- On April 2, 2019 we at Chico 350 Butte County organized a broad local coalition and got the Chico City Council to pass our Declaration of Climate Emergency Resolutions - which proved along with our draft Implementation Plan that Chico can and must go 100% Zero Carbon Emissions by 2030. It passed by 5-1, with one abstention - Kasey Reynolds left mid-hailstorm because her sweets shop store was flooding! We worked hard to get the Sustainability Task Force upgraded to the first new commission in 20 years, the Climate Action Commission. We are disappointed that the city agencies have defaulted to the state's lower standards and deadline of 2045. We worked to get that SB100 bill passed, but it was just a placeholder benchmark for us to improve upon. Your video also sounds like happy talk not based in the real world where our Butte county is home to four climate-accelerated disasters in less than 3 years. 1) 2017 Oroville Dam Collapse 2) 2018 Camp firestorms killed 86 people, mostly elderly. 3) 20210 Bear Fires which morphed into gigantic 4) North Complex firestorms, which I read yesterday in the local news are not 100% contained yet.
- For all of the eight priorities, it seems critical to develop a plan to inform the public is critical, a plan that includes action steps with time deadlines. We also need an

educational component in the schools, one that provides factual information to young people and the kinds of actions they can choose to take to make a difference.

- Individual action and most of the young people are on board with that information. Today though we are talking about a citywide action. Schools don't have to comply with city plans so a teaching issue would have to be taken up with the school district.
- Chico must have better access to renewable electricity to achieve this. Are you considering creating a SUMD type power resource?
  - I think that would be an awesome idea and it should be considered if and when PG and E berries power lines or Butte decides to make a SMUD because Chico is only 75 thousand plus people. Sacramento the city alone housing 500 hundred thousand people. SMUD covers 900 square miles for the entire district. Not everyone would be on board with that, but it could be something to discuss as a county or multi-county thing who knows.
- Nothing should be implemented at a local level that is stricter than the state building codes. Additionally, it has proven that electricity with solar, depending on the system, in the case of power outages can leave you without the ability to heat and cook. If you have a gas fireplace and gas stove, you can at least keep yourself warm and eat. Many solar users believed they would have power when there was an outage only to find themselves in the dark without heat, the ability to cook, and a warm fridge.
- If solar power isn't mandatory on new construction, it should be! ("Solar-ready" is good, but far better is actual solar paneling) The future of power generation will be distributed, as opposed to central massive powerplant/solar farm, because it's more efficient.
  - Right?? If there is anything, we have in abundance here in the north state, it's sunshine!
- Additionally, we have to start looking at the carbon footprint of building materials. Such assessments should be public information, easily attainable, so people not only start thinking that way but also don't have to do tons of research to make good choices.
- We don't have enough electrical power available right now (i.e., rolling blackouts.) And, while solar power is great during the day, we can't readily store any extra production at night (or it is very expensive to do so.) So, banning a clean-burning source of power like natural gas makes no sense, and places ANOTHER burden on business, and creates more regulation. This proposal is another example of the type of thinking that is driving good and productive citizens out of California.
  - The blackouts had as much to do with poor planning and management of the grid as having too much renewable energy. For example, the power plants actually exported electricity out of state at the same time that they needed it. While the shift away from fossil fuels may not be going perfectly, we still need to figure out how to do it, rather than just say we can't. I wonder why the power companies can't invest in batteries to store solar power for use at night, but I don't know much about that.
  - Natural gas is a marketing term that covers (and obscures) many forms of petroleum gas. In California it is methane gas, and it is far from "clean." The



emissions from leaky production facilities make this fuel source dirtier to use than coal.

- Yeah, I was highly motivated to get an induction stove in our new house, but the reasonably priced model was not being manufactured any longer, which meant we would have had to pay at least \$500 more to get induction. Hopefully these come down in price.
- These are very expensive - not all families have \$\$ laying around to replace current stove/oven.
  - The average electric oven costs \$400 or something. That's about my rent but my electric bill has gone down because the gas was more expensive.
- May want to consider electric dryers replacing gas dryers
- Requiring new construction to be all electric and contain solar panels is a good path forward to slowly transition away from fossil fuels and when coupled with statewide investment/shifts to more renewable electricity, storage, and power management. Replacing existing natural gas infrastructure could/should be incentivized but not required.
- For solar power to be viable - most trees would need to be removed to allow for needed sunlight. Thus, causing additional global warming (trees are critical to reduce global warming); follow the science.
  - "Most trees" would not "need to be removed". Some may need to be removed or simply trimmed. Full removal can be mitigated by planting other trees where they will not interfere with current or future solar collection or other alternative energy generation plans.
  - The city is planning on planting more trees and pruning companies will obviously be employed to help.
  - Another measure in the CAP is a "share the sun" provision that "encourage architects to design rooftops that can maximize solar TOF and minimize conflict with future street trees."
- New residential construction is already required to be all electric or Net Zero with Title 24. What about non-res construction? This needs to be addressed specifically for those building types, which I'm sure the Energy Commission is doing.
- Additional \$\$\$, will require most to refinance homes to pay for it. City needs to reduce fee's, permits to allow homeowners and builders to be able to have/build affordable housing.
  - Let's not kid ourselves: addressing climate change is going to cost money. The question is where will it come from--and can something like a Green New Deal create jobs and economic wealth as well, helping to finance this shift?
- Ceiling fans are all you need on all but the very hottest days! We need to encourage people to kick the AC habit!
- What clean energy resources are available? We currently can't even cool our homes. How do you charge with solar? This would require additional \$\$\$\$ of solar panels to charge vehicles - at night (since you'll be at work during the day). No practical storage exists for common consumer at this time. Years away.

- The city wants to add chargers in the city. They also want to add transport like busses, better bike routes, and electric trolleys service. So maybe people would not need a car except in a few cases.
- You are incorrect, all electric homes cost hundreds of dollars a month more than homes using clean natural gas. Electric appliances require additional source of power generation, that currently doesn't exist
  - Natural Gas is just methane that's not clean
- Today.... neither the grid nor electrical storage nor appliances nor consumers are ready for such a dramatic and sweeping change. Incrementally, water heaters for example, might be more acceptable to consumers who otherwise demand gas stoves and fireplaces. Regulations such as these, when implemented by a municipality rather than the state, force consumers to outlying areas worsening the commute. 100% electrification in Chico translates to more driving and more propane. neither are good for climate change.
  - Bill's idea of starting with Water Heaters is a good first step. If you take away people's ability to have a fireplace or a foodie's desire to have a gas cooktop, you are going to turn-people off and sabotage the effort. However, water heaters are a neutral space - something that would make big difference. If you want less gas usage beyond water heaters, put in an incentive, such as a break on permit fees in order to incentivize the change you want to see.
- What about initial costs? Buyers rarely look at long-term costs; they want to know how much it costs to get the dwelling.
- What are "future expensive retrofits to new gas infrastructure and equipment"? Statement doesn't make sense out of context. First, the utilities need to maintain existing gas lines to prevent gas loss and explosions, those need to be retrofitted. You don't retrofit "new" things.
- The first goal maybe should be to power our transportation system with renewable energy produce on our homes. Fossil fuel powered vehicles are the number one source of GHGs, not houses. Can a zero net energy home produce enough electricity for both transportation and residential needs without utility back-up systems? Now you are talking about a huge solar footprint on a lot. Tiny homes with huge solar doesn't work.
- How do you define "cost effective"? Is it for the equipment purchases or running the equipment? It is more cost effective to burn natural gas to heat water than use electricity. Electric equipment is typically less costly than natural gas (ranges, dryers, heaters, etc.) but cost more to operate. What is the cost of solar power PV? Construction cost, operational costs, and replacement cost and how does that compare?
- This can only work for the consumer if they produce their own electricity. Purchasing electricity from a utility or CCA is very expensive and still comes from natural gas fired power-plants. To actually reduce GHGs the home would have to be off grid from a utility unless that utility was 100% renewable including storage. This means homes will have to be built with adequate solar electric and solar thermal and have a battery back-up system to support the home over night and during long periods of cloudiness. We are not there yet for most homes and people.

- For all of these remedies, it is unrealistic to believe in every case the changes must be "cost effective." In the long run, of course, they are, but in the short run, which is crucial, they may not be. We still must share the cost. More flexibility in homeowners' use of solar panels and car batteries [Baldy] is possible and a good step.
- What about all this fireplace inserts that have been replaced with natural gas inserts? And then there are the outside propane heaters.
- Ugh, I hate electric stoves. Our gas range is less than one year old. We also have gas heat. We have solar panels but that would mean also adding panels which we cannot afford. Where is all the money coming from? We are senior citizens.
- Does this mean that by 2045 even if one has e.g., a HVAC that is working fine it will have to be replaced with an electric heat pump?
- Nope, the operative words were "NEEDS REPLACING" if it's working fine, I don't think you would need to replace it.
- The cost to change over to just electric water heating is and will be prohibitive. Besides putting in the electric water heater it would cost big bucks to upgrade the wiring including an upgrade of the main panel to be able to cover the extra electricity. Then an upgrade of existing solar systems to cover the extra power would cost a fortune. This is a poor town with high housing prices. You will put local people out of the local real estate market. Seniors will not be able to afford it. Gas prices are a lot lower than electric. PGE can't provide us now with enough electricity. They will never put in enough money to cover the infrastructure to create this power. And then to think about new electric only heating/cooling units is just crazy. Your nuts and autocratic. Get rid of the Carl Roy crazies. And yes, I am a progressive voting Democrat. I'll vote no on anything that will destroy me.
  - What place do you live in that would require upgrades too so much wiring? It sounds like a historical house. Maybe the water heater is not your thing what about an on-demand water switch.
  - Gas rates are rising faster than electricity rates because of infrastructure repair cost and the price difference is expected to grow due to the age of the pipes. As more (affluent) people move to solar electric, the remaining (less affluent) customers will bear a greater financial burden for upkeep of the aging infrastructure. All electric is cheaper for seniors and it will leave a better planet for their children and grandchildren.
  - Switching over to electric water heating is not prohibitive. An electric water heater runs about \$500-600 v. a gas water heater \$600-900, while a hybrid electric, the best way to go, are around \$1,500 and will payback in 4-5 years when compared to a standard electric water heater. Panel upgrades are typically not necessary. Most homes are wired for electric dryers and water heaters even though they might not have them because the builder doesn't know what appliances the homeowner will install.
- I live in a 1981 home with solar panels, all electric except my stove and oven. I like to cook with gas stovetop. I don't plan on buying an electric stovetop.

### Measure 3: Electrify municipal buildings

- In case of power outages, is it possible for homeowners to use the electricity generated by their solar panels? Also, could they direct the electricity stored in their electric car batteries to power electric appliances?
  - So, if they are YOUR solar panels you would be using the solar as long as the sun shines. Any energy that is produced is not being used by the grid. That means any extra if you don't have extra you are using all the power.
- PG&E is the problem, not part of the solution. For example, recently they introduced micro grids to Magalia to offset all the power shut offs - and these are still gas-powered. Solar powered micro grids are the way forward, not fossil fuels.
- These measures are only directed at domestic changes. Where is the City's plan for larger-scale change, with business, manufacturing, government agencies, agriculture, and the university, etc.?
  - Please keep scrolling. There are other measures including the microgrid where power is spread over the town's solar panels. We are one town in the North State we should be able to take care of our own power needs. Enloe Hospital, Chico State, and schools don't follow the general plan.
- This addresses residential systems but how about big users, governmental, commercial and industrial in Chico? Will they be held to the same standard?
- We have just replaced our HVAC unit; it is gas with a 2-stage unit. It is very a very effective unit and cheaper to use. The previous one lasted 25 years. We also just replaced our gas water heater it has built in insulation, so it does not need the blanket. It too is a much more efficient unit. The previous unit also lasted 25 years. I believe your numbers are off. Implementing stricter codes locally than state building codes can lead the local jurisdiction to potential liability.
  - You have an anecdote. Here is my anecdote: My parent's latest HVAC replacement from gas to another two-stage unit lasted 8 years. The infographic is just an average please remember that folks.
- Incentives sound good, but there is no free lunch. P G & E incentives are paid for by charging everyone higher rates. Government incentives are paid for by the taxpayer. We must first ensure that electricity generation in California is adequate. Last summer there were some hot days when PG&E could not supply the north state and needed to shut down power to residences. I don't think that generation can be up to the necessary level in the stated time frame. Before mandates are made, we need to be sure that these premises are correct, I don't think the numbers are realistic.
- How about focusing on large buildings that use far more power (commercial, industrial, university, hospital, etc.) and new construction before requiring substantial investment to retrofit small homes?
  - Well Universities and Hospitals are exempt from following the cities plan regardless of that Enloe Hospital and Chico State have done retrofitting and sustainable energy changes. Industry is required to follows the general plan and the climate plan so as you read on you will see the industry has to follow these guidelines to.

- I don't like that there is only a yes or no option. All with qualifications. I think it may be possible but not in the timeline you are talking about. Seems like the people aren't going to want to put out this big outlay. Should be done in increments- first the City do it with all their buildings, then the University, the hospital etc. - - to prove that it works to the little guy
  - Chico State, Enloe Hospital and schools do not have to comply with city plans. Regardless though Chico State is writing up a plan to replace HVACs already in the year 2020. Page 17 then just follow the chart for the 5 buildings they are replacing HVAC and other units.  
[https://www.csuchico.edu/sustainability/\\_assets/documents/chico-state-climateaction-plan-2011.pdf](https://www.csuchico.edu/sustainability/_assets/documents/chico-state-climateaction-plan-2011.pdf)
- What kind of incentive, rebate, and financing programs are you considering or is that an after-the-fact to be worked out later? It is best to have this information or program developed up front. Will it be funded with city dollars? Where will those come from? I would suggest Chico's utility users' tax as a source of funds, even though it is the City's third largest revenue source after property taxes and sales taxes, and they don't like giving up revenue. Will the CCA use their sales revenue to provide rebates and incentives? Probably not. PG&E will certainly not provide incentives to reduce their energy sales without being compensated like they are now. Where are these incentives to come from? Making it a requirement in the future is a great idea but people will balk if it costs them more.
- Would like to see your information to support this claim. Currently all appliances in the State have to conform to the State's appliance efficiency standards, and they are pretty good, as far as efficiency goes. Purchasing equipment that is more efficient always costs more, not less, than the current efficient standard equipment. Solar PV also adds to the cost of a home by what \$5,000 per kW, so a 10-kW system, which is probably a low-end system in terms of electricity needed to run a Net Zero home with a car charging station, ok maybe 15 kW, so an addition \$50 - 75,000 to the price of a home is not less expensive.
- Gas prices will remain lower on a cost/BTU basis than electric, it is counter to the laws of physics to be other.
- What does "limit expansion natural gas lines in existing buildings" mean? Existing buildings have natural gas lines, how does one plan on limiting them? What incentives is the City of Chico planning? This is a costly proposal for residents, they aren't going to do by regulation - will never happen. It has to be incentivized and I don't see the incentivization plan anywhere in this document. Can this plan guarantee that by 2025 all the electricity available in Chico will be renewable? How is a CCA going to do that? The sun doesn't shine all the time. Wind don't blow all the time. The back-up power will come from what renewable source? If this becomes a requirement people will install what they want without getting building permits. Despite what Stemen asserts in his comments electrical prices are not going down, they are going up and they will not go down anytime soon. Large-scale renewable electricity is not cheap you have to pay a premium to get this from PG&E now and from your CCA. Your CCA savings is 5%? Wow that will really make someone tear out their gas appliances and go electric. Here is the problem with that. Once a home converts to all electric, and doesn't have a solar electric system on it, a

homeowner's utility bill will go sky hi. If I use \$100 in electricity now and \$100 in natural gas to heat space, water, and to cook with my bill will go to \$500 - \$600 a month in the winter without a significant solar system. For this program to work it will have to incentivize the replacement appliances (Natural gas water heaters cost about \$600, electric about \$500, heat pump water heaters cost about \$1,500. If I install a heat pump water heater to replace my natural gas one my water heating costs go up too. A solar water heating system is a much better way to go, then you can use your solar electric for cooling and heating. BTW - HVAC is heating and air conditioning you don't replace both of them because it is one system. I keep seeing the statements that the cost of "electrification is actually lower" - where is your proof? If you rely on incentives to offset the addition costs where are those incentives coming from? The local tax base? PG&E? (Not if you have a CCA, PG&E won't incentivize electrical consumption because they aren't selling it.) You might want to think about a power co-op that could do all of that.

- Currently the cost equivalence between electricity and natural gas is almost 5 to 1 on a \$/BTU basis, electricity cost 5 times more per BTU than natural gas, when used for space or water heating. An electrification requirement only works with home generated electricity and battery storage and that is at a higher than normal cost to install and use
- Not just municipal buildings need to be all electric. Clean Green Union Jobs can create \$Millions to boost our economy - retrofitting every housing unit.
- Energy self-sufficiency for municipal buildings can work and would provide experience beneficial to policymakers when making policy decisions re: energy systems for residents of Chico. Also, Sierra Nevada Brewery already generates a large portion of their own power, so a model already exists.
- Municipal building should all have electric charging stations for city and citizen vehicles.
  - That would be a good idea I am just wondering how many electric vehicles are in the city. Like the comment, if you have an electric vehicle. Dislike the comment if you have gas or diesel vehicle. Anecdote evidence.
  - There is some circularity to this exchange-- one purpose of installing more charging stations is to make it more inviting and practical for folks to purchase electric cars. Let's do that. I have an electric car.
- Most office and commercial buildings, like municipal buildings, are pretty much electric utilizing. The only thing that currently requires natural gas is space and water heating. Water heating is a minor use in a municipal building and can be retrofitted easily. Space heating can also be modified for heat pumps depending on a building layout. So this isn't that big of a deal or hard to do, especially for small municipalities.

#### Measure 4: 100% renewable energy

- We have far better ways to spend taxpayer money than to convert buildings that were designed to use natural gas, to electricity only. The carbon savings would be teeny tiny in the whole scheme of things. These proposals are "feel good" measures, when compared to natural carbon pollution created by forest fires and organic decomposition.
  - Due to leaky gas pipes, the carbon saving would be substantial.  
<https://agupubs.onlinelibrary.wiley.com/doi/full/10.1029/2019GL082635>

- I don't think these are feel good measures. I think the city is making substantial changes to help our ecosystem have cleaner air and water by removing methane (natural gas) and replacing it with renewable energy like solar.
- Yes, and I think when Chico gets electrified people will do it more. Most people get solar panels when their neighbor gets solar.
- It appears that something was left out of the thought process. Currently a little less than half of the electricity generated in California is from natural gas. If we vastly increase our electricity consumption, we will be using natural gas to generate the power needed for our all-electric homes and municipal buildings. This may make Chico air cleaner, but not the entire state. Before this is logical, we must further develop renewable power generation. The obvious answer is nuclear fusion, not viable yet. We need to wait until the power is there for it to make sense.
  - Why not use solar in the meantime. Why not because what if by the time you're waiting has ended the world has already gone up too many degrees.
  - State law requires that 60% of all electricity come from renewable sources by 2030, and 100% by 2045, at which point no natural gas (methane in CA) will be used to create electricity.
  - Plus, California doesn't have a large natural gas supply so California would have to rely on different states or different countries to supply methane. Do you know the biggest suppliers of methane?
- Good place to test ideas such as microgrid electrification as a strategy to deal with power outages
  - This is part of the proposed microgrid the next step would be combining this measure with the next measure.
- Look, we HAVE to move away from fossil fuels if we want to stave off climate disaster. Electrification, powered by renewables, is the best answer. I thought we had committed to doing this in Chico by 2030. Yes, it's going to cost money at first, but if we don't prioritize this transition, we're going to have a lot more costly problems to deal with. Paradise and Berry Creek are early warnings, as were last winter's floods. Even without such disasters hitting Chico, going electric will be cost effective in the long run.
- Same concern as above.
- This is crazy stuff.
- This would be a good idea ONLY if the solar was set up to be accessible when the grid goes down. To be totally dependent on one single system like PG&E's power grid is totally foolish.
- Is there a plan for a municipal renewable plant or just purchasing it from sources via a CCA?
- Micro-grids are a great way to go, but remember if they are solar electric powered exclusively, they won't provide much if there are more than a few days of cloudy weather.
- Who's paying for it? Spend our money on better things like health and safety.
  - If a longer-term view is considered, we have all been deferring the costs of climate change for quite some time. No one wants to pay for the heedlessness of

the past, but if there is to be a future that includes clean air and water among other things many have for too long taken for granted, then we have to pay something now and for quite some time to come. It may also be the case that doing so now will also contribute to health and safety as well.

- I have a sleeping problem that requires a machine to run and give me oxygen. This is for my health and safety that a renewable energy system is working in the future. I need clean air and clean water for my health and safety.
- If the city doesn't do this, no one will so it's a must!
- Why should the taxpayers pay for this? One of the HVAC units on top of city hall was just replaced with in the last year. Are you now going to replace it again because of this plan?
  - They would replace it when it needs replacing there is nothing in this measure that says a working HVAC is replaced by 2025. The city might replace the HVAC with an electric one or maybe it is electric I don't know this particular HVAC that you talk about. I am not part of the city or the installation team that replaced the old broken HVAC. The city might replace it to be a model for the citizens they might not. Do you want them to replace it?
- Again, another expensive idea that will not work because there is not enough renewable electricity in the state to utilize. Now, if you want to talk about building some current generation nuclear plants to provide clean electricity, you might actually have something.
  - Since September 2019, California has added 659 megawatts (MW) of utility-scale solar-powered generation capacity, increasing total solar capacity by 5.3% to more than 13,000 MW as of June 2020.
  - Norm there is an option to opt-out, but I think you are going to stay in the renewable energy program. I think Chico does not have enough room to put a nuclear power plant where would we store the rods? Nuclear power is not the answer.
- This has already passed Chico City Council and Butte County Board of Supervisors. "There are 19 CCAs statewide, and the Public Utilities Commission believes they will serve 80 percent of the residents in the state by 2020. Butte Choice Energy wouldn't begin operations until Jan. 1, 2021." <https://www.chicoer.com/2019/10/24/butte-county-finalizes-formation-of-power-buyingagency/> Evidently this has now been pushed back a year? PG&E's antiquated and decrepit infrastructure is the problem. Green Public Banks could solve that problem by funding clean green infrastructure capital investment.
- Yes
- A municipal power purchasing program will likely save Chico residents money. However, if we purchase only renewable power, somewhere else they will be purchasing more power from natural gas production. It does not make sense until the state can get to 100% renewable power generation. The timeline is too aggressive.
  - The state is going towards complete renewables, but a city needs to spread its power over a city, not just one city. Think of other cities that are already moving toward renewables? The cities are doing something, and we make up the city. It's like this cell-tissue-Organ-system-body = Person-families-neighborhoods-cities-county-State. WE must start small with us our little town.



- Is there a possibility of building a solar farm as SMUD has done for its community?
- This measure should say something about supporting underground electric utilities in Code and financial support to property owners. Considering the carbon from human caused wildfires and the electrical grid, this would be key.
- 100% renewable has to be done; we all need to make it happen.... citizen to Fed
  - Well said it needs to start with us and go to the big honchos. City to the district, to the state, to the federal
- Don't really understand how this works - so hard to conclude viability. Don't trust PG&E - given their past practices and current difficulties. What about the City having its own?
  - To tell you the truth I am not sure but here is what I do know. I lived in a house powered by solar and when everyone else has no power we had power even though everyone else had a scheduled power outage. It worked great during the day.
  - Why not press for subsidies so that decentralized alternative energy production can be scaled down to individual dwellings?
  - Subsidies happen at the state and federal level. A CCA is something a City can do.
- Here is a list of other CCAs in California: Valley Clean Energy (Yolo County and Davis), Pioneer Community Energy (Placer County), Redwood Coast Energy Authority (Humboldt County), Apple Valley Clean Energy (San Bernardino County), CleanPowerSF East Bay, Community Energy (Alameda County), King City Community Power Lancaster Choice Energy Marin Clean Energy (Marin and Napa County), Monterey Bay Community Power (Monterey Bay, San Benito, and Santa Cruz), Peninsula Clean Energy (San Mateo), Pico Rivera Municipal Energy San Jacinto Power San Jose Clean Energy Silicon Valley Clean Energy (Campbell, Cupertino, Los Gatos, Saratoga and others), Solana Energy Alliance Sonoma Clean Power (Sonoma and Mendocino County), Rancho Mirage Energy Authority
  - When I moved to Chico or soon after we had this "green power" option on our power bills. It is a simple way of contributing a small increase in charge for becoming a supporter of this shift. People want to do that but don't have the option right now
- Since there is the opt-out, why yes or no? The City of Biggs runs their own power. Why does the City of Chico have to join with Butte County on anything? Of course, this would ultimately have the potential of allowing city staff to create another high paying department head position.
- Seems like a worthy pursuit.
- It seems like a shell game. Unless the country figures out a way to actually produce more green energy, then just shuffling around where we procure our energy from doesn't do any good.
- Nuclear power generation does not emit greenhouse gases. Might nuclear power be part of the "renewable" mix?
  - Well, that might be possible I am not sure people would be happy to live near the nuclear power station. Also, we have no way of disposing of the rods. Nuclear fuel remains dangerously radioactive for thousands of years after it is no longer useful

in a commercial reactor. Even though the power is Carbon-free it might be hard to sell nuclear power here in a fire-prone and flood-plain place.

- Here come five words for you: Three Mile Island, Chernobyl, Fukushima.
- It will never maintain its paltry 2% rate savings as it adds more and more renewable energy to their portfolio as they will need storage and storage is not cheap.
- All good, but I think 2045 will be too late. It's compounded every year...!
- A 100% renewable portfolio will cost customers more! PERIOD. You say it right here and you also say electrification will be cheaper. You can't have it both ways. Electrification only make sense if it is all renewable! Solar electric will need huge battery storage systems to provide evening, night, and morning electricity. The cost will be enormous even with a distributed energy system.
- I pay something like \$5/month to a company called Arcadia to provide me with all wind-powered energy, which they do by paying my PG&E bill in Renewable Energy Certificates. I'd much rather have an arrangement like this with a local source of renewables. CCAs seem like the answer.
- The city and unified school district managed to put solar collection infrastructure over school parking lots to generate electricity and provide shade for parked cars, just like Sierra Nevada Brewery. Why not do the same for our roadways where there is no shade from trees? Highway 99 could be made much more pleasant if it were shaded by solar panels, so could other streets like Eaton Road, Bruce Road, Highway 32, etc.
  - The Highway is not the cities to take care of, but I like the idea.
- What are the options for the city to generate its own renewable electricity? Wind turbines? Solar panels? Could the city build its own hydroelectric power plant on Big Chico Creek?

#### Measure 5: Implement the Chico Bicycle Master Plan

- Lower Bidwell Park could be an outstanding bike corridor from the east side residential communities to the downtown business district, but the park roads are in disrepair. It is an uncomfortable ride along either the north or south park roads.
- I bike and use the bike paths. I live near East Ave on the north side of town where many seniors like me live. It is unsafe to use the bike lanes there, and many other busy streets. Dividers with Native Plants could provide extra safety. Once again Public Green Banks can provide the funding infrastructure.
- For this to really work, and it might be able to, Chico has to stop sprawl and start high density transit-oriented developments. We need to develop villages throughout the city that are high density, walking/biking, cores to house people.
- I hope "end of trip facilities" includes bike lockers. Also, if work facilities have showers and changing rooms, more people would commute to work. Encourage school children to bike to school. Perhaps, charge for car parking at schools
  - I am not sure about the showers, but lockers and bike lock facilities sound amazing! The bike master plan is shaping up to be pretty good.

- Bike lockers and other secure forms of bicycle storage are critical. Showers not so much. Holland and Denmark (and Vietnam) have some of the world's highest numbers of bicycle commuters, and they seem to do just fine - better in fact than many in the US - without showers etc.
- Secure bike parking is a key missing link in Chico's bicycle infrastructure, especially downtown and around the university. There are dozens of car parking lots but not one truly secure space for cyclists to park their bikes. Central and secure bike parking facilities are 21st century necessities! Redding is way ahead of us with their new Shasta Bike Depot at the nexus of cycling in their downtown. Let's get serious in making bike commuting and shopping truly safe and secure by filling in this gap in our cycling infrastructure. Such a facility along 2nd Street between Cherry and the RR tracks, for example, would be a game-changer for thousands of potential university and downtown commuters.
- Secure bike parking at destinations is important especially for businesses to thrive. The university and city have expanded bike parking capacity recently, but bicycle theft levels remain high in Chico. This deters commuters and shoppers, and bike parking facilities with more security than open racks could make an enormous contribution. Potential solutions abound and have been demonstrated here and worldwide – bike lockers (as at Meriam Library), bike cages (as on 5th Avenue by Enloe Hospital), supervised bike lots (as at the Sacramento State campus), video-surveilled racks, differently-priced tiers of bike parking, and prioritized bike parking by business and office windows – all of which are cheaper and use far less physical room than parking spaces for cars. Where such secure bike parking can be integrated into carpark structures, further economies of scale can be achieved
- One bike locker put in place of a parking space would probably work great for downtown. Think about how many bikes could be put in one parking space per street.
- As a high-price-tag item, bike infrastructure should be matched by high-priority funding and actual behavioral civic goals and benchmarks for community change into a biking community. Is there a study (or plan for ongoing study) of citizen behavior in the biking area? Who rides bikes, who would if they had access to one, where in the city is biking most probable? "Promotion and education" need to be higher on the priority list, and study and benchmarks should precede infrastructure planning. Study other communities that have successfully transitioned to bike culture. What is use now, and how specifically will the city improve use of the expensive infrastructure it is planning to install?
  - That has already been done but the city has lagged behind putting in the infrastructure. What is the ham in fixing streets? I mean add bike trails will entice people to come and use the trails if nothing else it will add to tourism if none of the locals use the trails. BUT people do use the trails as evidenced by the cities comment page on improving the streets lots of people requested sidewalks and bike lanes of the many comments. People are asking and the city is promising.
  - I would add to Rina's good observations: increase in biking must be supported by the discouragement of car travel-- which itself must be provided the alternative of

efficient public transportation. How will the city provide a genuine system wide plan that will result in more bikes and-- the real point-- fewer cars?

- I find biking dangerous in Chico. The pathways have too many questionable characters on them. My daughter and I have been attacked. I no longer ride my bike because of that. My bike is for sale. If routes can be made safer from vagrants, they might work for some, but now most of my driving is for 10-mile round trips from the north to the south end of town and back and I can't use my bike for that type of shopping, anyway. Maybe it works for those living downtown?
- Chico is flat and has many clear days that are good for using a bicycle for transportation. I support this plan.
- In a recent study of more than sixty first-year CSU Chico students, their reported car travel near the campus was about \*three times\* that of bicycle travel. Car parking alone was more than twice as frequent as cycling, although few students reported paying any significant charge for such parking. More students reported owning a car or truck than a bicycle, despite the former being roughly 20 to 50 times more costly (!). Of those owning bicycles, less than half reported owning a helmet or front light, and only about a third a rear light, with reflective tape and/or clothing rarely reported. We can see in this data that there is great potential for increased bicycling in Chico's core, as well as enhancement of pedestrian safety and convenience, and a corresponding reduction in dependence on cars and in land and street use for car parking. A large majority of respondents said they would bicycle more if there were protected pleasant bike lanes and more secure bike parking. Our wide streets can accommodate 'complete street' enhancements, with what could be landmark bicycle- and pedestrian-friendly boulevards. Bicycle commuting and shopping can be made safer and cheaper by more secure bike parking. New facilities and development can be focused on abundant open space presently used for car parking lots. Not only have student respondents overwhelmingly supported these priorities, but these goals are also fully consonant with recent legislation, reports, guidelines, and revised standards across the state of California, including those in City of Chico, Butte County, and CSU Chico official statements, positions, and commitments.
- Yes, it can work. As long as citizens do not park their cars or pile their leaves in the bike lanes and the bike riders actually use the lanes it can work. But now the Grand Jury has found that the C of C roads need to be improved perhaps some actual dollars and energy will be allocated to fixing the streets with resurfacing such as seal coating, and restriping. Especially around the schools and other well-traveled routes.
- As we know, Chico is ideal for bicycling, as it is flat, and warm and dry most of the year, and the city has its own important histories and thriving subcultures of cycling. Yet our 'mode share' of cycling trips seems to remain below the 7% achieved in Portland, Oregon, with its cooler climate and its nine months of rain. But in the U.S., we all have much to learn from the cities and towns in northwestern Europe that achieve cycling mode share of above 35% for all trips, despite their own windy, wet, and chilly weather much of the year. Access there is broad and deep, with Dutch elderly, for example, logging a bike mode share about 60 times higher than the US average. At the same time safety has been sharply improved, with the Netherlands, for example, achieving an 81%

decline in cyclist deaths in the period from 1981 to 2006, and Denmark having a rate of non-fatal cyclist injury roughly 1/30th of that in the US overall (Pucher & Buehler 2008). Necessary for such numbers are protected bikeways and secure bike parking, among other things, but also smart growth plans that de-incentivize automobile use as they provide comprehensive alternatives. See the 16-minute online video 'Groningen: the world's cycling city' (Streetfilms 2013), for one university city example in Holland. See Pucher & Buehler's 'Making cycling irresistible' (2008), for a comprehensive review of exactly how the Netherlands, Denmark, and Germany have achieved these results.

- Yes, please! We need better infrastructure to get more people biking and walking. The city has lagged on this for too long, so now has substantial work to do, but it will benefit everyone. (more biking = less driving, so car drivers encounter less car traffic) Repaving our deteriorating streets is important for all users, not just cars -- though cars and trucks cause almost all the wear and tear.
- This could help, but it will take a very long time for the culture to change. Currently with the bicycle theft high in Chico, there is no safe place to secure a bike while the rider goes into a store. And if the bike is worth \$950 or less, stealing it is only a misdemeanor, so no real penalty. Fix the security issue first.
  - Yes, the city should get to the root cause as to why someone steals a bike. In the meantime, maybe we can have more bikes that are rentable as well. Not just rent from a store but maybe rental from the city or like the CHASE bikes in San Francisco.
- I have bike I don't ride...sure I am not alone. Putting head together to figure out WHAT in/dis-incentives could change behavior?
  - I don't ride because the bike paths seem so disconnected and there are so many cars. I prefer to walk most of the time and commute to the grocery store with my roommate who has a car. I don't own a car a crash and then just don't have the money to fix it.
- The bicycle master plan should be given priority over all other projects. They say it comes at a high dollar cost, but they are not factoring in all the other benefits like, less air pollution from combustion engines and healthier lifestyles for the citizens. Bicycle lanes should take precedence over automobile roads.
- Even with such extensive trails, the roads in Chico are not safe for bikers. Making it safe to ride outside is critical
- The Bicycle Plan is a good start, but we need a larger focus on sustainable, multimodal transportation. A better bikeway network will encourage many people to bike instead of drive for some trips, especially if we install protected bikeways on major roads instead of just labeling side streets "bike routes". To really shift away from single-occupancy vehicle trips we also need reliable, frequent local transit and at least some intercity transit.
- On a trip to Victoria, BC last year we saw people of all ages bicycling as a means of transportation. We were told 10% of the people bicycle there. Improving bicycling safety and providing safe bicycle parking are important pieces of needed infrastructure. Reduced emissions and improved health care benefits. Chico is flat and easy to ride in so let's get more people out of their cars!

- yes yes yes--lots of additional benefits, including health, less traffic, and increased appreciation of natural surroundings!
- Yes, let's make Chico a more bike-friendly town we already have bike shops. That is local economy that should be supported.
- Resounding YES.
- We've got to fix the streets. It is unpleasant and unsafe to ride them as rotten as they currently are. Also, as E-bikes become more popular there has to be more secure bike parking since these bikes cost a lot. Can we get a public bike share program in here that uses E-bikes?
- YES, to the importance of the Chico Bicycle Master Plan. The rise of new urbanism and smart growth in the 1990s (Duany et al. 2000, 2010b) spurred an urban walkability and bicycling renaissance that has now transformed countless cities in the US and worldwide (Leinberger 2008; Shoup 2011; Speck 2012; Abbasi 2016; Mapes 2009; Pucher and Buehler 2008 and 2011; NACTO 2014). Results include reduced energy consumption, reduced noise, lower carbon emissions, lower air pollution, increased fitness and health, increased street safety, and reduced death and injury incidence from car crashes with cyclists and pedestrians (with protection especially of children and elderly). This revisioning of urban life also brings increased equality of transport options, lower costs of transport (especially important for households with lower incomes) and of engineering (crucial for financially constrained government entities like ours), increased vitality of urban businesses, and durably higher property values. I hope our city will continue to evolve with the times, and further invest in smart growth to reap the huge benefits that come with more walkable and bikeable urban spaces.
- Yes!! The City's 2020 Climate Action Plan (CAP) calls for coordination with the Butte County Association of Governments (BCAG) in provision of bicycle facilities and infrastructure, including bicycle parking. The CAP's prioritized measures to reduce vehicle miles traveled and fuel consumed include: expanded and enhanced bicycling and pedestrian infrastructure (1.11), 'complete streets' as indicated in the 2030 General Plan (1.12), traffic calming, including landscape medians and street corner bulb outs (1.13), new bike paths (1.14), and safe routes to schools (1.16). Updated city parking standards aim to reduce surface parking areas, require bicycle parking at higher ratios, and support convenient pedestrian pathways through parking areas (1.17). The CAP makes clear that effective actions in the transportation sector are 'critical' to reducing greenhouse gas emissions. Estimated emissions from transportation in Chico are roughly double those from all other energy uses, and fifteen times greater than those of solid waste processing (CAP 2.22). The low-hanging fruit offered by cost-effective and safe bicycle infrastructure has yet to be harvested.
- Re costs: effective bicycle plans SAVE MONEY for cities and their universities, while enhancing health and safety, increasing neighborhood quality and property values, and invigorating local businesses. Recent university leaders in the US in cost-saving collaborative projects with city governments have been MIT, CU Boulder, Portland State University, UC San Diego and of course UC Davis. Stanford University, for example, has saved close to \$100 million overall through a combination of strategies to reduce private

car commuting rates, allowing campus size to increase 20% without increasing car traffic. Among other things, Stanford raised car parking prices 15% and invested \$4 million in bicycle facilities, thereby motivating an estimated 900 people from cars onto bicycles – instead of spending \$18 million for more car parking for them.

- I they can do it in Paris we can certainly do this in Chico!
- This town pays to much money for bicycle infrastructure. This not a bicycle rooted town. Some ride but the majority don't. Repair the roads. Charge a bike tax for them to use the roads that car users must pay for in gas taxes.
  - Why would a pedestrian or bicyclist pay to use roads? A walker and biker are not emitting GHG's and they are more likely to spend money on shops downtown than someone in a car. A car rides by shops but when a person walks downtown, they stop at more than one place most times. I do see the need to repair the roads but then again, I don't use the roads I use the sidewalks and those sidewalks have been eaten up by roots.
  - Cyclists do pay to use the roads. They too buy gas (gas tax) and they do pay all the taxes everyone else pays.
  - I forgot that I don't own a car anymore most cyclists or pedestrians have a car for certain trips or grocery runs. I think Barry's main concern would be when people stop buying gas. In which case most countries would transfer taxes currently on gas vehicles to batteries or electric charge stations or hydrogen taxes.
- The Master Bike Plan should have "stub outs" in mind to connect to regional bike plans and other cities. i.e., what route do you take to get to Oroville or Gridley.

#### Measure 6: Improve zero-emission vehicle infrastructure

- EV use is inevitable and it makes sense to adapt by installing more charging stations. These charging stations will need to use renewable energy, and we also need to plan a safer community for those who don't drive or would prefer to travel by walking, biking, or transit.
- Given the relatively high price of electric vehicles, it is absurd that the regulation suggests, "a focus on providing access to low-income households and affordable housing." Does that really make any sense?
- Replacing fossil fueled individual vehicles with individual EV's misses the point - we need mass people movers. For example, Neighborhood EV's, shared vehicles. Butte County bought "clean diesel" buses because electric buses are expensive is an obsolete mindset. Those vehicles are throwing away public tax dollars. There is no such thing as "clean gas" or "clean diesel."
- New technologies in energy storage are making this more and more attainable. It's happening regardless of Chico's Muni Code. Let the ZEV industry create products that consumers choose to buy rather than regulating what consumers can buy.
- ZEVs are certainly part of the answer, but one size does not fit all. To make access to clean transportation equitable, we also need to prioritize improved bicycle infrastructure, pedestrian improvements and transit enhancements to encourage safe active and public transportation usage.

- "lower cost now" sounds great, especially looking at the higher costs later. Make sure it's cost-effective for both consumers and the City -- but I would vote for charging stations to charge for service. There might also be the ability to provide free or lower cost charging in low-income neighborhoods.
- The C of C has installed numerous charging stations at City Hall already and some private companies have too in partnership with Tesla. But the C of C should not implement any codes on developers stricter than what is at the state level.
- EV cars obviously use batteries. The only place I've seen that makes batteries was in Canada and the city looked like a post nuclear disaster. No life, everything black, dead and apocalyptic looking. Until I find out what is different about battery making and the use of those precious metals to make batteries, I am staying away from EV. Does anyone have good info that might change my mind?
- I think requiring new construction to provide EV charging space is smart, but I am not for publicly funded charging stations. Keep charging stations a private enterprise so it can grow naturally in the private sector. That way it won't grow up relying on government subsidies.
- Charging stations need to be a private venture. It is wise to start mandating parking spaces that can be easily converted to charging stations. Again, I see a problem with power generation. It makes no sense to use natural gas to generate electricity for an electric car.
  - WE should definitely share the sun then and invest in solar panels
- Like all the proposals that impact residential customers, those of middle and lower income will need either incentives or grants to help make their participation possible. Equity is critical as we move into a clean energy economy. Will incentives and grants be available?
  - Great idea--and it will require subsidies, as many commenters are pointing out that we don't want to make living here anymore prohibitive to low-income folks than it already is.
- A high priority if we want to reduce tail-pipe emissions of GHG's
- We need a local gas tax.
- Why not reintroduce electric light rail and thereby reduce internal combustion vehicle traffic even further? Every European town of any significance has light rail, why can't we?
- It would be great to have an incentive for homeowners to purchase at least one electric vehicle per household and provide the charging systems which will require infrastructure modifications for the local power structure to handle the great increase in load and that isn't the CCA's problem it will be PG&E's
- With the trend of U.S. auto manufacturers working toward more affordable electric vehicles we can do this.
- Another cost to homeowners. This is not San Francisco. This requirement to have to upgrade a remodeled home to have to also add charging systems will add thousands to a remodeled job. It makes it too hard to live in Chico. It's no wonder that businesses won't come to this town. Workers for their businesses can't afford to live here. In Santa Barbara they can't get police or fire people to work there because the housing is too expensive.



We are getting close to the same problem. Who else won't be able to live here, nurses, teachers, doctors? Get real and look at the overall picture. We can't house the people who live here now.

- Are you planning on building something with parking?
- All aspects of our lives are under strain. We have to adapt or die. The cost of a charging feature is trivial and could be zero if intelligently subsidized. Farmers who grow export crops with public water (thereby exporting water) for private profit are subsidized; why not assist homeowners and small businesses the same way?
- Ooh I like the way you think

#### Measure 7: Reduce organic waste

- Creative and assertive landfill management and edible food recovery programs city-wide and regionally are essential. <https://www.epa.gov/sustainable-management-food/reduce-wasted-food-feeding-hungry-people>
- Every time we asked our recycling service companies about providing an extra bin to each household for organic waste composting - like other cities already do - we heard no plans to do so because so expensive. Even though the state will fine them \$10K/day soon for not complying with state law. Last we heard was that there is vague plan to maybe have some congregate bin for larger complexes?
- There definitely needs to be more education about organic waste in our community. Leaves should be left for mulch and a simple home composter should be required.
- Yes
- Employ worms!
- It's so easy to compost regular household waste that an education program might be all that's needed. But we still need the larger yard waste that Waste Management provides for leaves and branches and stuff.
- You'll need to watch the movie Pollyanna.
  - Pollyanna: A young girl comes to an embittered town and confronts its attitude with her determination to see the best in life. That one? From 1960?
- Who gets to be the trash police? For months the Green Waste Facility at the Airport has been closed. These ideas are all great at the council, board, and commission levels but when it gets to implementation and actually following through with these feel-good ideas... some just fall through the cracks.
- We need to keep the green waste facility open, even if it requires a subsidy from the city or county. The waste can be made into mulch and the larger wood items could be burned in a cogeneration facility to generate renewable electricity.
- I would love to see community composting not relying solely on CAL Recycle.
- We definitely need food waste diversion and composting in our region and our way behind on this front.
- Seems to make sense.

- Yes! We can divert so much more from landfills (restaurants alone is a huge source). But the composting needs to happen locally -- not waste energy hauling it far away, plus provide local jobs.
  - Yes, let's provide some local waste hauling jobs and that can create more jobs from the money those jobs spending locally on our economy.
- Other cities like Berkeley are already doing this so we can learn from their practices and experiences.
- We need a compost solution that will employ local people and not be sent out miles away. Reducing organic waste will be a great solution and maybe bring 20 renewable jobs for the site. I hope you pass this measure we only have so many years left to slow down climate change.
  - Absolutely, and I could not agree more.
- In addition to the larger companies like Recology, have opportunities for smaller businesses been considered? "Drop in the Bucket Bicycled Powered Compost Service" is an excellent model.
- Would the fee schedule for composting and food waste be based on volume? A cafeteria e.g., has to be charged more than a very small cafe.
- Now we are going to have trash can police. Who's going to pay for this. Another fine on a poor town. Who is going to pay the extra fees for food garbage pick-up? We already pay the highest fees in the U.S. for power and trash removal. One of the local trash haulers in actuality is the MOB. What else can they bully out of us?
  - It does not seem very bully-like to help the Chico residents compost organic waste. If everyone composts at home, we will not need to do this. But not everyone has a yard. I don't have a yard I live in an apartment. I understand the high fees for trash removal and the high fees for electricity are not accessible to most people. I am on an unstable income myself, but I also recognize that trash needs to go somewhere. No one wants to live a zero-waste lifestyle. I can't. I don't think it's possible for someone in my income bracket, but I think composting is possible.
  - I have lived in places where people are fined for not separating recyclable waste - such fines could pay for monitoring. As for corrupt trash hauling, this is a serious problem that could be addressed by better regulation - and why not a municipal waste hauler not incentivized to cut costs and break laws to save money, rather than a private business that is notorious for doing so?
- WASTE-by Organics, I assume you mean organic material from the ground, not organically grown without pesticides, etc.

#### Measure 8: Expand the urban tree canopy

- TREES- as long as an urban forester is maintained on staff, plus other crew as needed. Consult with arborists and CNPS as to which trees are best for each location.
- Planting trees is important. Also, greener plans for drainage capture are essential.

- Collaboration with Tribal leaders who have the generational knowledge to be caretakers of the land is crucial in this proposed measure.
- Yes. Trees are good. Let's plant more trees.
  - Yes, and let's help the wetlands store more carbon and water.
- Planting native and diversity of trees and land management could be placed under Indigenous tribal leadership, such as <https://tekchico.org/> If we have learned anything from our firestorms' devastation, it's that we have failed land management in ways that only going full circle to #LandBack and land management led by the Indigenous people of the territory that they successfully managed for tens of thousands of years is the best practice.
- Yes, totally support this, for reasons of beauty, shade, habitat, and sequestration. But remember these trees are carbon banks, they don't eliminate the stuff and eventually it will return to the atmosphere. We need to stop adding CO2 to the place.
- I think resources on forest management are better spent than diverting organic waste - if we have to choose. Otherwise do it all.
- This is very important to the overall health of our eco system, water shed, and air quality. But the City of Chico also needs to do a better job of maintaining the street trees and the trees in parks that we have. Some CARD is managing now but the tree police need to be more active. Such as Bidwell Fire Trap, this needs to be cleaned of dead wood. It is in the middle of town and a fire could spread very quickly.
  - I think the goats eating the detritus is helping but CAL-Fire really helped. But yes, I agree there should be more help in Bidwell to clear dead trees that are fire hazards. But the dead trees that are returning nutrients need to stay. I mean there is one tree in lower Bidwell that is a beehive now I don't think that tree should be removed.
- While any tree is better than none, it is extremely important that the majority of new trees planted be native to this area. Native trees, especially oaks, are keystone plants for local habitat - insects and birds, in particular.
- This is absolutely essential for the City of Trees. So many trees have been cut down in recent years--the Downtown Park, the orange trees, so many others, not to mention what's happening up on the Ridge. Planting trees is something everybody can do.
- Since a grant covers the cost moving forward makes sense. And to keep the trees alive we need a healthy aquifer. That requires diligence and preventing down state entities from transferring water out of our area.
- A city tree planner came by my house and wanted to know if I wanted the city to plant a tree next to my driveway and the sidewalk. We already have a 40' + eastern oak in our small front yard and a total of at least 20 trees on our 1/4 acre. Of course, I don't want another tree to maintain (we already pay about 2k per year for pruning services) and have sidewalks/driveway with root-lift issues. I hope that is taken in consideration when planting trees near concrete, as my husband and I have both tripped on neighborhood sidewalks and required months of medical attention as a result. The city has not been helpful on this. Some of the neighbors are painting the lifted walkways to warn of the

danger. Trees away from walk/driveways are great and I would love to see more. No liquid ambers with gum/sticker balls, please.

- Planting trees is good, but Chico needs to do a better job reducing undergrowth that can fuel wildfires.
- Yes! We need more trees in Chico and they are indeed important in Carbon sequestration! It is CRITICAL however that these trees are native, however! Non-native trees do not provide the necessary habitat for native insects which in turn support small mammals and birds, etc. Some species, like Pistache, are beautiful in the fall, but are also invasive. Biodiversity declines are at all time low, and NOTHING is sustainable without biodiversity! Thank you for your environmental work in Chico!
  - I agree - trees that are native are suited to our environment, so they don't need as much water, and as mentioned above support the local ecosystem. I hope the city sticks to native trees.
- Yes, this is extremely important for long-term health of the city. Every new construction area needs to protect existing trees plus set aside area for a higher concentration of new, diverse plant life. Our entire ecosystem, including groundwater, depends on it.
- Planting more trees is a wonderful way to reduce CO2. I think the goal should be closer to 7000 than 700. Reforestation throughout the state and nation is also a wonderful idea. The negative is that trees in the wrong spots will reduce the ability of solar arrays to generate power. We need to be thoughtful in selecting the locations for more trees.
  - I agree and the city will probably be thoughtful about placement once the plan is passed. There will be more comment periods and transparency about selecting areas. Keep coming back and encouraging trees the ecosystem like the wetlands that hold the Butte County Meadowfoam. The plant is found nowhere else in the world. I had no idea that was the case when I moved here for school. I am glad I have seen it though and learned about the Fairy Shrimp.
  - Conflict with solar arrays is an important factor in determining placement of trees, especially adjacent to single story homes. One of the many other suggestions made for this Climate Action Plan include codifying the requirement to plan for smarter street and roof layouts. This will enable community tree canopy and rooftop solar to co-exist. The City has identified over 8000 vacant tree planting locations. 700 is just the start.
- There is no reason all of these proposed measures would work in Chico, and every reason why they need to be implemented. Whether they will go or not will depend on the enthusiasm and commitment of the City leaders and the people of the community - that's what will make them go. There is NO reason they should not be implemented. In the case cost is an issue, GROW UP, people! You want a healthy environment - you might have to pay something for it!!
- If the trees are for home yards rather than street trees, then provide homeowners siting help, so the trees cast shade in the summer but do not block the warming sun in the winter and do not shade solar panels

- I really like this idea it would not be that hard to factor in growth rate, solar map a home, then prune based on the home shape. I would just need a satellite image from winter and summer and some math.
- Just wondering where all these trees will be downtown has so many. Will it be along Deer Creek Highway or Along 99? Will it just be 700 spread out over the City? Like Town hall gets 5 more? Downtown each street gets 20 more? Then the Highway gets 10 each mile? Or does the town make a forest each time new affordable housing comes in?
- When grants become available, this is another area where paying attention to equity is important. Lower income neighborhoods can't afford trees like middle- and higher-income neighborhoods and should be prioritized for tree planting. The cost of water, depending upon the tree, is minimal but could get higher as the climate warms. Is equity a consideration in the planning of tree planting?
  - Good question I don't know how the city is determining the placement of trees for the urban forest. Equity is important though and low-income neighborhoods should be considered. Not to mention how many trees should be added with affordable housing that will need to be built through time. Trees that are native to the area and can tolerate some dryness should be considered as well. I am low-income thank you for thinking of me.
  - The City is currently in a Climate Change Investments Greenhouse Reduction Fund grant. The grant project is called "City of Chico Urban Forest Revitalization Project" Part of the grant commitment includes focusing tree planting in Low-income and Disadvantaged. neighborhoods. The City is committed to addressing disparities in urban greening and intends to continue focusing efforts where the benefits to citizens will be the greatest.
- The city needs to plan for expanding the urban tree canopy by 700 trees per year. This city has gone too long without a fully funded tree program and we are only beginning to see the damage this has done. Over the next several years I think we are going to see the canopy decline as there are more trees being removed than planted. Just talk to any tree service company in Chico and you will hear how busy they are.
- In a CSU Chico report to the City Council in 2016 that surveyed some sixty undergraduates who had studied carefully and first-hand the South Campus neighborhood, the most-liked aspect of the neighborhood was overwhelmingly the beautiful TREES for which Chico has long been known. This mature urban forest adds profoundly to the quality of experience throughout the town and has been cultivated as a highly valued attribute throughout its history. Where tree cover is lacking, streetscapes can feel bleak and blasted even where design is good, especially in summer heat. Where tree crowns and canopies shade sidewalks and streets, even mediocre settings are pleasant for residents and passersby. Drought, climate change, and budget challenges threaten this vital resource going forward. For our future, YES to expanding our forest canopy, investment, and maintenance!!
  - Thank you for sharing your thoughts on the south campus neighborhood. I do enjoy walking under the trees on my way to class. I have enjoyed walking because of the mature urban forest. Those trees won't block the solar panels either because they are mature, they won't grow that much taller and the houses in the

south campus neighborhood will probably enjoy solar when it becomes cheaper and rental companies realize the affordability of renewable energy once the houses are properly insulated. The south campus neighborhood is one of the oldest neighborhoods the houses are predominantly rented by students and don't have much say in what a company does to the building. BUT I think the Greek Houses will adopt renewable energies if they haven't already. Sigma Chi at a UC installed solar panels in 2016 with a green initiative fund. I think some of the students could do it out here with a similar grant.

- I think it's going to be/ is vitally important that we also recognize SOIL as the massive carbon sequestration/ giver of life that it is. It should be a huge consideration when deciding where we build moving forward. As much, in my opinion, as a consideration such as the urban/forest interface in other parts of our county. Chico and its surroundings are home to some of the best soil around, and it is getting more and more painful to see huge apartment complexes, subdivisions and development, and the infrastructure that currently exists, covering it all up and taking out of biological play. I know we need places for people to live...I understand that this is obviously a huge challenge.
- Fantastic a grant will help pay for the trees watering, maintenance, and planting
- Who is going to pay for the maintenance of the new trees? The property owners. It can cost a fortune to take care of trees.
  - It has "cost a fortune" to trash the life support system we call the environment; time to pay the piper.
  - The city said it was going to get a grant. So yes, we are all going to pay the piper by hiring a grant writer and get that grant. The environment has been hurt and Chico is just trying to reduce the pain.
  - If the trees are on City property or in the City's right-of-way, the City will maintain them. If a landowner accepts a tree from the City for their personal property, the landowner is responsible. The cost to water a tree for the summer (15 gallons a week for 16 weeks) is about \$1.
  - And of course, pruning trees the landowner can do it or employees some tree service to help maintain the trees to ensure solar panels are not blocked. Another job created or kept employed for the local economy. Win!
- Only if low-water, native trees are planted. All the ornamentals do not provide habitat and can be difficult to maintain with a reduced water supply.
- How does this work when people now are cutting down their shade trees to put on solar electric systems on their homes? Is there a balance or a preference for one or the other?
  - There is a balance between shade trees and solar panels. Sharing the sun is all about planning where the solar panels can get the most sun and the trees can get light. One day people will realize like my dad did that trees and panels can both share the sun.

# HELP TAKE THE City of Chico INTO THE Future!



## CHICO CLIMATE ACTION

The City of Chico is updating their Climate Action Plan. A climate action plan provides a comprehensive roadmap for how we can reduce our greenhouse gas emissions to help address climate change and make our City more resilient. You can help by participating in this self-directed online workshop. Go to the link below and share your thoughts on proposed strategies for this update.



CITY of CHICO

Share your input [www.ChicoClimate.com](https://www.ChicoClimate.com)

### Participate in an Online Workshop: Nov. 19 - Dec. 3

Learn more about the top eight proposed strategies and provide your feedback!

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# APPENDIX B

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# City of Chico Climate Action Plan Update

## Appendix B – GHG Emissions Inventory and Forecast

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**April 2020**



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**City of Chico Climate Action Plan Update**

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# 1 Executive Summary

This document presents the methods for developing a greenhouse gas (GHG) inventory and forecast for the City of Chico from 1990 to 2045. Included is an analysis of findings and trends in the City's GHG emissions in order to support the City's GHG reduction targets, which align with Senate Bill (SB) 32 and Executive Order (EO) B-55-18, and ultimately the City's Climate Action Plan Update. Historical GHG emissions from 2005 to 2017 were itemized by the City of Chico in a multi-year inventory (Sustainability Task Force 2018) to measure the City's progress toward its 2020 GHG reduction goals set in the first City of Chico Climate Action Plan (City of Chico 2012). Based on the inventory, Rincon developed an updated back-cast of GHG emissions to 1990 as well as a forecast to 2020, 2025, 2030, 2040, and 2045. The forecast provides an up-to-date projection of how GHG emissions are expected to change in the City of Chico in the future based on changes in local demographics as well as existing State and federal legislation aimed at reducing GHG emissions through 2045. This document also presents a gap analysis, developed to identify climate action plan policies that will be needed to achieve the City's GHG reduction targets.

It is important to note that GHG reductions that resulted from measures codified in first Climate Action Plan and the City's General Plan (2011) were by default accounted for in the multi-year inventory through 2017. Since the forecast is developed based on the 2017 inventory, these reductions are carried through into the forecast due to the lower per capita emissions in 2017 which resulted from implementation of those measures. However, the forecast does not reduce future emissions based on any projects that were not implemented by 2017 (e.g., the Bicycle Plan Update [2018]). Rather, GHG reductions from efforts made since the last inventory year will be calculated and credited to the City during the Climate Action Plan Update process.

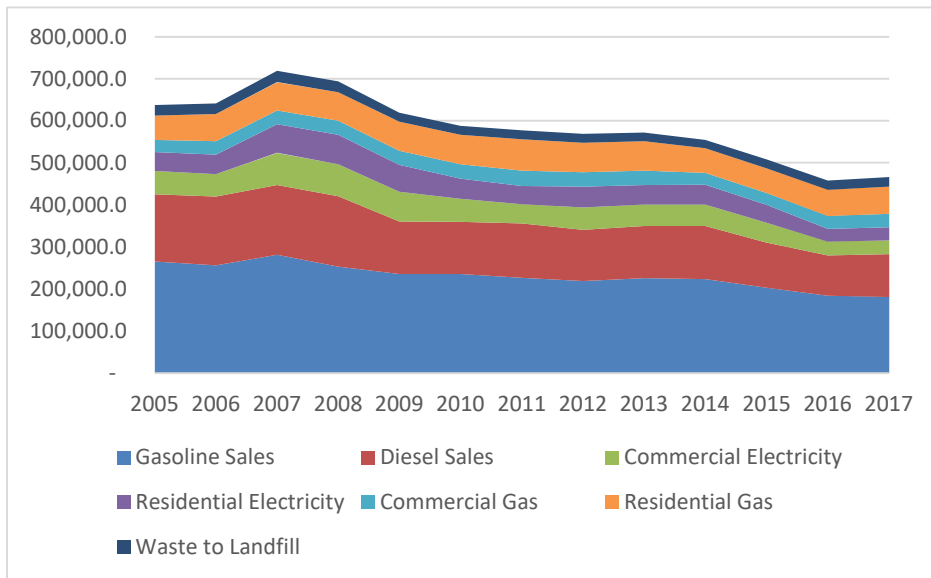
In 2017, the baseline year for the Climate Action Plan Update, the City of Chico estimated GHG emissions for the energy, transportation, and waste sectors of the community. GHG emissions over all inventory sectors are estimated to be 466,366 metric tons (MT) of carbon dioxide equivalent (CO<sub>2</sub>e) (Table 1).

**Table 1 2017 GHG Inventory**

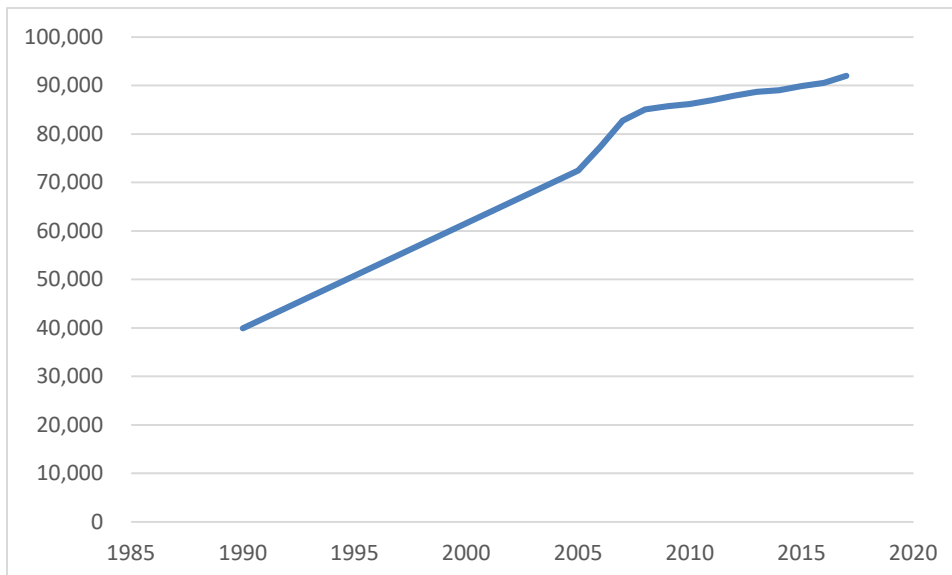
Sector	GHG Emissions Source	Activity Data	Emission factors	Emissions (MT CO <sub>2</sub> e)
Energy	Residential Electricity (kilowatt hours)	235,187,470	0.00013 MT CO <sub>2</sub> e/kWh	30,757
Energy	Residential Gas (therms)	12,204,431	0.00531 MT CO <sub>2</sub> e/therm	64,769
Energy	Industrial and Commercial Electricity (kWh)	249,720,494	0.00013 MT CO <sub>2</sub> e/kWh	32,658
Energy	Commercial Gas (therms)	6,015,786	0.00531 MT CO <sub>2</sub> e/therm	31,926
Transportation	Gasoline Sales (gallons)	20,597,450	0.0088 MT CO <sub>2</sub> e/gallon	181,031
Transportation	Diesel Sales (gallons)	9,965,177	0.010 MT CO <sub>2</sub> e/gallon	101,854
Waste	Waste (tons)	82,440.3	0.2835 MT CO <sub>2</sub> e/ton	23,372
<b>Total</b>				<b>466,366</b>

Between 2005 and 2017 the City of Chico reduced overall GHG emissions by 27% (Figure 1) despite a 27% increase in population (Figure 2). Major reductions were seen in the energy and transportation sectors in particular. Reductions in the transportation sector were driven primarily by reductions in diesel and gasoline consumption, whereas reductions in the energy sector were driven entirely by a reduction in emission factors, despite little change in actual electricity usage.

**Figure 1 Changes in GHG Emissions (MT CO<sub>2</sub>e) Over Time**



**Figure 2 Population Changes (1990-2017)**



Due to the significant population increase between 2005 and 2017, per capita emissions have seen an overall 42% decrease from 8.8 MT CO<sub>2</sub>e per person to 5.1 MT CO<sub>2</sub>e per person, exceeding the 2020 Climate Action Plan reduction target of 25% below 2005 levels by 2020.

Two forecasts were developed based on the 2017 baseline inventory: a business-as-usual (BAU) scenario and an adjusted scenario. The BAU forecast scenario projects the expected growth in all emission sectors based on job and population growth. The adjusted forecast also accounts for job and population growth, and additionally quantifies and incorporates all state regulations that are expected to help reduce Chico's GHG emissions in 2030 and 2045 (e.g., Senate Bill [SB] 100 and California Air Resource Board [CARB] tailpipe emissions standards). The adjusted forecast provides a more accurate picture of future emissions growth and the emission reduction the City and community will be responsible for after State regulations are implemented (Table 2).

**Table 2 Adjusted Forecast Summary**

Variable	2017 (MT CO <sub>2</sub> e)	2020 (MT CO <sub>2</sub> e)	2025 (MT CO <sub>2</sub> e)	2030 (MT CO <sub>2</sub> e)	2040 (MT CO <sub>2</sub> e)	2045 (MT CO <sub>2</sub> e)
<i>Population</i>	92,022	111,892	107,593	107,712	113,303	116,420
<i>Jobs</i>	32,429	39,061	37,124	36,251	38,859	40,162
Residential Electricity	30,757	33,722	29,829	21,318	7,284	0
Commercial Electricity	32,658	36,285	31,553	22,163	7,760	0
Residential Natural Gas	64,769	78,285	75,471	75,549	79,209	81,250
Commercial Natural Gas	31,926	38,248	36,474	35,675	38,063	39,256
Gasoline Sales	181,031	167,666	145,733	129,209	118,131	119,128
Diesel Sales	101,854	100,435	91,722	84,367	80,902	82,473
Waste	23,372	28,349	27,178	27,036	28,576	29,406
<b>Total Emissions</b>	<b>466,366</b>	<b>482,990</b>	<b>437,961</b>	<b>395,317</b>	<b>359,925</b>	<b>351,512</b>
Emissions Per Capita	5.07	4.32	4.07	3.67	3.18	3.02

Calculating the difference between the adjusted scenario forecast and the reduction targets set by the City determines the gap to be closed through City Climate Action Plan policies. A discussion of the reduction target pathways and gap analysis is provided at the end of this document.

## 2 Introduction

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The State of California considers GHG emissions and the impacts of climate change to be a serious threat to the public health, environment, economic well-being, and natural resources of California, and has taken an aggressive stance to mitigate the State's impact on climate change through the adoption of legislation and policies. In particular, State agencies are required to reduce the State's GHG emissions to 1990 levels by 2020, as established by Assembly Bill (AB) 32. Further, Senate Bill (SB) 32 requires a 40 percent reduction in GHG emissions below 1990 levels by 2030. In the long term, Executive Order (EO) B-55-18 establishes a target of carbon neutrality by 2045. Many cities have developed local climate action plans and aligned goals to correspond with State emission reduction targets. The goals set by AB 32 were achieved by the State in 2016 (CARB 2019) and many jurisdictions are completing GHG inventories and forecasts to quantify progress toward their own 2020 goals as well as develop targets to align with the requirements of SB 32. In Chico, emissions overall have decreased since implementation of the first Climate Action Plan in 2012 and the City achieved its 2020 Climate Action Plan goal of reducing GHG emissions 24 percent below 2005 levels in 2016 and 2017 by achieving a 28% and 27% reduction from 2005 respectively. These reductions are attributed to community-wide reductions in transportation fuel and natural gas usage, as well as a decreasing electricity emission factor resulting from State legislation (i.e., SB 100).

Estimating GHG emissions in a GHG inventory enables local governments to quantify the major sources of GHG emissions produced by community-wide activities, establish an emissions baseline, track emissions trends, and identify the greatest sources of GHG emissions within their jurisdiction. The inventory is the basis for further quantification of future GHG emissions in a forecast. The forecast allows a jurisdiction to set targets for future reductions. Furthermore, an inventory that quantifies GHG emissions from activities within a defined geographic area is a required element of a "qualified" GHG reduction strategy, per Section 15183.5 of the California Environmental Quality Act (CEQA) Guidelines.

This document presents the methods for developing a GHG inventory and forecast for the City of Chico from 1990 to 2045. Included is an analysis of findings and trends in the City's GHG emissions in order to support the City's GHG reduction targets, which align with Senate Bill (SB) 32 and Executive Order (EO) B-55-18, and ultimately the City's Climate Action Plan Update. Historical GHG emissions from 2005 to 2017 were itemized by the City of Chico in a multi-year inventory to measure the City's progress toward its 2020 GHG reduction goals set in the first City of Chico Climate Action Plan. Based on the inventory, Rincon developed an updated back-cast of GHG emissions to 1990 as well as a forecast to 2020, 2025, 2030, 2040, and 2045. The forecast provides an up-to-date projection of how emissions are expected to change in the City of Chico in the future based on changes in local demographics as well as existing State and federal legislation aimed at reducing GHG emissions through 2045. This document also presents a gap analysis, developed to identify climate action plan policies that will be needed to achieve the City's GHG reduction targets.

The 2017 inventory is intended to inform completion of a qualified GHG reduction plan for the City of Chico and is compliant with the ICLEI – Local Governments for Sustainability (ICLEI) *U.S. Community Protocol for Accounting and Reporting of Greenhouse Gas Emissions* (ICLEI 2013) as well Section 15183.5(b) of the CEQA Guidelines for the requirements of a "qualified" GHG emission reduction plan. Emissions contained within the inventory and forecast include activities under the jurisdictional control or significant influence of the City of Chico, as recommended by the Association of Environmental Professionals (AEP) in preparing Community Protocol and CEQA-compliant inventories (AEP 2013). Like all GHG inventories and forecasts, the analysis in this document relies on the best available data and

calculation methodologies currently available. Developing a GHG inventory is an iterative process and each year must be viewed in the context of other inventories and relative trends of each sector to maintain consistency with the GHG inventory methods and factors.

## 3 Legislative Context

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The State of California has developed State-wide legislative targets and programs to reduce GHG emissions in California. The State of California, via CARB, has issued several guidance documents concerning the establishment of GHG emission reduction targets for local climate action plans to comply with legislated GHG emission reductions goals and CEQA Guidelines Section 15183.5(b). In the first *Climate Change Scoping Plan* (hereafter referred to as the 2008 Scoping Plan), CARB encouraged local governments to adopt a reduction target for community emissions paralleling the State commitment to reduce GHG emissions (CARB 2008). In 2017, CARB published *California’s 2017 Climate Change Scoping Plan* (hereafter referred to as the 2017 Scoping Plan Update) outlining the strategies the State will employ to reach the additional State targets set by Senate Bill 32 in 2016 (CARB 2018).

Publication of the next Climate Change Scoping Plan is expected to include recommendations for complying with the carbon neutrality goal established by EO B-55-18 in 2018. While currently no State plan exists to achieve the goal set by EO B-55-18, the executive order directs CARB to ensure future Scoping Plan updates identify and recommend measures to achieve the carbon neutrality goal. Executive Orders are binding only unto State agencies and are not binding on local governments or the private sector, however showing progress toward this goal is expected to be a mandatory component of CEQA analyses upon publication of the next Scoping Plan.

### 3.1 Legislative Targets and Background

The State of California has adopted legislation and policies to address climate change, the most relevant of which are summarized below.

- **Executive Order S-3-05**, signed by former Governor Schwarzenegger in 2005, establishes statewide GHG emission reduction goals to achieve long-term climate stabilization as follows: by 2020, reduce GHG emissions to 1990 levels and by 2050, reduce GHG emissions to 80 percent below 1990 levels. The 2050 goal was accelerated by the 2045 carbon neutral goal established by EO B-55-18, as discussed below.<sup>1</sup>
- **Assembly Bill 32**, known as the Global Warming Solutions Act of 2006, requires California’s GHG emissions be reduced to 1990 levels by the year 2020 (approximately a 15 percent reduction from 2005 to 2008 levels). The 2008 Scoping Plan identifies mandatory and voluntary measures to achieve the statewide 2020 emission limit and encourages local governments to reduce municipal and community GHG emissions proportionate with State goals.<sup>2</sup>
- **Senate Bill 32**, signed by former Governor Brown in 2016, establishes a statewide mid-term GHG reduction goal of 40 percent below 1990 levels by 2030. CARB formally adopted the 2017 Scoping Plan Update in December 2017, laying the roadmap to achieve 2030 goals and giving guidance to achieve substantial progress toward 2050 State goals.

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<sup>1</sup> Executive Orders are binding only unto State agencies. Accordingly, EO S-03-05 will guide State agencies’ efforts to control and regulate GHG emissions but will have no direct binding effect on local government or private actions.

<sup>2</sup> Specifically, the 2008 Scoping Plan states CARB, “encourages local governments to adopt a reduction goal for municipal operations emissions and move toward establishing similar goals for community emissions that parallel the State commitment to reduce GHG emissions by approximately 15 percent from current levels by 2020” (p. 27). “Current” as it pertains to the 2008 Scoping Plan is commonly understood as between 2005 and 2008.

- **Executive Order B-55-18**, signed by former Governor Brown in 2018, expanded upon EO S-3-05 by creating a statewide GHG goal of carbon neutrality by 2045. EO S-55-18 identifies CARB as the lead agency to develop a framework for implementation and progress tracking toward this goal in the next Climate Change Scoping Plan Update.

## 3.2 Legislative Reduction Programs

Additional legislative programs are expected to reduce emissions in specific emission sectors throughout California, as identified in the 2017 Scoping Plan Update. These programs were incorporated into the forecast analysis and are summarized in the subsections below.

### Transportation Legislation

Signed into law in 2002, AB 1493 (Pavley Standards) required vehicle manufactures to reduce GHG emissions from new passenger vehicles and light trucks from 2009 through 2016, with a target of 30 percent reductions by 2016, while simultaneously improving fuel efficiency and reducing motorists' costs (CARB 2013).

Prior to 2012, mobile emissions regulations were implemented on a case-by-case basis for GHG and criteria pollutant emissions separately. In January 2012, CARB approved a new emissions-control program (the Advanced Clean Cars program) combining the control of smog, soot causing pollutants, and GHG emissions into a single coordinated package of requirements for passenger cars and light trucks model years 2017 through 2025. The Advanced Clean Cars program coordinates the goals of the Low Emissions Vehicles, Zero Emissions Vehicles, and Clean Fuels Outlet programs. The new standards will reduce Californian GHG emissions by 34 percent in 2025 (CARB 2011).<sup>3</sup>

### Title 24

Although it was not originally intended to reduce GHG emissions, California Code of Regulations Title 24, Part 6: California's Energy Efficiency Standards for Residential and Nonresidential Buildings, was adopted in 1978 in response to a legislative mandate to reduce California's energy consumption, which in turn reduces fossil fuel consumption and associated GHG emissions. The standards are updated triennially to allow consideration and possible incorporation of new energy-efficient technologies and methods. Starting in 2020, new residential developments will include on-site solar generation and near-zero net energy use. For projects implemented after January 1, 2020, the California Energy Commission estimates the 2019 standards will reduce consumption by seven percent for residential buildings and 30 percent for commercial buildings, relative to the 2016 standards. These percentage savings relate to heating, cooling, lighting, and water heating only and do not include other appliances, outdoor lighting not attached to buildings, plug loads, or other energy uses. The calculations and GHG forecast assume all growth in the residential and commercial/industrial sectors are from new construction.

The 2017 Scoping Plan Update calls for the continuation of ongoing triennial updates to Title 24 which will yield regular increases in the mandatory energy and water savings for new construction. Future

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<sup>3</sup> On September 27, 2019, the U.S. Environmental Protection Agency and National Highway Traffic Safety Administrator published the Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule Part One: One National Program that revokes state-level authority to set emission standards for vehicles. It is expected that the new rule will affect underlying assumptions of CARB's EMFAC2017 model, used to quantify forecasted emissions for gasoline and diesel sales for Chico in this document. Currently, little guidance exists regarding the magnitude of this impact, and the results from the model have been preserved in this document. However, if more information becomes available or the model is updated prior to the release of this document, the forecast will be updated accordingly.

updates to Title 24 standards for residential and non-residential alterations past 2023 are not taken into consideration in the forecast analysis due to lack of data and certainty about the magnitude of energy savings realized with each subsequent update.

### **Renewables Portfolio Standard (RPS) & Senate Bill 100**

Established in 2002 under SB 1078, enhanced in 2015 by SB 350, and accelerated in 2018 under SB 100, California’s RPS is one of the most ambitious renewable energy standards in the country. The RPS program requires investor-owned utilities, publicly owned utilities, electric service providers, and community choice aggregators to increase procurement from eligible renewable energy resources to 50 percent of total procurement by 2026 and 60 percent of total procurement by 2030. The RPS program further requires these entities to increase procurement from GHG-free sources to 100 percent of total procurement by 2045.

### **Assembly Bill 939 & Assembly Bill 341**

In 2011, AB 341 set the target of 75 percent recycling, composting, or source reduction of solid waste by 2020 calling for the California Department of Resources Recycling and Recovery (also known as CalRecycle) to take a statewide approach to decreasing California’s reliance on landfills. This target was an update to the former target of 50 percent waste diversion set by AB 939.

As actions under AB 341 are not assigned to specific local jurisdictions, potential future reductions from the bill were not included in the forecast analysis. Instead, actions beyond the projected waste diversion target set under AB 341 will be quantified and credited to the City during the Climate Action Plan measure development process.

### **Senate Bill 1383**

SB 1383 established a methane emission reduction target for short-lived climate pollutants in various sectors of the economy, including waste. Specifically, SB 1383 establishes targets to achieve a 50 percent reduction in the level of the statewide disposal of organic waste from the 2014 level by 2020 and a 75 percent reduction by 2025 (CalRecycle 2019). Additionally, SB 1383 requires a 20 percent reduction in “current” edible food disposal by 2025. Although SB 1383 has been signed into law, compliance at the jurisdiction-level has proven difficult. For example, Santa Clara County suggests the 75 percent reduction in organics is not likely achievable under the current structure; standardized bin colors are impractical; and the general requirement is too prescriptive (Santa Clara County 2018). As such, SB 1383 is not included as part of the forecast analysis. Instead measures addressing compliance with SB 1383 will be addressed through newly identified GHG reduction measures included in the Climate Action Plan.



## 4 GHG Inventory 2005-2017

The first community-level inventory for the City of Chico was completed in 2008 for the baseline year 2005 and served as the basis for the existing 2020 Climate Action Plan. This 2005 inventory was developed using the Clean Air and Climate Protection (CACP) software developed by the International Council for Local Environmental Initiatives (ICLEI). In 2018, the inventory was updated based on a Chico-specific methodology developed in 2015 by the Institute for Sustainable Development at California State University, Chico (Alexander 2017). The updated inventory provided overall community emissions for the years 2005-2015, which were updated again by the Chico Sustainability Task Force later in 2018 to include the years 2016 and 2017. The 2018 iteration of the inventory was adopted for use in this document, as it is the latest and most up to date inventory available for the City of Chico. A discussion of the methods and results associated with the inventory are included in this section. For more details on the City of Chico's multi-year inventory, refer to Alexander (2017).

### 4.1 Inventory Summary

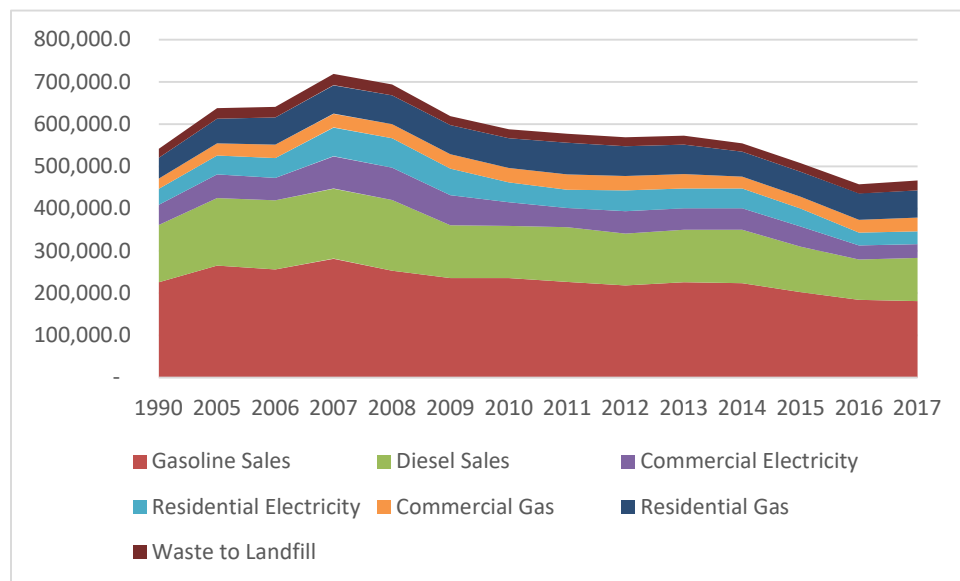
GHG emissions in the City of Chico for the years 1990, 2005, 2010, and 2017 are summarized in Table 3.

**Table 3 GHG Inventory Summary**

Sector/Emissions Source	1990 (MT CO <sub>2</sub> e)	2005 (MT CO <sub>2</sub> e)	2010 (MT CO <sub>2</sub> e)	2017 (MT CO <sub>2</sub> e)
Residential Electricity	38,054	44,769	47,506	30,757
Commercial Electricity	47,802	56,237	55,403	32,658
Residential Natural Gas	49,653	58,416	70,238	64,769
Commercial Natural Gas	24,161	28,425	34,178	31,926
Gasoline	225,374	265,145	235,606	181,031
Diesel	135,567	159,490	123,622	101,854
Landfilled Waste	21,280	25,035	21,346	23,372
<b>Total Emissions</b>	<b>541,891</b>	<b>637,519</b>	<b>587,900</b>	<b>466,366</b>
Emissions per person	13.6	8.8	8.1	6.4

A comparison of GHG emissions for all years between 1990 and 2017 is shown in Figure 3.

**Figure 3 Historical Emissions (MT CO<sub>2</sub>e)**



## 4.2 Included and Excluded Emission Sectors

The GHG inventory is structured based on emission sectors. The ICLEI Community Protocol recommends local governments examine their emissions in the context of the sector responsible for those emissions. Many local governments will find a sector-based analysis more directly relevant to policy making and project management, as it assists in formulating sector-specific reduction measures for climate action planning. The reporting sectors are made up of subsectors to allow for easier identification of sources and targeting of reduction policies.

The inventory reports all Basic Emissions Generating Activities required by the Community Protocol in the following main sectors:<sup>4</sup>

- Energy (residential and commercial electricity and natural gas)
  - The energy sector includes the energy consumed by the water and wastewater treatment and distribution sectors.
- Transportation (gasoline and diesel fuel sales)
- Solid Waste

The following emission sectors are excluded from the inventory (and forecast).

- Consumption-based emissions; currently there exists no widely accepted standard methodology for reporting consumption-based inventories and these data sets are not widely available.
- Natural and working lands emissions; there is a lack of granular data and standardized methodology for reporting community-wide emissions from this sector. CARB has included a state-level inventory of natural and working lands in the 2017 Scoping Plan Update greenhouse gas inventory; however, at the time of this City of Chico community-wide inventory, sufficient data and tools were not

<sup>4</sup> Required emissions generating activities include use of electricity by the community, use of fuel in residential and commercial stationary combustion equipment, on-road passenger and freight motor vehicle travel, use of energy in potable water and wastewater treatment and distribution, and generation of solid waste by the community.

available to conduct a jurisdiction-specific working lands inventory. The Nature Conservancy and California Department of Conservation are exploring options for a tool which may be able to perform these inventories at a more specific geographic level (California Department of Conservation 2020).

- Agricultural emissions; the Community Protocol and California Supplement (AEP 2013) both note agricultural activity is not a required component of Community Protocol inventories and should be included only if relevant to the community conducting the inventory. No major commercial-scale livestock activity is noted within the city boundaries.
- High GWP emissions; high GWP emissions, including chlorofluorocarbons (CFCs) and hydrofluorocarbons (HFCs) used as substitutes for ozone-depleting substances are not a required component of the Community Protocol and the California Supplement notes these emissions are not generally included in California inventories.

### 4.3 Data and Methods

The data used to complete the inventory is detailed in Table 4 below.

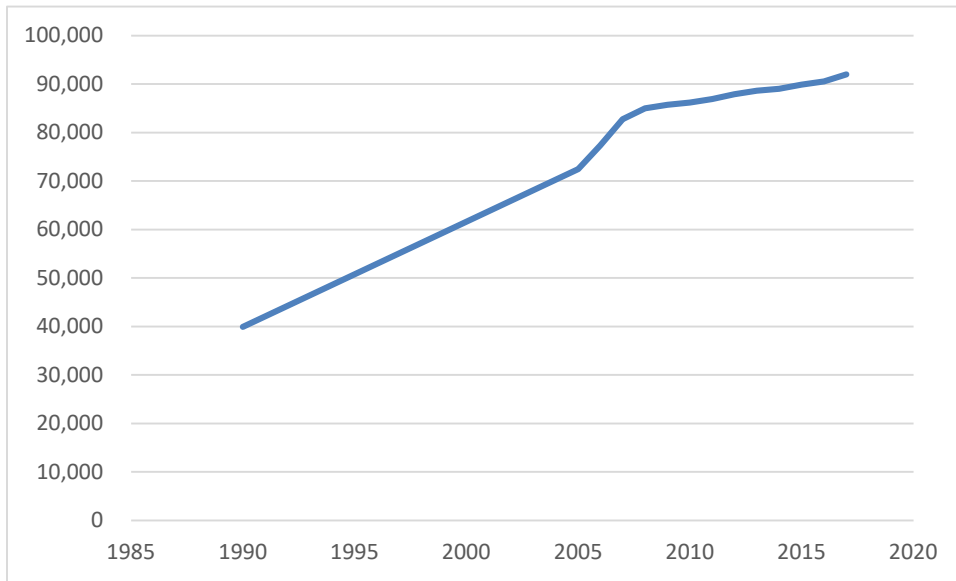
**Table 4 Inventory Data Sources**

Sector	Activity Data	Unit	Source
Demographics	Population	Residents	Department of Finance/BCAG <sup>5</sup>
Energy	Electricity consumption	Kilowatt hours	Pacific Gas & Electric
	Natural gas consumption	Therms	
Transportation	Gasoline fuel sales	Gallons	State of California Board of Equalization
	Diesel fuel sales		Department of Tax and Fee Administration in Sacramento
Solid Waste	Tonnage sent to landfill	Tons	City of Chico Administrative Manager of General Services

Population trends, based on data obtained from the Department of Finance (2020), are shown in Figure 4.

<sup>5</sup> <http://www.bcag.org/Demographics/Population-Estimates---Historical/>

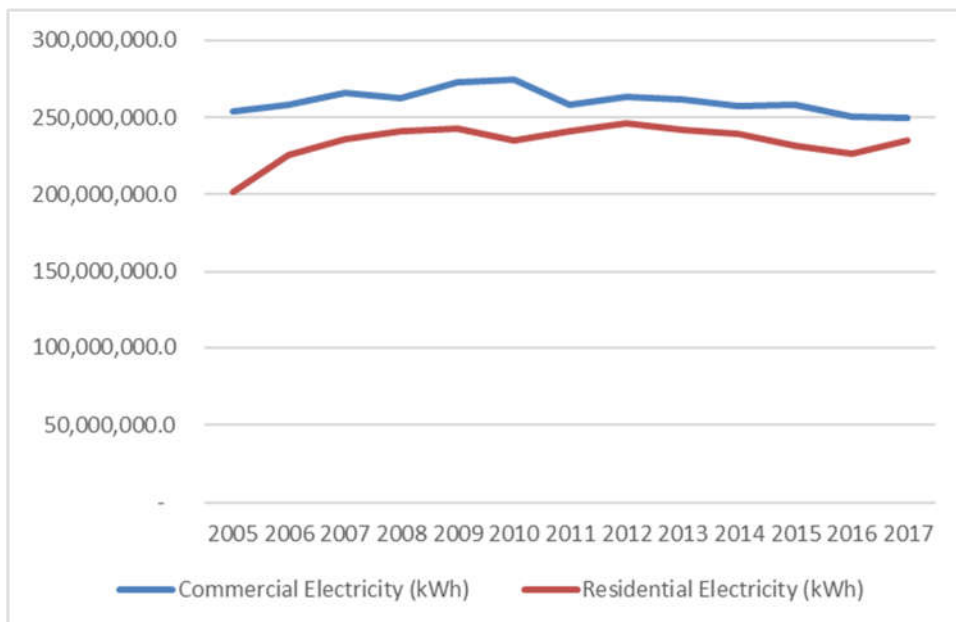
**Figure 4 Historical Population 1990 - 2017**



## Energy

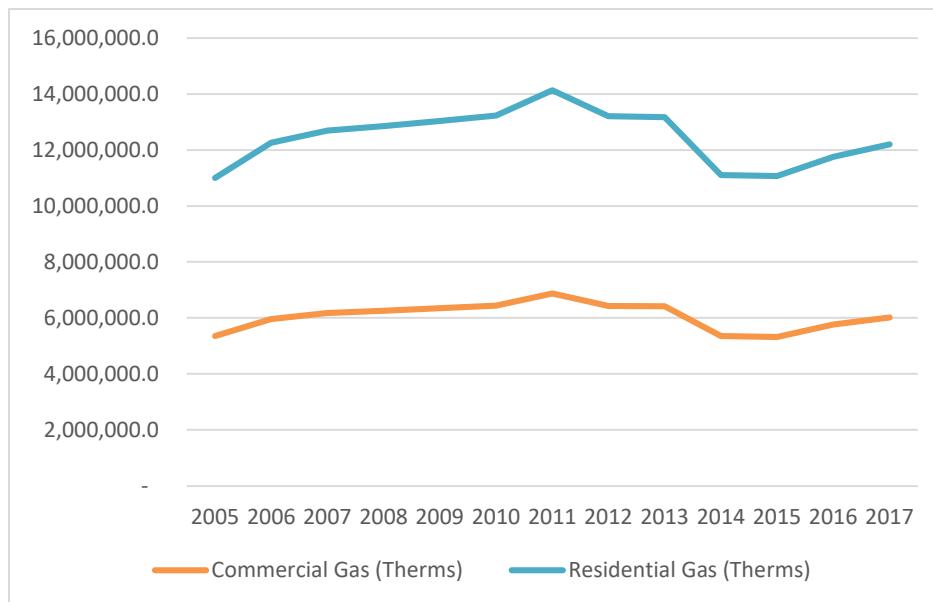
The energy sector includes GHG emissions resulting from the consumption of electricity and natural gas by residential and commercial customers within the City of Chico (Figure 5 and Figure 6). Both electricity and natural gas data were provided by Pacific Gas & Electric (PG&E) in kilowatt hours (kWh) and therms, respectively. Electricity data included in the inventory did not include Direct Access purchases by PG&E commercial customers. Further, while typically water and wastewater are characterized in a separate sector, the energy sector for the inventory includes all energy used to transport and treat water and wastewater used and produced within City limits. The two sectors were combined in this case for simplicity and easier replicability from year to year.

**Figure 5 Electricity Consumption**



After reviewing the natural gas data from PG&E, it was apparent that the commercial data reported between 2005 and 2013 included natural gas usage from both the commercial and industrial sectors, reported as a single number. However, between 2014 and 2017, natural gas usage from the industrial sector was withheld by PG&E due to the 15/15 privacy rule<sup>6</sup>. Since industrial natural gas usage is subject to the State's Cap-and-Trade program, and industrial data is not available moving forward while commercial data will be, industrial data was estimated and removed from all inventories between 2005 and 2013 as well as the 1990 back cast to allow for a consistent comparison between all inventory years. Commercial natural gas usage was estimated between 2005 and 2013 based on the observed ratio of commercial natural gas usage and residential natural gas usage between 2014 and 2017. This ratio is highly consistent from year-to-year (average of 0.486 and range of 0.481 and 0.493) and is therefore expected to apply accurately for natural gas usage between 2005 and 2013. Commercial natural gas usage between 2005 and 2013 was therefore calculated as residential gas usage in those years times the average ratio of residential to commercial natural gas usage from 2014 to 2017. If in future years this data becomes available to the City, it can update the GHG inventory at that time.

**Figure 6 Natural Gas Consumption**

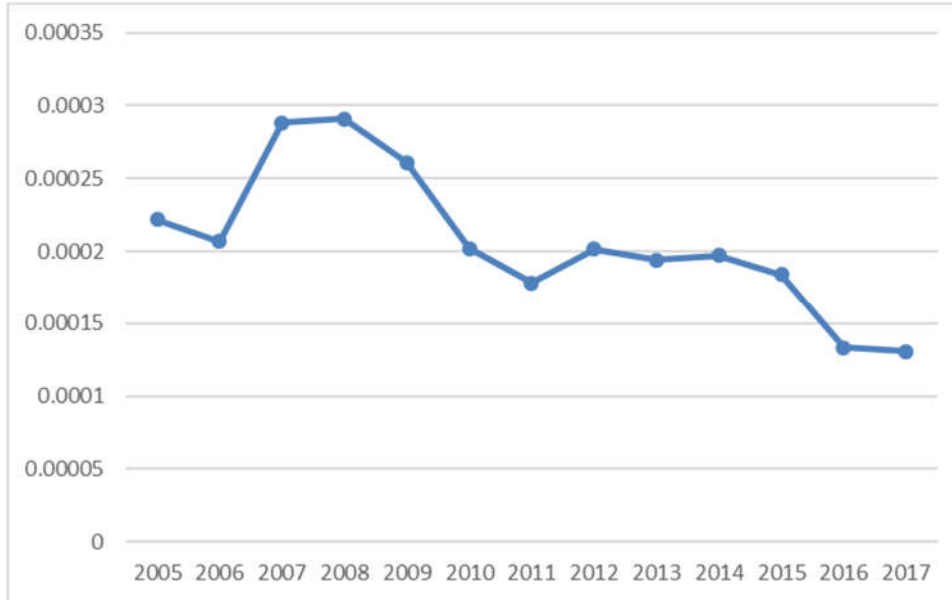


Emissions resulting from electricity consumption were estimated by multiplying annual electricity consumption by an electricity emission factor representing the average CO<sub>2</sub>e emissions associated with generation of one kWh of electricity. Similarly, emissions resulting from natural gas consumption were estimated by multiplying annual natural gas consumption by a natural gas emission factor representing the average CO<sub>2</sub>e emissions associated with combustion of one therm of natural gas. Emission factors for electricity and natural gas were provided by PG&E in an energy consumption summary spreadsheet provided by the utility to local government planning agencies. While the emission factor for natural gas is estimated to be constant in the inventory (0.00531 MT CO<sub>2</sub>e/therm), the emission factor for electricity changes each year, with changes to the PG&E grid mix of energy sources used to produce the electricity (Figure 7). The electricity emission factor was 0.00131 MT CO<sub>2</sub>e/kWh in 2017, lower than any previous

<sup>6</sup> The 15/15 rule states no data can be provided if there are less than 15 users in any sector or if one user makes up more than 15 percent of the total usage. This applies to natural gas and electricity consumption.

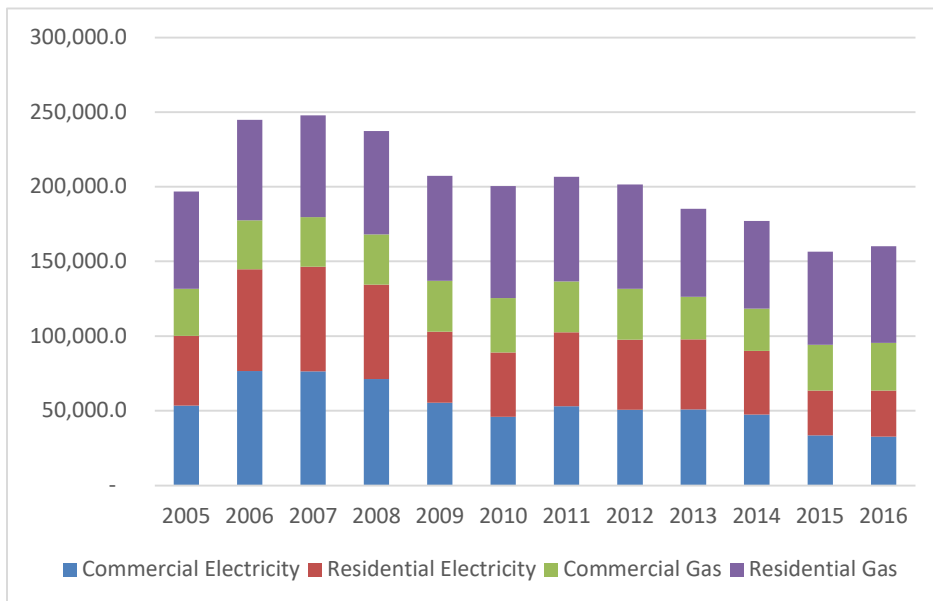
year since 2005. The emission factor decreases as the proportion of renewable energy increases in PG&E’s grid mix.

**Figure 7 PG&E Electricity Emission Factor (MT CO<sub>2</sub>e/kWh)**



In total, 160,109 MT CO<sub>2</sub>e were generated from electricity and natural gas usage in 2017, 15 percent less than in 2005 (Figure 8). This decrease is primarily due to a decreasing electricity emission factor. Electricity usage has increased since 2005 and while natural gas usage declined overall between 2005 and 2014, it has been increasing steadily each year since then.

**Figure 8 Energy Sector Emissions (MT CO<sub>2</sub>e)**

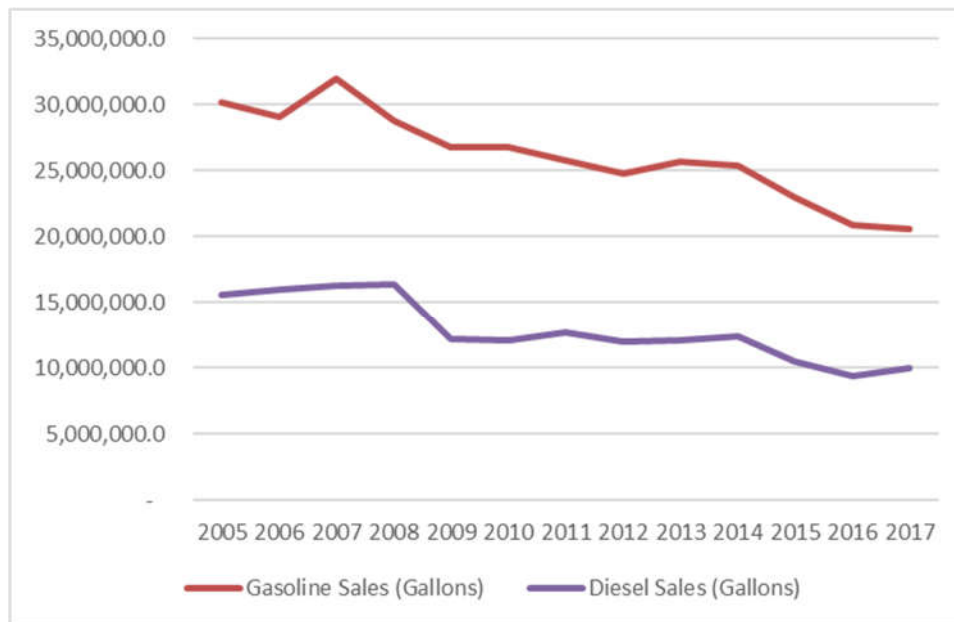


## Transportation

The transportation sector includes GHG emissions associated with use of transportation fuels within the City of Chico. While the Community Protocol recommends modelling vehicle miles travelled (VMT), the City of Chico utilized a secondary approach involving fuel sales data that is recommended for jurisdictions with low proportions of trans-boundary travel. As Chico is rural and isolated from other municipalities, this approach was deemed appropriate for the City, and potentially more accurate than a VMT approach, which without a city-specific model can lead to inaccurate emissions estimations for this sector. Further discussion of this methodological choice is provided in Alexander (2017).

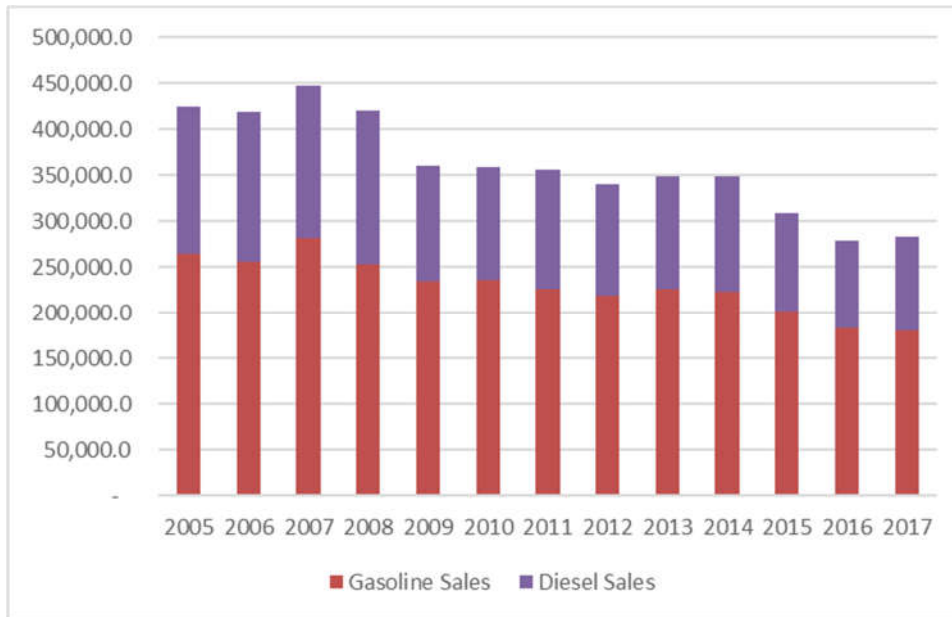
Fuel sales data for gasoline and diesel, in gallons, was provided by the State of California Board of Equalization for the Chico Urban Area (Figure 9).

**Figure 9 Fuel Sales**



The emission factors used for gasoline and diesel were obtained from the Environmental Protection Agency (2014) and were consistent from year to year. The emission factor was 0.00879 MT CO<sub>2</sub>e/gallon for gasoline and 0.01 MT CO<sub>2</sub>e/gallon for diesel. Fuel sales for both gasoline and diesel have decreased overall between 2005 and 2017, leading to decreases in emissions for the entire transportation sector (Figure 10).

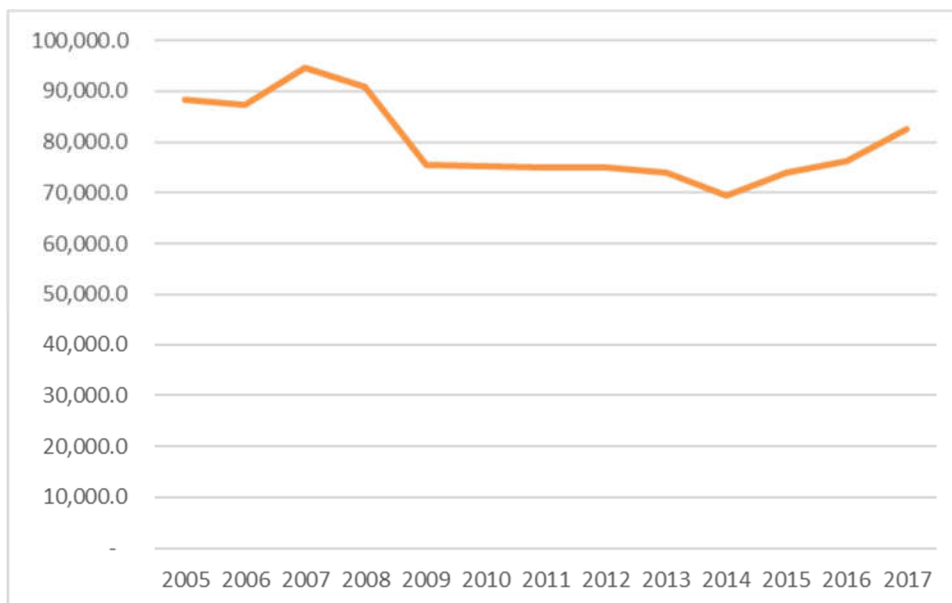
**Figure 10 Transportation Sector Emissions (MT CO<sub>2</sub>e)**



**Waste**

The waste sector includes methane emissions generated from decay of organic material solid waste disposed in a landfill. Emissions from vehicular transport of solid waste are included in the transportation sector. Waste data was provided by the City of Chico Administrative Manager for General Services in tonnage collected within City limits and tipped at the Neal Road Landfill (Figure 11). The emission factor used for waste was 0.284 MT CO<sub>2</sub>e/ton, which was calculated utilizing methods from the *Community Protocol Appendix E – Solid Waste Emissions Activities and Sources*, as described in Alexander (2017).

**Figure 11 Waste Collected (Tons)**





Waste decreased overall between 2005 and 2014, but has been increasing steadily each year since 2014, similar to the trends seen in natural gas. Emissions from waste have therefore dropped only 7 percent from 2005 to 2017 (Figure 12).

**Figure 12 Waste Sector Emissions (MT CO<sub>2</sub>e)**



## 4.4 1990 Baseline

The State of California uses 1990 as a reference year to remain consistent with AB 32 and SB 32, which codified the State's 2020 and 2030 GHG emission targets by directing CARB to reduce statewide emissions to 1990 levels by 2020 and 40 percent below 1990 levels by 2030. The City of Chico has not conducted a GHG inventory for 1990, but the State indicated in the 2008 Scoping Plan that local governments wishing to remain consistent with State targets could use a 15 percent reduction from 2005-2009 levels as a proxy for a 1990 baseline. The City of Chico has reported a 2005 emission level of 637,519 MT CO<sub>2</sub>e. A 1990 emission level of 541,891 MT CO<sub>2</sub>e, or 13.6 MT CO<sub>2</sub>e per person, was estimated for the City of Chico based on the 2005 inventory. These numbers were calculated by reducing the 2005 emission level by 15 percent and dividing by the 1990 population of 39,970 people.

## 5 Forecast

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A baseline inventory (e.g., Chico’s GHG inventory for 2005 or 2017) sets a reference point for a single year. However, annual emissions change over time due to external factors such as population and job growth. A GHG forecast accounts for projected growth using growth rates and presents an estimate of the level of GHG emissions in a future year. Calculating the difference between the forecasted GHG emissions and the reduction targets determines the gap to be closed through local climate action plan policies. This section presents two forecast scenarios: a business as usual (BAU) forecast scenario and an adjusted forecast scenario. The BAU forecast scenario projects the expected growth in all emission sectors based on job and population growth alone. The adjusted forecast accounts for job and population growth and additionally quantifies and incorporates all state regulations that are expected to help reduce Chico’s GHG emissions through 2030 and 2045, as discussed in Section 3.2. The adjusted forecast provides a more accurate picture of future emissions growth and the responsibility of the City and community once State regulations to reduce GHG emissions have been implemented.

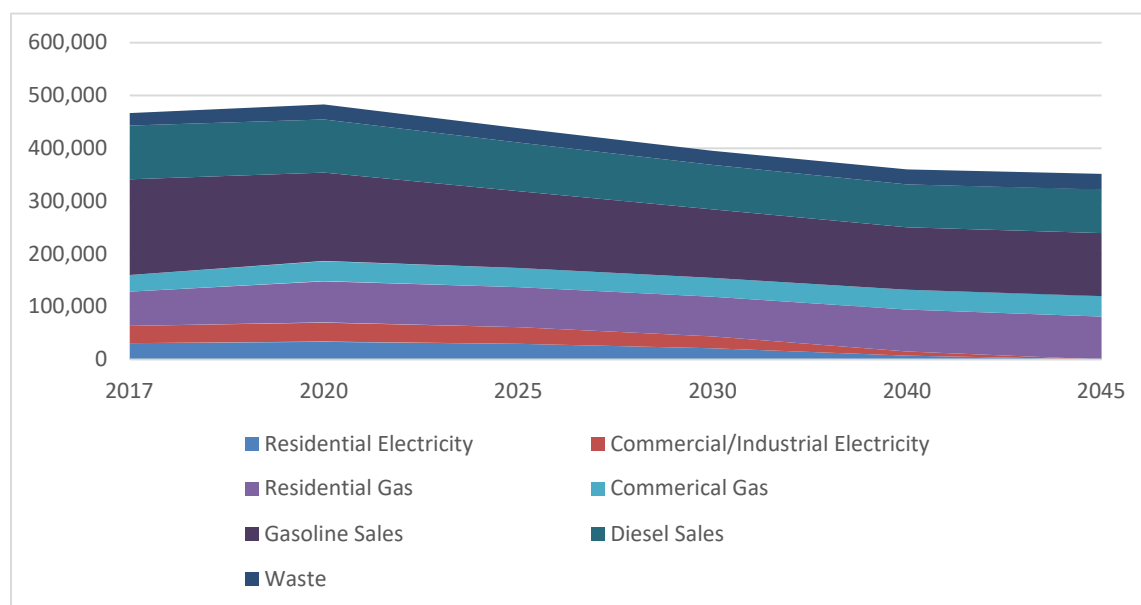
The GHG forecast uses benchmark years of 2020, 2025, 2030, 2040 and 2045, consistent with currently codified GHG reduction targets or executive orders which are expected to be codified in future. The forecast years align with the following targets:

- 2020 (AB 32)
- 2025 (interim target year)
- 2030 (SB 32 and General Plan horizon year)
- 2040 (interim target year)
- 2045 (EO B-55-18)

The 2030 target is required for consistency with SB 32 and the Chico 2030 General Plan, while the remainder of the targets identify a clear path and milestones of progress toward the long-term State reduction goals.

### 5.1 Forecast Summary

Overall emissions in Chico are forecast under the realistic adjusted scenario to decrease 35 percent from 1990 levels by 2045 under existing State programs and regulations. Due to SB 100 requiring 100 percent carbon neutral electricity in 2045, electricity-related emissions are expected to gradually reduce to zero. Transportation, natural gas, and waste emissions are expected to constitute the majority of emissions by 2045 (Figure 13).

**Figure 13 Emissions Forecast – Adjusted Scenario (MT CO<sub>2</sub>e)**

Waste emissions in future years will likely be much lower than the current forecast due to SB 1383. However, due to the uncertainty of how these will be enacted within the City of Chico, the potential emission reductions from SB 1383 have not been included in the forecast model and waste-reduction measures identified in the Climate Action Plan will be credited to the City.

State regulations will reduce community GHG emissions in Chico to approximately 395,317 MT CO<sub>2</sub>e by 2030 and to 359,925 MT CO<sub>2</sub>e by 2040 (Table 5). By the year 2045, a 351,512 MT CO<sub>2</sub>e gap will remain between the forecast emissions and the 2045 carbon neutrality goal set in EO B-55-18. These reductions will come from existing and newly identified GHG reduction measures that will be included in this and future climate action plan iterations.

**Table 5 Absolute and Per Capita GHG Forecast**

Year	Absolute Emissions (MT CO <sub>2</sub> e)	Population	Per Capita Emissions (MT CO <sub>2</sub> e per person)
2017	466,366	92,022	5.07
2020	482,990	111,892	4.32
2025	437,961	107,593	4.07
2030	395,317	107,712	3.67
2040	359,925	113,303	3.18
2045	351,512	116,420	3.02

The first City of Chico Climate Action Plan was adopted in 2012. It identified how the City and broader community can reduce the City of Chico's GHG emissions and included a GHG emission reduction target of 25 percent reduction below 2005 emission levels by 2020. The forecast contained herein projects that the City of Chico will emit 482,990 MT CO<sub>2</sub>e in 2020, 24 percent lower than in 2005. The inventory and forecast also considers per capita emission reductions due to the rate at which Chico has grown since 2005. In 2005, GHG emissions are estimated to be 8.8 MT CO<sub>2</sub>e per person. In 2020, emissions are

forecast to be 4.3 MT CO<sub>2</sub>e per person. This equates to an emission reduction of 51 percent per person. These estimated reductions suggest that the City will exceed its 2020 Climate Action Plan goal.

## 5.2 Data

Data used to develop the forecast included activity data from the 2017 forecast, as well as population and jobs data. The adjusted forecast additionally utilized quantitative data based on applicable state and federal regulatory requirements (Table 6). Applicable State and federal regulatory requirements included Corporate Average Fuel Economy (CAFE) standards, Advanced Clean Car Standards, Renewable Portfolio Standards, and Title 24 efficiencies.

**Table 6 Forecast Data Sources**

Sector	Activity Data	Unit	Source
Demographics	Population	Residents	BCAG Provisional Long-Term Growth Forecasts <sup>1</sup>
Commerce	Jobs in the City of Chico	Jobs	<b>2017 data</b> – Department of Finance and California Employment Development Department <b>2020-2040 data</b> – BCAG Provisional Long-Term Growth Forecasts
Transportation	CAFE and Advanced Clean Car Standards changes to fuel consumption	Percent	CARB EMFAC2017 transportation modeling program
Building Efficiency	Title 24 efficiency increases	Percent	California Energy Commission
Electricity Emissions	Renewable Portfolio Standard energy mix changes	Percent	SB 100

<sup>1</sup> BCAG population and employment forecasts included demographic changes in the City of Chico resulting from the Camp Fire in November 2018, which displaced residents of the Town of Paradise into surrounding cities in Butte County

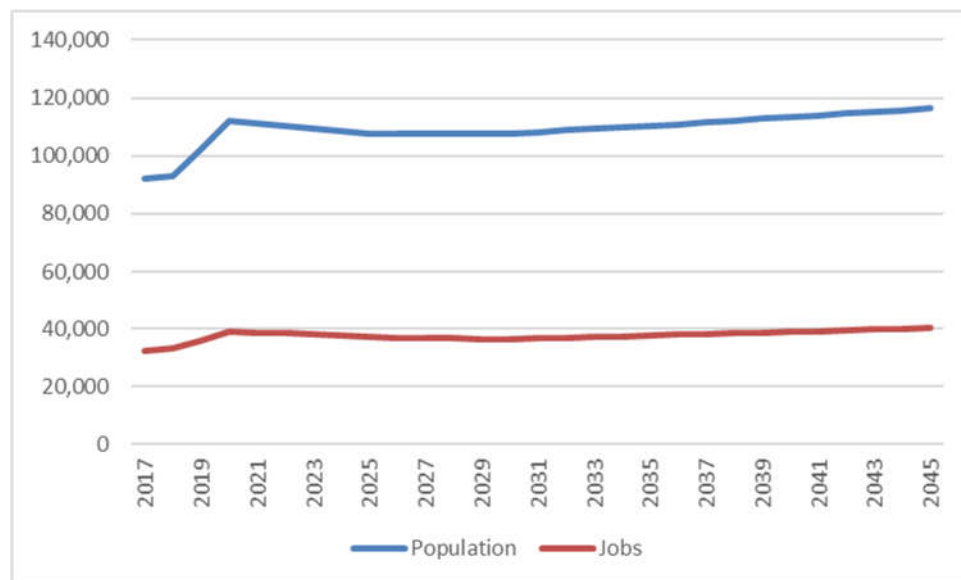
### Population Data and Forecast

The emission forecast is primarily driven by the anticipated population and jobs growth for the City of Chico. Regardless of the impact of State legislation, changes in population and jobs data are the primary indicator of how activity data for different emissions sources will change. The City of Chico is a unique case due to its large population increases in 2018, a consequence of an in-migration from the Town of Paradise spurred by the November 2018 Camp Fire. The future effects of this in-migration were modeled by the Butte County Association of Governments (BCAG) to determine changes in population and jobs data through 2040. In its *Provisional Long-Term Regional Growth Forecasts 2018-2040 Draft* (BCAG Report), BCAG provides a forecast for housing, population, and employment within Butte County for the years 2018, 2020, 2025, 2030, 2035, and 2040 (BCAG 2019).

The forecast in this document uses the medium scenario population estimates for the City of Chico from the BCAG Report as the population activity data input through 2040. The population for 2045 was calculated by applying the growth factor observed between 2035 and 2040 to the 2040 activity data. Population for years in-between the forecasted years were linearly interpolated to create a smooth population forecast, as shown in Figure 14.

Between 2018 and 2020, the population is estimated to have increased 20 percent (in comparison, the population in Chico increased only three percent between 2016 and 2018, based on historical population data obtained from the Department of Finance). After 2020 and through 2030, the population in Chico is expected to begin decreasing, as displaced persons from the Town of Paradise move out of Chico, overriding natural growth in the City. The population will begin to rise naturally again after 2030 and continues to grow about five percent per year through 2045. The high spike in population between 2018 and 2020 accounts for high absolute emissions increases in even the adjusted forecast for 2020 (Section 5.4), though per capita emissions decline between those years.

**Figure 14 Population and Jobs Forecast**



While the BCAG Report provides population data for the City of Chico, employment forecasts are only provided for Butte County as a whole. BCAG calculates employment forecasts based on a ratio of jobs per housing unit. The ratio for the County is 0.83 in 2018, 0.96 in 2020, 0.86 in 2025, and 0.8 from 2030 to 2040. Rincon therefore applied these ratios to the housing forecasts for the City of Chico to determine the employment forecast for the City of Chico in particular. Employment for 2045 was extrapolated based on 2040 data and the growth rate between 2035 and 2040, and all results were interpolated for years in-between the forecast years. Employment data for 2017 was calculated using the methodology described in the BCAG Report for 2018, using data from Department of Finance (California Department of Finance 2020) and California Employment Development Department (California Employment Development Department 2020). For more details on these methods, refer to BCAG (2019). Employment data for the City of Chico is shown in Figure 14, and follows similar trends to those described for population. Population and jobs data are shown in Table 7 for years of interest.

**Table 7 Population and Jobs Forecast**

Variable	2017 (MT CO <sub>2</sub> e)	2020 (MT CO <sub>2</sub> e)	2025 (MT CO <sub>2</sub> e)	2030 (MT CO <sub>2</sub> e)	2040 (MT CO <sub>2</sub> e)	2045 (MT CO <sub>2</sub> e)
Population	92,022	111,892	107,593	107,712	113,303	116,420
Jobs	32,429	39,061	37,124	36,251	38,859	40,162

## 5.3 Business-as-usual Forecast

The City of Chico business-as-usual scenario forecast provides an estimate of how GHG emissions would change in the forecast years if consumption trends continue as in 2017, absent any new regulations which would reduce local emissions. Several growth factors were developed from 2017 activity levels and applied to the various emission sectors to project future year emissions (Table 8). Growth factors were developed based on population and employment data for the business-as-usual forecast and activity data from the 2017 inventory. Table 8 contains a list of growth factors used to develop the business-as-usual scenario forecast.

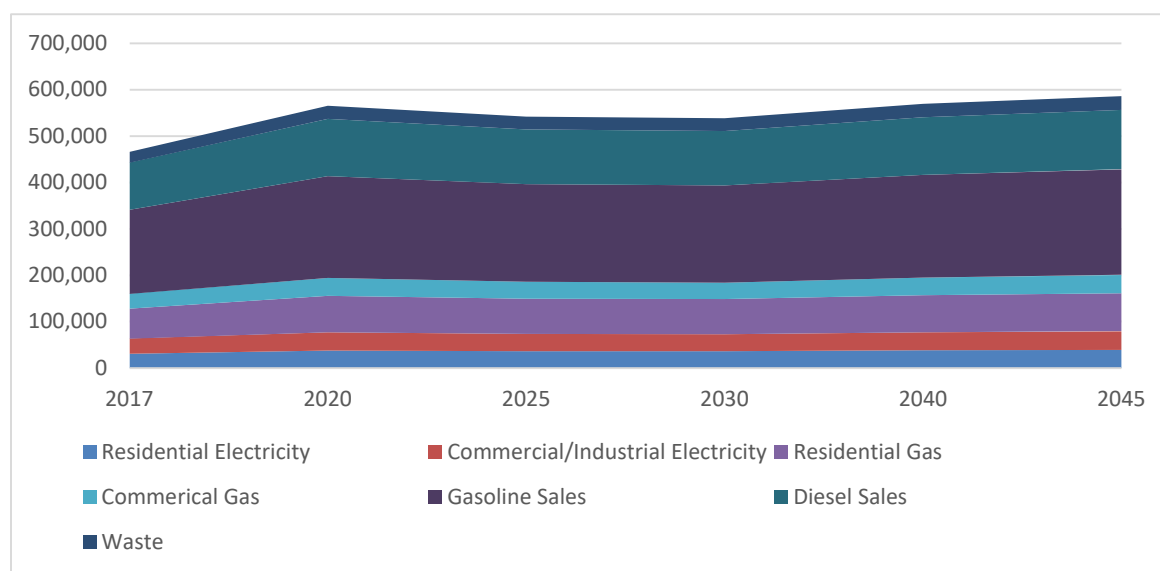
**Table 8 Business-as-usual Growth Factors**

Growth Factor	Value
Emissions per capita (MT CO <sub>2</sub> e per person)	5.1
Residential electricity per capita (kWh per person)	2,555.8
Commercial electricity use per job (kWh per job)	7,700.5
Residential gas per capita (therm per person)	132.6
Commercial gas use per job (therm per job)	185.5
Waste per service population (tons per service person)	0.7
Emissions per ton of waste (MT CO <sub>2</sub> e per ton)	0.3
Gasoline sales per service population (gallons per service person)	165.5
Diesel sales per service population (gallons per service person)	80.07
Natural gas constant (MT CO <sub>2</sub> e per therm)	0.00531

service person: sum of population and employment

Under the business-as-usual forecast scenario, the City of Chico’s GHG emissions are projected to continue increasing through 2045 (Figure 15). This increase is led primarily by increases in fuel sales, natural gas, and electricity usage driven by a strong growing population trend.

**Figure 15 Emissions Forecast - Business-as-usual Scenario (MT CO<sub>2</sub>e)**



By 2045, the City is expected to produce 586,167 MT CO<sub>2</sub>e under business-as-usual projections, a 27 percent increase from 2017 emissions (Table 9).

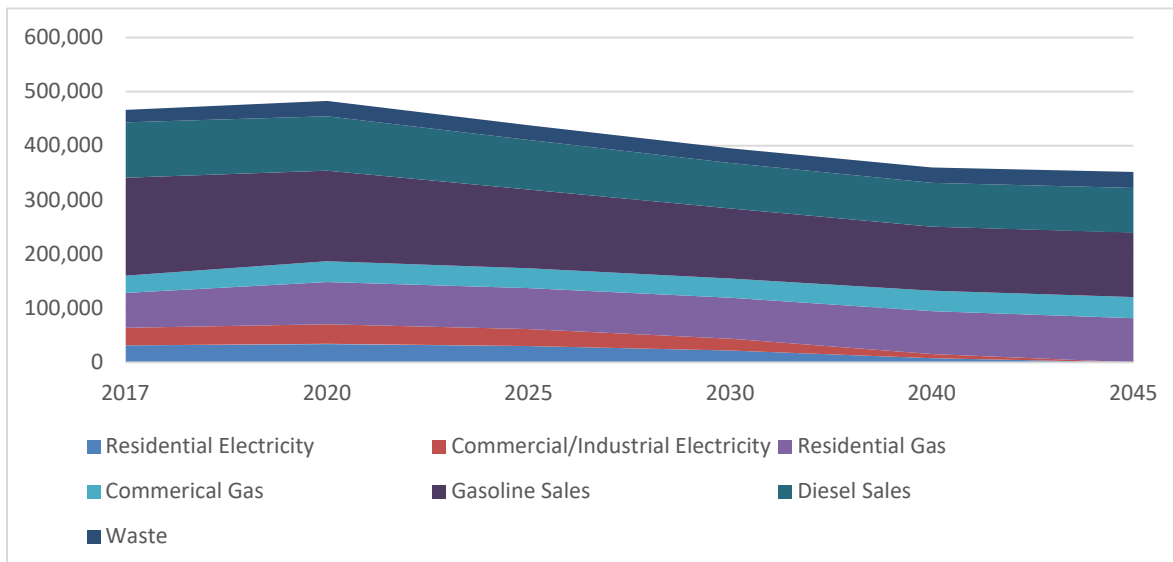
**Table 9 Business-as-usual Forecast Summary**

Sector/Emissions Source	2017 (MT CO <sub>2</sub> e)	2020 (MT CO <sub>2</sub> e)	2025 (MT CO <sub>2</sub> e)	2030 (MT CO <sub>2</sub> e)	2040 (MT CO <sub>2</sub> e)	2045 (MT CO <sub>2</sub> e)
Residential Electricity	30,757	37,398	35,961	36,001	37,870	38,912
Commercial Electricity	32,658	39,337	37,386	36,507	39,133	40,445
Residential Natural Gas	64,769	78,754	75,728	75,812	79,747	81,942
Commercial Natural Gas	31,926	38,455	36,548	35,689	38,256	39,539
Gasoline Sales	181,031	219,582	210,511	209,414	221,341	227,771
Diesel Sales	101,854	123,544	118,441	117,823	124,534	128,152
Landfilled Waste	23,372	28,349	27,178	27,036	28,576	29,406
<b>Total Emissions</b>	<b>466,366</b>	<b>565,420</b>	<b>541,754</b>	<b>538,282</b>	<b>569,457</b>	<b>586,167</b>
Emissions Per Capita	5.07	5.05	5.04	5.00	5.03	5.03

## 5.4 Adjusted Scenario Forecast

The adjusted scenario is based on the same information as the business-as-usual scenario but also includes the legislative actions and associated emission reductions occurring at the State and federal levels, as summarized in Section 3.2. Under the adjusted scenario, emissions are expected to decrease overall through 2045 (Figure 16).

**Figure 16 Emissions Forecast – Adjusted Scenario (MT CO<sub>2</sub>e)**



The increase in overall emissions seen in 2020 is due to population increases between 2018 and 2020 from the 2018 Camp Fire. After 2020, the energy sector experiences a strong downward trend, approaching near-zero in 2045, due to extremely stringent electricity emissions reductions resulting from SB 100 reducing electricity emissions to zero by 2045. Residential natural gas emissions are

expected to continue an upward trajectory due to strong population growth projections in the city. This trend is partially offset due to the increasingly stringent efficiency requirements for new homes in the upcoming Title 24 code cycles. Commercial growth will also lead commercial natural gas emissions on a similar trajectory. Transportation emissions are expected to decrease sharply in the next 10 to 15 years due to existing fuel efficiency requirements and fleet turnover rates. As most current regulations expire in 2025 or 2030, emissions standards will experience diminishing returns while actual car usage continues to increase, leading to lower rates of emission reduction in the transportation sector. Emissions for each target year are broken down by sector in Table 10 below.

**Table 10 Adjusted Scenario Forecast Summary**

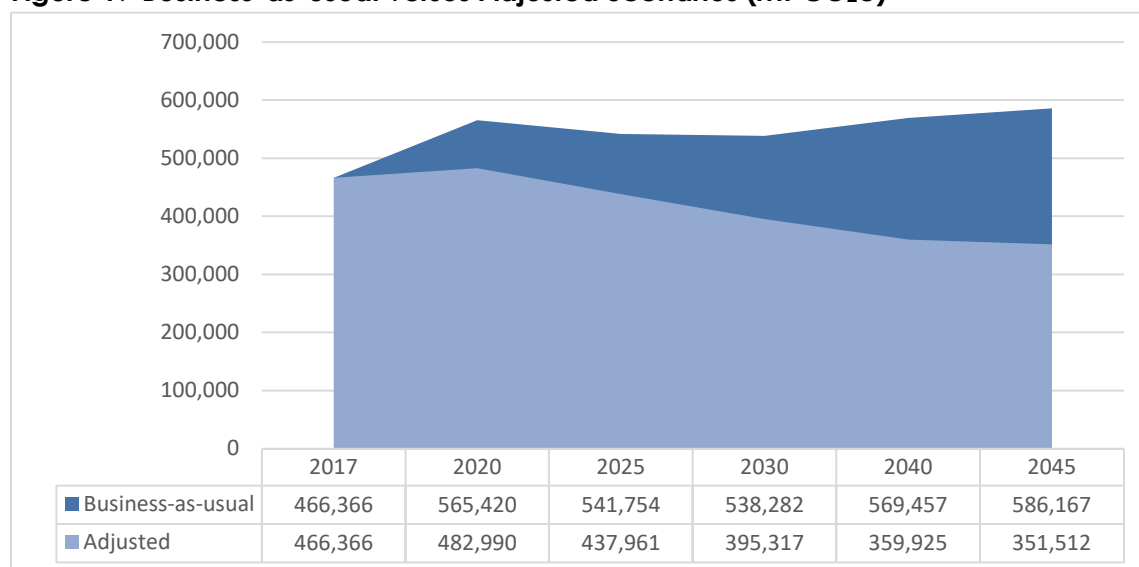
<b>Variable</b>	<b>2017 (MT CO<sub>2</sub>e)</b>	<b>2020 (MT CO<sub>2</sub>e)</b>	<b>2025 (MT CO<sub>2</sub>e)</b>	<b>2030 (MT CO<sub>2</sub>e)</b>	<b>2040 (MT CO<sub>2</sub>e)</b>	<b>2045 (MT CO<sub>2</sub>e)</b>
Residential Electricity	30,757	33,722	29,829	21,318	7,284	0
Commercial Electricity	32,658	36,285	31,553	22,163	7,760	0
Residential Natural Gas	64,769	78,285	75,471	75,549	79,209	81,250
Commercial Natural Gas	31,926	38,248	36,474	35,675	38,063	39,256
Gasoline Sales	181,031	167,666	145,733	129,209	118,131	119,128
Diesel Sales	101,854	100,435	91,722	84,367	80,902	82,473
Landfilled Waste	23,372	28,349	27,178	27,036	28,576	29,406
<b>Total Emissions</b>	<b>466,366</b>	<b>482,990</b>	<b>437,961</b>	<b>395,317</b>	<b>359,925</b>	<b>351,512</b>
Emissions Per Capita	5.07	4.32	4.07	3.67	3.18	3.02

As shown in Figure 17, without legislative reductions at the State level, the City’s emissions would increase through 2045, proportionally with population and economic growth. In reality, several existing legislative reductions would limit the City’s emissions growth, causing projected emissions to decrease (Table 11). The legislative reductions for each sector and methods used to project emissions are discussed in detail below.

**Table 11 Summary of Legislative Reductions**

<b>Legislation</b>	<b>2020 (MT CO<sub>2</sub>e)</b>	<b>2025 (MT CO<sub>2</sub>e)</b>	<b>2030 (MT CO<sub>2</sub>e)</b>	<b>2040 (MT CO<sub>2</sub>e)</b>	<b>2045 (MT CO<sub>2</sub>e)</b>
Transportation Legislation	-75,026	-91,496	-113,662	-146,841	-154,322
Title 24	-3,271	-1,579	-1,282	-3,516	-4,705
SB 100	-4,133	-10,717	-28,021	-59,175	-75,628
<b>Total</b>	<b>-4,133</b>	<b>-10,717</b>	<b>-28,021</b>	<b>-59,175</b>	<b>-75,628</b>



**Figure 17 Business-as-usual versus Adjusted Scenarios (MT CO<sub>2</sub>e)**

## Electricity

Emissions from future electricity use under the adjusted scenario were forecasted by projecting anticipated growth in residential and commercial sectors and multiplying by expected electricity emission factors. Anticipated growth in the residential sector was projected as a function of population growth within the City while commercial sector electricity use was projected as a function of employment projections. Legislative adjustments included in the electricity sector forecast include Renewable Portfolio Standard of 60 percent renewables by 2030 and 100 percent renewables by 2045. PG&E provides electricity in Chico and is subject to the RPS requirements. Additionally, Title 24 building code efficiency increases for the 2019 code cycle were applied to all new growth (after the 2017 baseline year) within the city. The methodologies for the electricity sector which were forecasted in the adjusted scenario are summarized in Table 12 and Table 13.

**Table 12 Adjusted Forecast Methodology - Electricity**

Source Category	Forecasted Activity Data (Scaling Factor)	Emission Factor	Applied Legislative Reductions
Residential Electricity	Population growth in Chico	Assumes an electricity mix of 44 percent, 60 percent, and 100 percent GHG-free by 2025, 2030, and 2045, respectively, for PG&E emission factors per RPS requirements.	Title 24 standards for new construction in 2019 (53 percent residential, 30 percent commercial), RPS requirements
Commercial & Industrial Electricity	Employment growth in Chico		

RPS: Renewable Portfolio Standard; GHG: greenhouse gas; SMUD: Chico Municipal Utility District

**Table 13 Adjusted Forecast Results - Electricity**

Activity Data	2020	2025	2030	2040	2045
<b>Residential Electricity</b>					
Population	111,892	107,593	107,712	113,303	116,420
BAU Per Capita Electricity (kWh/person)	2,556	2,556	2,556	2,556	2,556
BAU Total Electricity (kWh)	285,970,707	274,983,433	275,287,570	289,576,905	297,544,424
Adjusted Electricity (kWh; Title 24 applied)	273,081,387	267,917,368	268,060,313	274,776,300	278,521,034
Emission factor (MT CO <sub>2</sub> e/MWh)	0.1235	0.1113	0.0795	0.0265	0.0000
<b>Emissions (MT CO<sub>2</sub>e)</b>	<b>33,722</b>	<b>29,829</b>	<b>21,318</b>	<b>7,284</b>	<b>0</b>
<b>Commercial Electricity</b>					
Employment	39,061	37,124	36,251	38,859	40,162
BAU Per Capita Electricity (kWh/job)	7,701	7,701	7,701	7,701	7,701
BAU Total Electricity (kWh)	300,790,050	285,874,141	279,151,586	299,234,545	309,271,026
Adjusted Electricity (kWh; Title 24 applied)	293,840,861	283,399,940	278,692,643	292,750,714	299,775,067
Emission factor (MT CO <sub>2</sub> e/MWh)	0.1235	0.1113	0.0795	0.0265	0.0000
<b>Emissions (MT CO<sub>2</sub>e)</b>	<b>36,285</b>	<b>31,553</b>	<b>22,163</b>	<b>7,760</b>	<b>0</b>

Between 2017 and 2045, electricity emissions for commercial, residential, and industrial buildings in the city of Chico, together representing the building energy electricity sector, will decrease from 63,415 MT CO<sub>2</sub>e to 0 MT CO<sub>2</sub>e per year, despite growth in Chico’s population and employment levels.

## Natural Gas

Emissions from projected natural gas use were forecast using a similar methodology to the electricity sector. Anticipated natural gas use was projected for the residential and commercial sectors separately using population change and employment increase as growth indicators respectively. Adjustments based on the Title 24 building code updates for new construction after the 2019 code cycle begins were then applied to the natural gas activity data. These results were multiplied by a natural gas emission factor of 0.00531 MT CO<sub>2</sub>e per therm of natural gas (The Climate Registry 2016). Unlike electricity, the natural gas emission factor is based on the quality of the gas and remains relatively constant over time. The methodologies and data used to calculate natural gas emissions over time are summarized in Table 14 and Table 15.

**Table 14 Adjusted Forecast Methodology - Natural Gas**

Source Category	Forecasted Activity Data (Scaling Factor)	Emission Factor	Applied Legislative Reductions
Residential Natural Gas	Population growth in Chico	0.00531 MT CO <sub>2</sub> e/therm	Title 24 standards for efficiency in new construction in 2019 (7 percent residential, 30 percent commercial over 2016 Title 24)
Commercial & District Natural Gas	Employment growth in Chico		

**Table 15 Adjusted Forecast Results - Natural Gas**

Activity Data	2020	2025	2030	2040	2045
<b>Residential Gas</b>					
BAU Per Capita Natural Gas (therms/person)	133	133	133	133	133
BAU Natural Gas (therms)	14,839,693	14,269,537	14,285,320	15,026,827	15,440,280

Adjusted Natural Gas (therms; Title 24 applied)	14,751,353	14,221,108	14,235,786	14,925,388	15,309,899
Emission factor (MT CO <sub>2</sub> e/therm)	0.00531	0.00531	0.00531	0.00531	0.00531
<b>Emissions (MT CO<sub>2</sub>e)</b>	<b>78,285</b>	<b>75,471</b>	<b>75,549</b>	<b>79,209</b>	<b>81,250</b>
<b>Commercial Gas</b>					
BAU Per Capita Natural Gas (therms/employee)	186	186	186	186	186
BAU Natural Gas (therms)	7,246,137	6,886,819	6,724,820	7,208,620	7,450,359
Adjusted Natural Gas (therms; Title 24 applied)	7,207,057	6,872,891	6,722,232	7,172,166	7,396,983
Emission factor (MT CO <sub>2</sub> e/therm)	0.00531	0.00531	0.00531	0.00531	0.00531
<b>Emissions (MT CO<sub>2</sub>e)</b>	<b>38,248</b>	<b>36,474</b>	<b>35,675</b>	<b>38,063</b>	<b>39,256</b>

## Transportation

Transportation GHG forecasts were developed based on outputs for each target year from the CARB EMFAC2017 model. The CARB EMFAC2017 transportation modeling program incorporates the legislative requirements and regulations regarding transportation in California described in Section 3.2, including Corporate Average Fuel Economy (CAFE) standards and Advanced Clean Car Standards (EMFAC 2018). The model was run for years 2017, 2020, 2025, 2030, 2040, and 2050 for Butte County. Based on model output for each year, total fuel consumption for gasoline and diesel was aggregated, and the percent change between each target year calculated. The percent change metrics indicated how gasoline and diesel fuel consumption is expected to change in Butte County generally through 2050, based on GHG reduction legislation related to transportation. The percent change metrics were then applied to the anticipated fuel sales growth. Anticipated growth in gasoline and diesel sales was projected as a function of service population growth (population plus jobs) within the City. The emission factor for both gasoline and diesel remained consistent through 2045 in the adjusted forecast. The methodologies and data used to calculate transportation emissions over time are included in Table 16 and Table 17.

**Table 16 Adjusted Forecast Methodology - Transportation**

Source Category	Forecasted Activity Data (Scaling Factor)	Emission Factor	Applied Legislative Reductions
Gasoline and Diesel Fuel Sales	Fuel consumption percent changes in Butte County	Gasoline – 0.0088 MT CO <sub>2</sub> e/gallon Diesel – 0.0102 MT CO <sub>2</sub> e/gallon	Advanced Clean Cars, Pavley Clean Car Standards, Tractor-Trailer Greenhouse Gas Regulation, and adopted fuel efficiency standards for medium- and heavy- duty vehicles (accounted for in the CARB EMFACT2017 model)

**Table 17 Adjusted Forecast Results - Transportation**

Activity Data	2020	2025	2030	2040	2045
<b>Gasoline Fuel Sales</b>					
BAU Per Service Person Sales (gallons/service person)	166	166	166	166	166
BAU Sales (gallons)	24,983,696	23,951,597	23,826,805	25,183,793	25,915,465
Percent Change Metric (%)	-7.38 (between 2017 and 2020)	-13.08 (between 2020 and 2025)	-11.34 (between 2025 and 2030)	-8.57 (between 2030 and 2040)	-8.44 (between 2040 and 2045)
Adjusted Sales (gallons)	19,076,787	16,581,336	14,701,198	13,440,808	13,554,245
Emission factor (MT CO <sub>2</sub> e/gallon)	0.0088	0.0088	0.0088	0.0088	0.0088
<b>Emissions (MT CO<sub>2</sub>e)</b>	<b>167,666</b>	<b>145,733</b>	<b>129,209</b>	<b>118,131</b>	<b>119,128</b>

**City of Chico Climate Action Plan Update**  
Appendix B – GHG Emissions Inventory and Forecast

<b>Diesel Fuel Sales</b>					
BAU Per Service Person Sales (gallons/service person)	80	80	80	80	80
BAU Sales (gallons)	12,087,270	11,587,935	11,527,560	12,184,079	12,538,067
Percent Change Metric (%)	-1.39 (between 2017 and 2020)	-8.68 (between 2020 and 2025)	-8.02 (between 2025 and 2030)	-4.11 (between 2030 and 2040)	-1.94 (between 2040 and 2045)
Adjusted Sales (gallons)	9,826,338	8,973,896	8,254,242	7,915,225	8,068,935
Emission factor (MT CO <sub>2</sub> e/gallon)	0.0102	0.0102	0.0102	0.0102	0.0102
<b>Emissions (MT CO<sub>2</sub>e)</b>	<b>100,435</b>	<b>91,722</b>	<b>84,367</b>	<b>80,902</b>	<b>82,473</b>

**Waste**

The forecast used a baseline emission rate of 0.662 tons of waste per service population along with projected growth in Chico to establish the estimated tonnage of waste being disposed yearly through 2045. As for the inventory, an emission factor of 0.284 MT CO<sub>2</sub>e per ton of waste was used to forecast emissions. Emissions from the waste sector will likely be less than the projected totals due to decreasing rates of organic material in the waste stream and recent legislation such as SB 1383 discussed in previous sections. At this time no mandate exists for individual cities and the waste reductions from these bills are incorporated into the Climate Action Plan through City reduction measures to avoid double counting. A summary of the methodologies and data used to model waste emissions over time are provided in Table 18 and Table 19.

**Table 18 Adjusted Forecast Methodology - Waste**

Forecasted Activity Data (Scaling Factor)	Emission Factor	Applied Legislative Reductions
Service population growth	0.662 tons per service person, 0.284 MT CO <sub>2</sub> e/ton of solid waste	N/A

**Table 19 Adjusted Forecast Results - Waste**

Activity Data	2020	2025	2030	2040	2045
Service Population	150,953	144,717	143,963	152,162	156,583
Ton waste per Service Population	0.662	0.662	0.662	0.662	0.662
Total tons waste	99,996	95,865	95,366	100,797	103,725
Waste Factor (MT CO <sub>2</sub> e/ton)	0.284	0.284	0.284	0.284	0.284
<b>MT CO<sub>2</sub>e</b>	<b>28,349</b>	<b>27,178</b>	<b>27,036</b>	<b>28,576</b>	<b>29,406</b>

## 6 Target Setting

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Once an inventory and forecast are complete, it's possible to set GHG emission reduction targets that are consistent with State goals. The inventory is used to develop the GHG emission targets for each target year, which can then be compared to the forecast results to determine how much reduction falls to the responsibility of the City. This "gap" between the forecast and the targets determines the magnitude of action the City will need to take while developing the Climate Action Plan Update.

Setting GHG reduction targets for climate action planning that align with the State's goals will allow the City of Chico to develop its own emission reduction trajectory in a cost-effective manner and on the City's own terms. Target setting is an iterative process that must be informed by the reductions that can realistically be achieved through the development of feasible GHG reduction measures. As such, the targets identified herein should be re-evaluated on a periodic basis (every five years is recommended) and adjusted as more data and information become available to the City.

At this time, the State has codified a goal of reducing emissions to 40 percent below 1990 levels by 2030 (SB 32) and has developed the 2017 Scoping Plan to demonstrate how the State will achieve the 2030 goal. The State has also established a goal of achieving carbon neutrality by 2045 (EO-B-55-18). While currently no State plan exists to achieve this goal, EO B-55-18 directs CARB to ensure future Scoping Plan updates identify and recommend measures to achieve the carbon neutrality goal. Executive Orders are binding only unto State agencies and are not binding on local governments or the private sector, however showing progress toward this goal is expected to be a mandatory component of CEQA analyses upon publication of the next Scoping Plan.

In accordance with the 2017 Scoping Plan Update, target pathways can be set using either efficiency (MT CO<sub>2</sub>e per capita or per service population per year) or absolute (total community-wide MT CO<sub>2</sub>e per year) metrics. With CARB's publication of the 2017 Scoping Plan Update, the State recognized the inherent issues with setting an emission reduction target pathway using absolute metrics for cities with high expected growth patterns and adopted the efficiency metric as an acceptable form of target setting.

The City therefore has several potential target pathways to show consistency with State targets. The following pathways are described as a starting place for adopting both 2030 and 2045 targets. However, any emissions target that reaches at least a 40% reduction from 1990 levels (on a per capita or mass emissions reduction basis) and then moves to carbon neutrality by 2045 would be consistent with state goals. Four potential target pathways adopted by other cities are discussed below:

- **SB 32 Then Carbon Neutral Target:** achieve the minimum reductions required by SB 32 by 2030 (40 percent below 1990 levels) and then carbon neutrality in 2045.
  - **Absolute Pathway:** reduce absolute emissions to 40 percent below absolute emission level and to zero in 2045. This would require minimal community-wide reductions through 2030 and then relatively steep reductions from 2030 to 2045, regardless of population changes.
  - **Efficiency Pathway:** reduce per capita emissions to 40 percent below per capita emission level in 1990 and to zero in 2045. Due to high per capita emission levels in 1990, this would allow for a significant increase in community-wide emissions through 2030 and then very steep reductions through 2045.
- **Linear to Carbon Neutral Target:** move linearly from current emission levels to carbon neutrality in 2045. This pathway is also compliant with the 2030 State goal.

- **Absolute Pathway:** linearly reduce absolute emissions to zero in 2045. This would require consistent community-wide reductions from 2017 through 2045, regardless of population changes.
- **Efficiency Pathway:** linearly reduce per capita emissions to zero in 2045. This would allow for a small increase in community-wide emissions in 2020 and then consistent reductions through 2045.

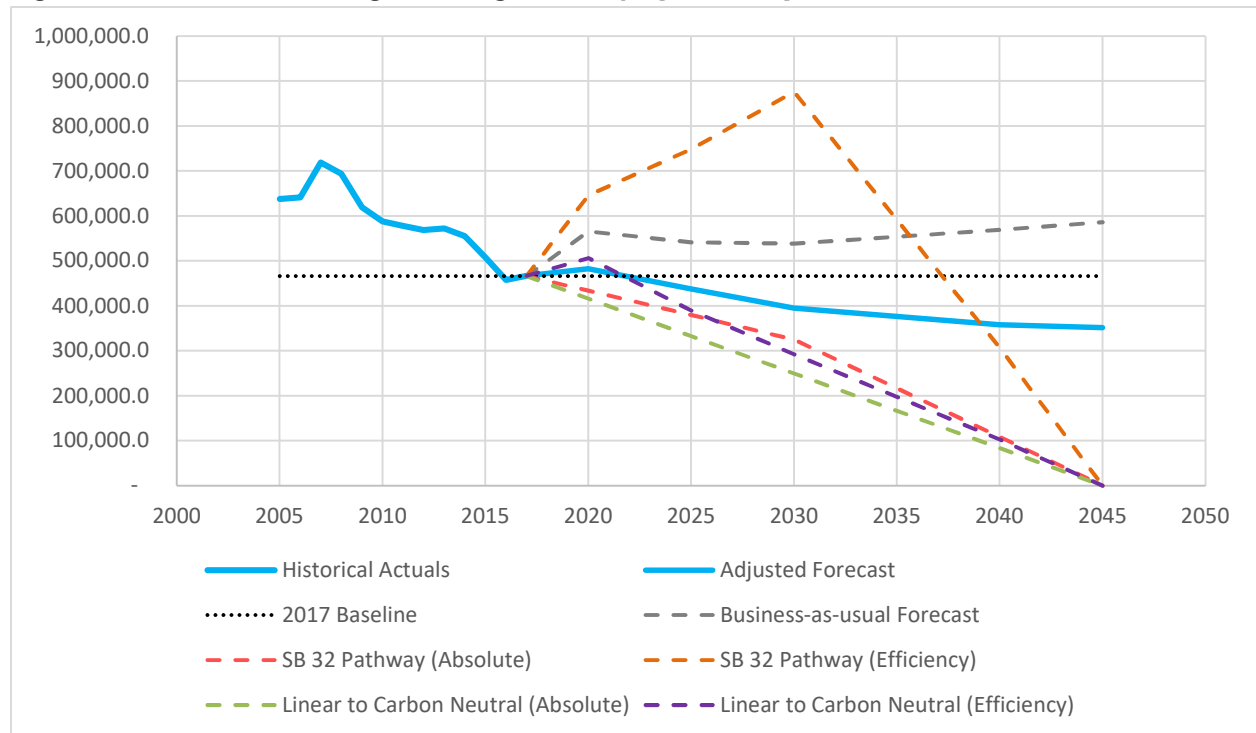
For a complete numerical comparison of each target pathway, the forecasted emissions and each potential target pathway (in both community-wide and per capita emissions) for the years 2020, 2025, 2030, 2040 and 2045 are provided in Table 20. Figure 18 shows the forecast and the different target pathway options that can be used to achieve consistency with SB 32 (2030) and B-55-18 (2045) goals.

**Table 20 Target Pathways<sup>1</sup>**

Year	GHG forecast (MT CO <sub>2</sub> e)	SB 32 Then Carbon Neutral Target (MT CO <sub>2</sub> e)		Linear to Carbon Neutral Target (MT CO <sub>2</sub> e)	
		Absolute Pathway	Efficiency Pathway	Absolute Pathway	Efficiency Pathway
2020	482,990 (4.3)	433,774 (3.9)	646,247 (5.8)	416,398 (3.7)	506,310 (4.5)
2025	437,961 (4.1)	379,454 (3.5)	748,315 (7.0)	333,119 (3.1)	389,486 (3.6)
2030	395,317 (3.7)	325,135 (3.0)	876,179 (8.1)	249,839 (2.3)	292,437 (2.7)
2040	359,925 (3.2)	108,378 (1.0)	307,220 (2.7)	83,280 (0.7)	102,539 (0.9)
2045	351,512 (3.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)

<sup>1</sup> Mass emissions (MT CO<sub>2</sub>e) with per capita emissions (MT CO<sub>2</sub>e per person) in parenthesis

**Figure 18 Forecast and Target Setting Pathways (MT CO<sub>2</sub>e)**



The absolute GHG emission gap in 2030, 2040, and 2045 between each target pathway and the forecast emissions can be found in Table 21. Numbers in green indicate that the target will be achieved under the adjusted scenario forecast; numbers in red indicate the target would not be achieved under the adjusted scenario forecast. The emission gap will be bridged by local actions developed in the City of Chico Climate Action Plan Update.

**Table 21 Emission Gap Analysis**

Year	SB 32 Then Carbon Neutral Target		Linear to Carbon Neutral Target	
	(MT CO <sub>2</sub> e)		(MT CO <sub>2</sub> e)	
	Absolute Pathway	Efficiency Pathway	Absolute Pathway	Efficiency Pathway
2030	-70,183	480,862	-145,478	-102,880
2040	-251,547	-52,705	-276,645	-257,386
2045	-351,512	-351,512	-351,512	-351,512

The City of Chico has achieved both efficiency and absolute emission reductions between 2005 and 2017 and is on track to achieve the minimum 2030 target with only minor additional reduction measures despite high population growth rates. However, Chico was the fastest-growing city in California in 2018, due to an influx of citizens from the Town of Paradise spurred by the November 2018 Camp Fire. Although the City of Chico has reduced their per capita emissions significantly and are on pace to meet the 2030 reduction target with only a few additional reductions, the 2045 target of carbon neutrality will require significant changes to the community. Based on this information, Rincon is recommending establishing a linear to carbon neutral efficiency target pathway for 2020, 2025, 2030, and 2040 with a target of carbon neutrality on or before 2045. This will allow the City some leeway in emission reductions through 2020 due to population increases, while allowing the City to progress steadily towards the 2045 carbon neutrality target on its own terms without having to make inflexibly steep reductions later on. The measures developed for the Climate Action Plan Update will focus on meeting these short-term (2030) goals and putting the City on a path towards achieving carbon neutrality.

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# APPENDIX C

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# City of Chico Climate Action Plan Update

## Appendix C – Climate Action Legislation in California

*prepared for*

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**July 2021**



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# Regulatory Context

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As the impacts of climate change are becoming clearer, strategies to address climate change are emerging at all levels of government. This section provides an overview of the regulatory context at the international, state, and local levels.

## International Climate Action Guidance

### 1992 United Nations Framework Convention on Climate Change

The primary international regulatory framework for GHG reduction is the United Nations Framework Convention on Climate Change (UNFCCC). The UNFCCC is an international treaty adopted in 1992 with the objective of stabilizing atmospheric GHG concentrations to prevent disruptive anthropogenic climate change. The framework established non-binding limits on global GHG emissions and specified a process for negotiating future international climate-related agreements.<sup>1</sup>

### 1997 Kyoto Protocol

The Kyoto Protocol is an international treaty that was adopted in 1997 to extend and operationalize the UNFCCC. The protocol commits industrialized nations to reduce GHG emissions per country-specific targets, recognizing that they hold responsibility for existing atmospheric GHG levels. The Kyoto Protocol involves two commitment periods during which emissions reductions are to occur, the first of which took place between 2008-2012. The second commitment period set new targets and other changes but has not been entered into force (meaning it has not gone into effect).<sup>2</sup>

### 2015 The Paris Agreement

The Paris Agreement is the first universal, legally binding global climate agreement that was adopted in 2015 and has been ratified by 191 countries worldwide.<sup>3</sup> The Paris Agreement establishes a roadmap to keep the world under 2 degrees Celsius (°C) of warming with a goal of limiting an increase of temperature to 1.5°C. The Paris Agreement does not dictate one specific reduction target, instead relying on individual countries to set nationally determined contributions (NDCs) or reductions based on gross domestic product and other factors. According to the International Panel on Climate Change (IPCC), limiting global warming to 1.5°C will require global emissions to reduce through 2030 and hit carbon neutrality by mid-century.<sup>4</sup>

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<sup>1</sup> United Nations Framework Convention on Climate Change (UNFCCC). United Nations Framework Convention on Climate Change. [https://unfccc.int/files/essential\\_background/background\\_publications\\_htmlpdf/application/pdf/conveng.pdf](https://unfccc.int/files/essential_background/background_publications_htmlpdf/application/pdf/conveng.pdf)

<sup>2</sup> UNFCCC. What is the Kyoto Protocol? [https://unfccc.int/kyoto\\_protocol](https://unfccc.int/kyoto_protocol)

<sup>3</sup> UNFCCC. Paris Agreement - Status of Ratification. <https://unfccc.int/process/the-paris-agreement/status-of-ratification>

<sup>4</sup> IPCC. Global Warming of 1.5 C. <https://www.ipcc.ch/sr15/>

## California Regulations and State GHG Targets

California remains a global leader in the effort to reduce GHG emissions and combat climate change through its mitigation and adaptation strategies. By the early 2000's, California was passing climate change bills including Senate Bill (SB) 1078 and Executive Order (EO) S-3-05 which began to require state agencies and utilities to address climate change. With the passage of Assembly Bill (AB) 32 in 2006, California became the first state in the nation to mandate GHG emission reductions across its entire economy. To support AB 32, California has enacted legislation, regulations, and executive orders (EO) that put it on course to achieve robust emission reductions and address the impacts of a changing climate. The following is a summary of executive and legislative actions most relevant to the Climate Action Plan.

### **2002 Senate Bill 1078**

In 2002, Senate Bill (SB) 1078 established the California Renewables Portfolio Standards (RPS) Program which requires that 20 percent of retail electricity sales be composed of renewable energy sources by 2017 and was accelerated in 2006 by SB 107,<sup>5</sup> which requires that 20 percent of retail electricity sales be composed of renewable energy sources by 2010, instead of 2017. EO S-14-08 was signed in 2008 to further streamline California's renewable energy project approval process and increase the state's RPS to the most aggressive in the nation requiring 33 percent renewable power by 2020.<sup>6</sup> SB 350, discussed further below, further accelerated the program which mandated a 50% RPS by 2030.

### **2002 Assembly Bill 1493**

In 2002, AB 1493, also known as the Pavley Regulations, directed the California Air Resources Board (CARB) to establish regulations to reduce GHG emissions from passenger vehicles to the maximum and most cost-effective extent feasible. CARB approved the first set of regulations to reduce GHG emissions from passenger vehicles in 2004, with the regulations initially taking effect with the 2009 model year.

### **2005 Executive Order S-3-05**

EO S-3-05 was signed in 2005, establishing statewide GHG emissions reduction targets for the years 2020 and 2050. The EO calls for the reduction of GHG emissions in California to 2000 levels by 2010, 1990 levels by 2020, and 80 percent below 1990 levels by 2050. The 2050 emission reductions target would put the state's emissions in line with the worldwide reductions needed to reach long-term climate stabilization as concluded by the IPCC 2007 *Fourth Assessment Report*.

### **2006 Assembly Bill 32**

California's major initiative for reducing GHG emissions is outlined in AB 32, the "California Global Warming Solutions Act of 2006," which was signed into law in 2006. AB 32 codifies the statewide goal of reducing GHG emissions to 1990 levels by 2020 and requires CARB to prepare a Scoping Plan that outlines the main state strategies for reducing GHG emissions to meet the 2020 deadline. In

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<sup>5</sup> California Public Utilities Commission. 2021. Renewables Portfolio Standard (RPS) Program. <https://www.cpuc.ca.gov/General.aspx?id=6442463710>

<sup>6</sup> Executive Order S-14-08. <http://www.climatestrategies.us/library/library/view/292>

addition, AB 32 requires CARB to adopt regulations to require reporting and verification of statewide GHG emissions.

Based on this guidance, CARB approved a 1990 statewide GHG baseline and 2020 emissions limit of 427 million metric tons of CO<sub>2</sub> equivalent (MMT CO<sub>2</sub>e). The Scoping Plan was approved by CARB on December 11, 2008 and included measures to address GHG emission reduction strategies related to energy efficiency, water use, and recycling and solid waste, among other measures. Many of the GHG reduction measures included in the Scoping Plan (e.g., Low Carbon Fuel Standard, Advanced Clean Car standards,<sup>7</sup> and Cap-and-Trade) have been adopted since approval of the Scoping Plan.

In May 2014, CARB approved the first update to the AB 32 Scoping Plan. The 2014 Scoping Plan update defined CARB's climate change priorities for the next five years and set the groundwork to reach post-2020 statewide goals. The update highlighted California's progress toward meeting the "near-term" 2020 GHG emission reduction goals defined in the original Scoping Plan. It also evaluated how to align the state's longer-term GHG reduction strategies with other state policy priorities, including those for water, waste, natural resources, clean energy, transportation, and land use (CARB 2014).

### **2007 Executive Order S-1-07**

Also known as the Low Carbon Fuel Standard, EO S-1-07, issued in 2007, established a statewide goal that requires transportation fuel providers to reduce the carbon intensity of California's transportation fuels by at least 10 percent by 2020. EO S-1-07 was readopted and amended in 2015 to require a 20 percent reduction in carbon intensity by 2030, the most stringent requirement in the nation. The new requirement aligns with California's overall 2030 target of reducing climate changing emissions 40 percent below 1990 levels by 2030, which was set by SB 32 and signed by the governor in 2016.

### **2007 Senate Bill 97**

Signed in August 2007, SB 97 acknowledges that climate change is an environmental issue that requires analysis in California Environmental Quality Act (CEQA) documents. In March 2010, the California Natural Resources Agency adopted amendments to the State CEQA Guidelines for the feasible mitigation of GHG emissions or the effects of GHG emissions. The adopted guidelines give lead agencies the discretion to set quantitative or qualitative thresholds for the assessment and mitigation of GHG and climate change impacts.

### **2008 Senate Bill 375**

SB 375, signed in August 2008, enhances the state's ability to reach AB 32 goals by directing CARB to develop regional GHG emission reduction targets to be achieved from passenger vehicles by 2020 and 2035. In addition, SB 375 directs each of the state's 18 major Metropolitan Planning Organizations (MPOs), to prepare a Sustainable Communities Strategy" that contains a growth strategy to meet these emission targets for inclusion in the MPO's Regional Transportation Plan.

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<sup>7</sup> On September 19, 2019, the National Highway Traffic Safety Agency and the U.S. Environmental Protection Agency issued a final action entitled the One National Program on Federal Preemption of State Fuel Economy Standards Rule. This action finalizes Part I of the Safer, Affordable, Fuel-Efficient (SAFE) Vehicles Rule. This rule states that federal law preempts State and local tailpipe GHG emissions standards as well as zero emission vehicle (ZEV) mandates. The SAFE Rule withdraws the Clean Air Act waiver it granted to California in January 2013 as it relates to California's GHG and zero emission vehicle programs.

In March 2018, CARB adopted updated regional targets for reducing GHG emissions from 2005 levels by 2020 and 2035. Each region was assigned a target for 2020 and 2035.<sup>8</sup>

## **2009 California Green Building Code**

The California Green Building Standards Code (CALGreen) is Part 11 of the California Building Standards Code or Title 24 and is the first statewide “green” building code in the nation. The purpose of CALGreen is to improve public health, safety, and general welfare by enhancing the design and construction of buildings. Enhancements include higher energy efficiency, better air quality, and improved daylighting. The first CALGreen Code was adopted in 2009 and has been updated in 2013, 2016, and 2019. The CALGreen Code will have subsequent, and continually more stringent, updates every three years.

## **2009 Senate Bill X7-7**

In 2009, SB X7-7, also known as the Water Conservation Act, was signed, requiring all water suppliers to increase water use efficiency. This legislation sets an overall goal of reducing per capita urban water use by 20 percent by 2020.

## **2011 Senate Bill 2X**

In 2011, SB 2X was signed, requiring California energy providers to buy (or generate) 33 percent of their electricity from renewable energy sources by 2020.

## **2012 Assembly Bill 341**

AB 341 directed the California Department of Resources Recycling and Recovery (CalRecycle) to develop and adopt regulations for mandatory commercial recycling. As of July 2012, businesses are required to recycle, and jurisdictions must implement a program that includes education, outreach, and monitoring. AB 341 also set a statewide goal of 75 percent waste diversion from landfill by the year 2020.

## **2014 Assembly Bill 32 Scoping Plan Update**

In 2014, CARB approved the first update to the Scoping Plan. This update defines CARB’s climate change priorities and sets the groundwork to reach the post-2020 targets set forth in EO S-3-05. The update highlights California’s progress toward meeting the near-term 2020 GHG emissions reduction target, defined in the original Scoping Plan. It also evaluates how to align California’s longer-term GHG reduction strategies with other statewide policy priorities, such as water, waste, natural resources, clean energy, transportation, and land use.

## **2014 Assembly Bill 1826**

AB 1826 was signed in 2014 to increase the recycling of organic material. GHG emissions produced by the decomposition of these materials in landfills were identified as a significant source of emissions contributing to climate change. Therefore, reducing organic waste and increasing composting and mulching are goals set out by the AB 32 Scoping Plan. AB 1826 specifically requires jurisdictions to establish organic waste recycling programs by 2016, and phases in mandatory commercial organic waste recycling over time.

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<sup>8</sup> [https://ww2.arb.ca.gov/sites/default/files/2020-06/SB375\\_Final\\_Targets\\_2018.pdf](https://ww2.arb.ca.gov/sites/default/files/2020-06/SB375_Final_Targets_2018.pdf)

## 2015 Senate Bill 350

SB 350, the Clean Energy and Pollution Reduction Act of 2015, has two objectives: to increase the procurement of electricity from renewable sources from 33 percent to 50 percent by 2030 and to double the energy efficiency of electricity and natural gas end users through energy efficiency and conservation.

## 2015 Executive Order B-30-15

EO B-30-15 was signed in 2015, establishing an interim GHG emissions reduction target to reduce emissions to 40 percent below 1990 levels by 2030. The EO also calls for another update to the CARB Scoping Plan to provide a pathway to achieve this goal.

## 2016 Senate Bill 32

In September 2016, the governor signed SB 32 into law, extending AB 32 by requiring the state to further reduce GHGs to 40 percent below 1990 levels by 2030 (the other provisions of AB 32 remain unchanged).

## 2016 Senate Bill 1383

Adopted in September 2016, SB 1383 requires CARB to approve and begin implementing a comprehensive strategy to reduce emissions of short-lived climate pollutants. SB 1383 requires achievement of the following reduction targets by 2030:

- Methane – 40 percent below 2013 levels
- Hydrofluorocarbons – 40 percent below 2013 levels
- Anthropogenic black carbon – 50 percent below 2013 levels

SB 1383 also requires CalRecycle, in consultation with CARB, to adopt regulations that achieve specified targets for reducing organic waste in landfills. SB 1383 further requires 20% of edible food disposed of at the time to be recovered by 2025.

## 2017 Scoping Plan Update

In December 2017, CARB adopted the 2017 Scoping Plan, which provides a framework for achieving the 2030 goal set by SB 32. The 2017 Scoping Plan relies on the continuation and expansion of existing policies and regulations, such as the Cap-and-Trade Program, as well as implementation of recently approved legislation, such as SB 350 and SB 1383.

The 2017 Scoping Plan also puts an increased emphasis on innovation, adoption of existing technology, and strategic investment to support its strategies. As with the 2014 Scoping Plan Update, the 2017 Scoping Plan does not provide project-level thresholds for land use development. Instead, it recommends that local governments adopt policies and locally appropriate quantitative thresholds consistent with statewide per capita goals of six metric tons (MT) CO<sub>2</sub>e by 2030 and two MT CO<sub>2</sub>e by 2050 (CARB 2017). As stated in the 2017 Scoping Plan, these goals may be appropriate for plan-level analyses (i.e., city, county, subregional, or regional level), but not for specific individual projects because they include all emissions sectors in the state (CARB 2017).

### **2018 Senate Bill 100**

Adopted in September 2018, SB 100 supports the reduction of GHG emissions from the electricity sector by accelerating the state’s RPS Program, which was last updated by SB 350 in 2015. SB 100 requires electricity providers to increase procurement from eligible renewable energy resources to 33 percent of total retail sales by 2020, 60 percent by 2030, and 100 percent by 2045.

### **2018 Executive Order B-55-18**

In September 2018, the governor issued Executive Order B-55-18, which established a new statewide goal of achieving carbon neutrality by 2045 and maintaining net negative emissions thereafter. This goal is in addition to the existing statewide GHG reduction targets established by SB 375, SB 32, SB 1383, and SB 100.

# APPENDIX D

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# Climate Action Finance Map

## Pathways to Capital for Projects in Chico's 2021 Climate Action Plan

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Relevant Projects and Initiatives	Capital Type	Top Funding and Finance Pathways	Resources or Partners	Case Examples
<b>Public Transportation Infrastructure</b>  T-3-1: Partner with BCAG and Butte Regional Transit to improve and expand transit within the City	GRANT	Federal or State Grants	<a href="#">CalTrans Transit + Intercity Rail Capital Program (TIRCP)</a>	<a href="#">SamTrans + more</a>
	PARTNER	PPP or Sponsorship	<a href="#">DT Chico Business Association</a>	<a href="#">San Diego Metro Transit System</a>
	PARTNER	PPP with Transportation Operator	<a href="#">Butte County Assoc. of Gvts. Butte Regional Transit</a>	<a href="#">LA Transportation Electrification Partnership</a>
	LOAN	Federal or State Loan Programs	<a href="#">TIFIA Loan</a>	<a href="#">San Luis Obispo, CA</a>
	BOND	Green Bond or Revenue Bond	<a href="#">CAEATFA, CA Transportation Finance Authority</a>	<a href="#">Ventura County</a>
	FEE	Transportation Fee	<a href="#">Dept of Transportation</a>	<a href="#">Chicago, IL</a>
	TAX	Enhanced Infrastructure Financing District	<a href="#">Butte County Economic Development Company</a>	<a href="#">LA County</a>
<b>Bike and Pedestrian Improvements</b>  T-1-1: Implement Chico Bicycle Master Plan T-1-5: Complete Active Transportation Plan  T-3-2: Prepare for shared bike programs  Active Transportation Funding Sources: <a href="https://catc.ca.gov/-/media/citc-media/documents/programs/2020/funding-programs-that-fund-active-transportation-a11y.pdf">https://catc.ca.gov/-/media/citc-media/documents/programs/2020/funding-programs-that-fund-active-transportation-a11y.pdf</a>	GRANT	CA State Grants	<a href="#">CalTrans Active Transportation Program</a>	<a href="#">Santa Barbara</a>
	GRANT	CA State Grants	<a href="#">Transformative Climate Communities (TCC)</a>	<a href="#">Ontario, CA</a>
	GRANT	CA State Grants	<a href="#">CNRA Urban Greening</a>	<a href="#">2020 Awardees</a>
	GRANT	Foundation Grants	<a href="#">People for Bikes, Outride</a>	<a href="#">Santa Cruz, CA</a>
	PARTNER	PPP or Sponsorship	<a href="#">DT Chico Business Association, Alta</a>	<a href="#">Zagster</a>
	LOAN	State Government Loan Programs	<a href="#">ISRF Loan Program</a>	<a href="#">Santa Cruz, CA</a>
	LOAN	Federal Government Loan Programs	<a href="#">TIFIA Loan</a>	<a href="#">State of Maryland</a>
	BOND	General Obligation Bond	<a href="#">CA Transportation Finance Authority</a>	<a href="#">San Diego County</a>
	FEE	Transportation Fee	<a href="#">Dept. of Transportation</a>	<a href="#">Chicago, IL</a>
FEE	Developer Impact Fee	<a href="#">Dept. of Transportation</a>	<a href="#">Santa Monica</a>	
TAX	Enhanced Infrastructure Financing District	<a href="#">Butte County Economic Development Corp.</a>	<a href="#">Santa Rosa</a>	



# Climate Action Finance Map

## Pathways to Capital for Projects in Chico's 2021 Climate Action Plan

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Relevant Projects and Initiatives	Capital Type	Top Funding and Finance Pathways	Resources or Partners	Case Examples
<b>Municipal Energy Efficiency</b>  E-4-3: Conduct an energy generation feasibility study  E-4-4: Install renewable energy technology at municipal facilities	GRANT	State and Foundation Grants	<a href="#">EPIC Grant, CPUC-SGIP</a>	<a href="#">Fremont, CA</a>
	PARTNER	Utility Energy Services Contract (UESC)	<a href="#">PG&amp;E Sustainable Solutions Turnkey Prog.</a>	<a href="#">CalPoly</a>
	PARTNER	Energy Savings Performance Contracts	<a href="#">ENGIE, Ameresco</a>	<a href="#">Enovity EE</a>
	PARTNER	Collaborative Purchasing	<a href="#">Sourcewell</a>	<a href="#">MAPC</a>
	LOAN	Tax-Exempt Lease Purchase Agreement	<a href="#">GS Smart</a>	<a href="#">DGS Building Retrofits</a>
	LOAN	On-Bill Financing	<a href="#">PG&amp;E, Butte Electric</a>	<a href="#">Mass Saves</a>
	LOAN	Green Bank or Revolving Loan Fund	<a href="#">Coalition For Green Capital</a>	<a href="#">San Antonio, TX</a>
	LOAN	Government Loan Program	<a href="#">CA CLEEN</a>	<a href="#">Huntington Beach, CA</a>
	LOAN	Investment Firm	<a href="#">Generate Capital</a>	<a href="#">Hillsborough, FL</a>
BOND	General Obligation Bond (Green)	<a href="#">California iBank</a>	<a href="#">Lakeport, CA</a>	
<b>Tariff On-Bill Financing, Green Bank, RLV</b>  E-2-7: Identify + partner with stakeholders to develop resident-level funding pathways for implementing electrification ordinance  E-4-1: Coordinate with stakeholders to provide local energy generation support and incentives for the community	GRANT	Government and Foundation Grants	<a href="#">Building Decarb Coalition</a>	<a href="#">Baltimore, MD</a>
	GRANT	Settlement Funds	<a href="#">Butte County Camp Fire Settlement Fund</a>	<a href="#">Montgomery Co, MD</a>
	PARTNER	Local Economic Development Corp Partnership	<a href="#">Chico Community Development Dept.</a>	<a href="#">NYC RLF (eg. of PPP, but for development)</a>
	LOAN	Program Related Investment or Endowments	<a href="#">Coalition for Green Capital</a>	<a href="#">CT Green Bank + MacArthur</a>
	LOAN	Private Investment or Bank Loan	<a href="#">Coalition for Green Capital</a>	<a href="#">Colorado Clean Energy Fund</a>
	BOND	Green or Revenue Bonds	<a href="#">California iBank</a>	<a href="#">CT Green Bank - Green Liberty Bond</a>
	FEE	Ratepayer Surcharge	<a href="#">PG&amp;E, Butte Electric</a>	<a href="#">CT Green Bank</a>



# Climate Action Finance Map

## Pathways to Capital for Projects in Chico's 2021 Climate Action Plan

Relevant Projects and Initiatives	Capital Type	Top Funding and Finance Pathways	Resources or Partners	Case Examples
<b>Affordable Electrification &amp; Efficiency Retrofits</b>  <b>E-2:7:</b> Identify and partner with stakeholders to develop resident-level funding pathways for implementing electrification ordinance (to include weatherization and efficiency retrofits)	GRANT	CA State Grant	<a href="#">Building Initiative for Low-Emissions Dev. (BUILD)</a>	2021 launch
	GRANT	CA State Grant	<a href="#">Affordable Housing + Sustainable Communities (AHSC)</a>	<a href="#">2019 Awardees</a>
	GRANT	Federal and State Grants	<a href="#">LIHEAP or Butte Weatherization Assistance Program (WAP)</a>	<a href="#">CA WAP</a>
	PARTNER	Utility-Led Incentives	<a href="#">PG&amp;E Rebate Program</a>	<a href="#">CA CPUC</a>
	LOAN	On-Bill Financing (Tariff)	<a href="#">PG&amp;E, Butte Electric</a>	<a href="#">Kansas City P&amp;L</a>
	LOAN	PACE or C-PACE Financing	<a href="#">PACENation</a>	<a href="#">Greenville, MI - Cambridge Court Apts</a>
	LOAN	Green Bank or Revolving Loan Fund	<a href="#">Coalition For Green Capital</a>	<a href="#">CT Green Bank</a>
	LOAN	Federal or State Loan Program	<a href="#">GoGreen Financing</a>	<a href="#">CAEATFA - REEL</a>
	LOAN	HomeStyle Energy Mortgage	<a href="#">Fannie Mae</a>	<a href="#">Portland, OR</a>
LOAN	Federal Loan Guarantee	<a href="#">DOE Loan Program</a>	<a href="#">All Projects</a>	
<b>Residential and/or Commercial Solar and Battery</b>  <b>E-4:1:</b> Coordinate with stakeholders to provide local energy generation support and incentives for the community	PARTNER	State-Led Utility Incentive Program	<a href="#">Solar on Multifamily Affordable Housing - SOMAH</a>	<a href="#">Eligible Properties</a>
	PARTNER	State-Led Utility Operating Program	<a href="#">Disadvantaged Communities - DAC SASH</a>	New Program
	PARTNER	Community-Owned Solar Partnership	<a href="#">Solar in Your Community Challenge</a>	<a href="#">Yale University</a>
	PARTNER	Utility Rebates and Incentives	<a href="#">California PUC via PG&amp;E</a>	<a href="#">PG&amp;E Solar Incentives</a>
	LOAN	On-Bill Financing (Tariff)	<a href="#">PG&amp;E, Butte Electric</a>	<a href="#">Fort Collins Utilities</a>
	LOAN	PACE or C-PACE Financing	<a href="#">CaliforniaFIRST</a>	<a href="#">Saratoga, CA</a>
	LOAN	Green Bank or Revolving Loan Fund	<a href="#">Coalition For Green Capital</a>	<a href="#">PosiGen - Solar Lease</a>
	LOAN	CA State Loan Program	<a href="#">GoGreen Financing</a>	<a href="#">CAEATFA - REEL</a>
	LOAN	HomeStyle Energy Mortgage	<a href="#">Fannie Mae</a>	<a href="#">Portland, OR</a>
	LOAN	Federal Loan Guarantee	<a href="#">DOE Loans Program</a>	<a href="#">DOE Project Portfolio</a>
FEE	Ratepayer Surcharge or Utility Fee	<a href="#">PG&amp;E, Butte Electric</a>	<a href="#">CT Green Bank</a>	



# Climate Action Finance Map

## Pathways to Capital for Projects in Chico's 2021 Climate Action Plan

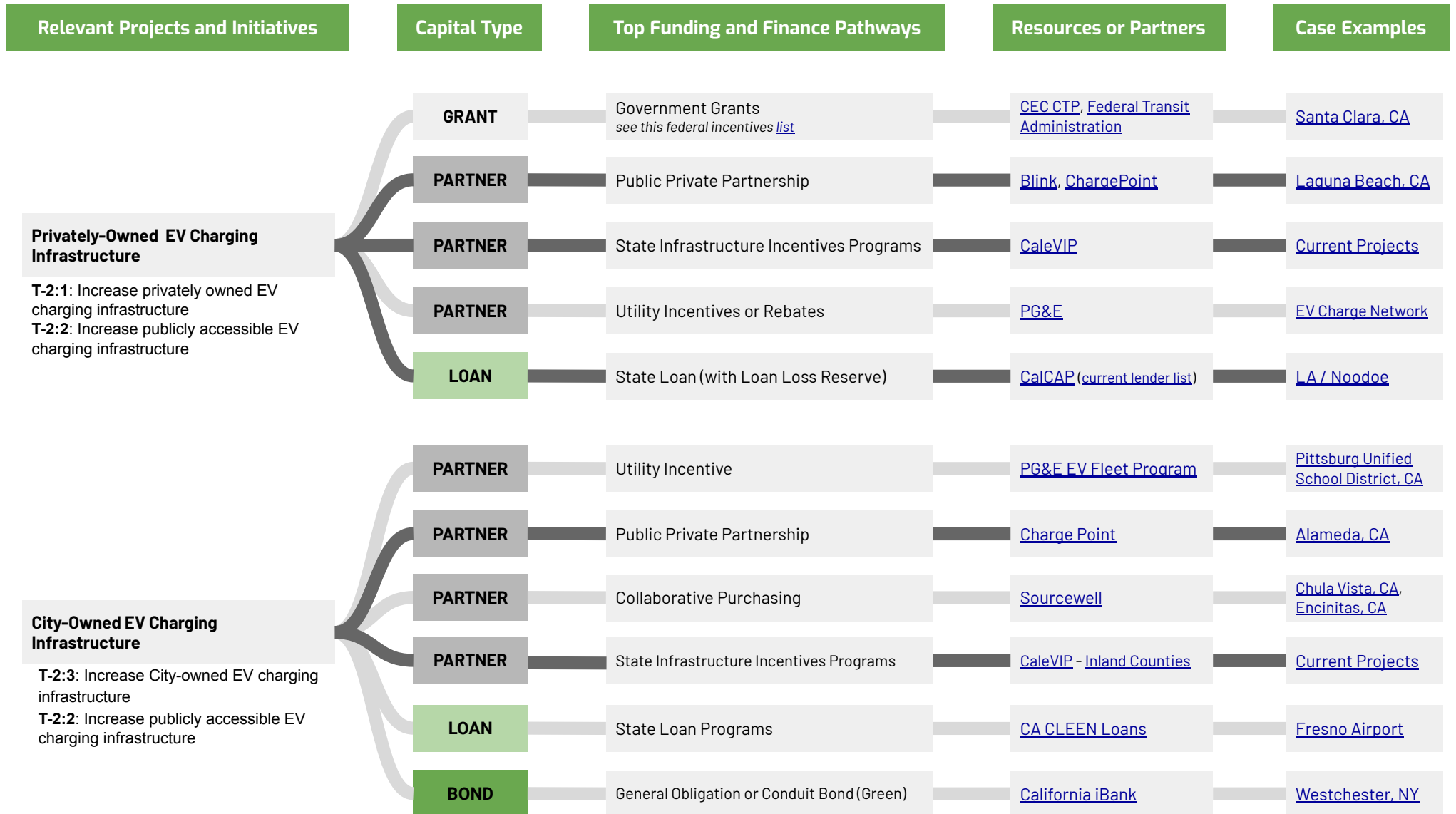
Relevant Projects and Initiatives	Capital Type	Top Funding and Finance Pathways	Resources or Partners	Case Examples
<b>Community Solar and Storage</b>  <b>E-4:1:</b> Coordinate with stakeholders to provide local energy generation support and incentives for the community. This could include a co-located community solar and storage project.	GRANT	Federal Grants	<a href="#">FEMA Hazard Mitigation Program (BRIC)</a>	<a href="#">St. Croix, U.S.</a>
	GRANT	State Grants	<a href="#">EPIC Grant, CPUC - SGIP</a>	<a href="#">Fremont, CA</a>
	PARTNER	Community Choice Aggregation	<a href="#">Butte Choice Energy</a>	<a href="#">Silicon Valley Clean Energy (SVCE)</a>
	PARTNER	State-Led Utility Operating Program	<a href="#">Community Solar Green Tariff</a>	N/A: New Program
	PARTNER	State-Led Utility Operating Program	<a href="#">DAC - Green Tariff Prog</a>	N/A: New Program
	PARTNER	Utility Rebates and Incentives	<a href="#">PG&amp;E Community Microgrid Enablement Program</a>	<a href="#">Redwood Coast, CA</a>
	PARTNER	Power Purchasing Agreement	<a href="#">ENGIE, Ameresco</a>	<a href="#">Enovity EE in CA</a>
	PARTNER	Collaborative Community Ownership	<a href="#">Clean Energy Co.</a>	<a href="#">Boardman Hill, VT</a>
	PARTNER	Collaborative Purchasing	<a href="#">R-REP Bay Area</a>	<a href="#">SV-REP</a>
	LOAN	Tax-Exempt Lease Purchase Agreement	<a href="#">GS Smart</a>	<a href="#">DGS Building Retrofits</a>
	LOAN	On-Bill Financing	<a href="#">PG&amp;E, Butte Electric</a>	<a href="#">EESI Case Studies Grand Valley, CO</a>
	LOAN	Green Bank or Revolving Loan Fund	<a href="#">Coalition For Green Capital</a>	<a href="#">San Antonio, TX</a>
	LOAN	Federal or State Loan Program	<a href="#">NREL</a>	<a href="#">Orange County Library</a>
	LOAN	Private Investment Firm Loan	<a href="#">Generate Capital</a>	<a href="#">NYC Hudson, Hillsborough, FL</a>
	BOND	General Obligation Bond (Green)	<a href="#">California iBank</a>	<a href="#">Lakeport, CA</a>
FEE	Ratepayer Surcharge or Utility Fee	<a href="#">PG&amp;E, Butte Electric</a>	<a href="#">Hawaii Microgrid Tariff</a>	
TAX	Enhanced Infrastructure Financing District	<a href="#">Butte County Economic Development Company</a>	<a href="#">New Orleans, LA</a>	



# Climate Action Finance Map

## Pathways to Capital for Projects in Chico's 2021 Climate Action Plan

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# Climate Action Finance Map

## Pathways to Capital for Projects in Chico's 2021 Climate Action Plan

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Relevant Projects and Initiatives	Capital Type	Top Funding and Finance Pathways	Resources or Partners	Case Examples
<b>Biodigester</b>  W-1:4: Partner with North State Rendering to expand use of the digester	GRANT	State and Foundation Grants	<a href="#">EPIC Grant, CPUC-SGIP</a>	<a href="#">Escondido, CA</a>
	PARTNER	Power Purchasing Agreement	<a href="#">ENGIE, Ameresco</a>	<a href="#">Woodland, MI</a>
	PARTNER	Energy Saving Performance Contract	<a href="#">ENGIE, Ameresco</a>	<a href="#">Philadelphia, PA</a>
	LOAN	Government Loan Program	<a href="#">CalRecycle GHG Reduction Loan</a>	<a href="#">North Star (previous recipient)</a>
	BOND	Revenue Bond	<a href="#">California iBank</a>	<a href="#">Grand Rapids, MI</a>
<b>Urban Forestry</b>  S-1:1: Implement Chico's Urban Forest Revitalization Program (4,500 trees by 2030)  <a href="#">Cool CalRecycle Grant from 2018 in chico related to food waste recovery</a>	GRANT	Foundation Grants	<a href="#">National Fish and Wildlife Foundation</a>	<a href="#">Resilient Communities Program</a>
	GRANT	CA State Grants (previous recipient, latest round closed)	<a href="#">CNRA Urban Greening</a>	<a href="#">2020 Awardees</a>
	GRANT	CA State Grants	<a href="#">CAL FIRE Urban Forestry</a>	<a href="#">2020 Awardees</a>
	GRANT	CA State Grants	<a href="#">Transformative Climate Communities (TCC)</a>	<a href="#">San Fernando, CA</a>
	PARTNER	Government Program Participation	<a href="#">Urban and Community Forestry Program</a>	<a href="#">Cook County, IL</a>
	LOAN	Federal Loans	<a href="#">Clean Water State Revolving Fund</a>	<a href="#">Brookhaven, GA</a>
	BOND	<a href="#">Environmental Impact Bond</a>	<a href="#">Quantified Ventures</a>	<a href="#">SW Colorado</a>
	FEE	Developer Impact Fee or Stormwater Utility Fee	<a href="#">TreePAC</a>	<a href="#">Portland, OR</a>
TAX	Enhanced Infrastructure Financing District	<a href="#">Butte County Economic Development Company</a>	<a href="#">West Carson, LA (consideration)</a>	

# APPENDIX E

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# City of Chico Climate Action Plan Update

## Appendix E – GHG Emissions Reductions Technical Evidence

*prepared for*

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**September 2020**



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# 1 Introduction

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This document presents the technical quantification and evidence supporting the greenhouse gas (GHG) emission reduction potential of the City of Chico’s Climate Action Plan (CAP) Update. Section 15183.5(b)(1) of the CEQA guidelines establishes several criteria which must be met in order to allow for CEQA streamlining and to be considered a “qualified GHG reduction plan”. This document provides the information substantiating the GHG reductions identified for the CAP measures pursuant to Subsection (D) which states, “measures or a group of measures, including performance standards, that substantial evidence demonstrates, if implemented on a project-by-project basis, would collectively achieve the specified emissions level.”

As part of the CAP Update process, the City of Chico – in coordination with Rincon Consultants, Inc. (Rincon), the Chico Climate Action Commission and the community of Chico – has developed a comprehensive strategy for reducing community-wide GHG emissions over time. The strategy is organized around three levels which include:

1. **Sectors:** Sectors define the category in which the GHG reductions will take place and include Energy, Transportation, Waste, Sequestration, and Outreach and Education
2. **Measures:** Measures define core strategies within each sector that will result in substantial reductions in GHG emissions
3. **Actions:** Each measure is driven by sets of actions that together support the GHG reductions necessary to achieve the City’s targets

Measures and actions can be either quantitative or supportive and are defined as follows:

- **Quantitative:** These measures and actions are supported by case studies, scientific articles, calculations, or other third-party substantial evidence that demonstrate that the implementation of said measure/action will have a measurable GHG reduction when implemented. Quantitative measures/actions can be summed to quantify how the City of Chico will meet its 2030 target and show progress towards the 2045 emission target. These targets exceed the state goal set by Senate Bill 32 (SB32) of 40% below 1990 by 2030.<sup>1</sup> The GHG reductions were calculated using published evidence provided through adequately controlled investigations, studies, and articles carried out by qualified experts that establish the effectiveness for the reduction measures and actions. Further, the measures and actions were developed to achieve the 2030 target established by the City of Chico and make substantial progress towards the 2045 target. The estimates and underlying calculations, provided in this report, include the substantial evidence and a transparent approach to achieving the City’s GHG emissions reduction target.
- **Supportive:** These measures and actions may also be quantifiable and have substantial evidence to support their overall contribution to GHG reduction. However, due to one of several factors – including a low GHG reduction benefit, indirect GHG reduction benefit, potential for double-counting, or simply a high level of difficulty in quantifying accurate GHG reductions – they have not been

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<sup>1</sup> The Association of Environmental Professionals recommends limiting CEQA GHG Analysis to the State GHG Planning Horizon based on a State Legislatively Mandated Target (i.e., SB 32). Therefore at this time, it is recommended that cities demonstrate quantitatively how they plan to achieve GHG reductions that align with SB 32, but are not required to do the same for the 2045 carbon neutrality goal established by EO-B-55-18, as this goal has not yet been adopted by the State Legislature. Rather, it is recommended that cities demonstrate “substantial progress” towards the 2045 carbon neutrality goal. See *Final White Paper Beyond 2020 and Newhall: A Field Guide to New CEQA Greenhouse Gas Thresholds and Climate Action Plan Targets for California* (Association of Environmental Professionals, 2016).

quantified and do not contribute directly to the expected GHG reduction target and consistency with the state goals. Despite not being quantified, supportive measures/actions are nevertheless critical to the overall success of the CAP.

Together, the quantitative and supportive measures and actions listed herein provide Chico with the GHG reductions necessary to achieve Chico's target of reducing mass emissions by 45% below 1990 levels by 2030 which is 5% more aggressive than SB32 which requires a 40% reduction below 1990 levels by 2030.<sup>2</sup> In addition, this reduction corresponds to a projected per capita emissions reduction of 80% below 1990 levels by 2030 to an estimated 2.76 MT CO<sub>2</sub>e per person. The use of per capita emission targets is called for in the 2017 Scoping Plan Update provided by the California Air Resources Board.<sup>3</sup> The City has also established a target consistent with Executive Order (EO) B-55-18 to achieve carbon neutrality by 2045.<sup>4</sup> The measures identified in this CAP will lead to a significant reduction in GHG emissions by 2045, providing a foundation for achieving net carbon neutrality. However, the 2045 GHG emissions reductions quantified in this CAP are not yet enough to meet the long term 2045 goal. Achieving carbon neutrality will require significant changes to the technology and systems currently in place. This CAP aims to establish new systems that are resilient and equitable in the face of change and that will allow for a transition to carbon neutrality in the future. This includes electrification of building and transportation systems, an increased shift to shared and active mobility, carbon neutral electricity, increased water use efficiency, and waste reduction and diversion. As the current measures and actions are implemented, the City will gain more information, new technologies will emerge, and current pilot projects and programs will scale to the size needed to reach carbon neutrality. Furthermore, the State is expected to continue providing updated regulations and support once the 2030 target is achieved. Future CAP updates will outline new measures needed to reach Chico's long-term target of carbon neutrality.<sup>5</sup>

The quantification in this report is intended to illustrate one of several viable paths to pursue as the measures and actions of the CAP are implemented at full scale. As required in CEQA Guidelines Section 15183.5(b)(e), mechanisms to monitor the CAP's progress toward achieving the GHG emission reductions provided in this report have been established through the CAP development process. If, based on the tracking of community GHG emissions, the City is found to not be on target to reach the GHG reduction levels specified here for meeting SB 32 targets, the CAP as a whole or specific measures and actions will be required to be amended and a CAP update will be prepared that includes altered or additional measures and actions and evidence that upon implementation can achieve the City's targets.

Avoiding interference with and making substantial progress toward the state's 2030 and long-term goals is important as these have been set at levels that achieve California's fair share of international emissions reduction targets established by the Paris Agreement and the International Panel on Climate Change that will stabilize global climate change effects and avoid the adverse environmental consequences described under EO B-55-18 Section 3.1.3, Potential Effects of Climate Change.

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<sup>2</sup> The percent reduction target is calculated as a reduction in projected absolute emissions from 1990 levels. However, total projected emissions, emission targets, and emission reductions in 2030 and 2045 are dependent on population levels and the targets established in this CAP are efficiency targets. Therefore, while absolute emissions in 2030 and 2045 may differ due to differences between the projected population and actual population, per capita emission targets and per capita emissions reductions will remain stable.

<sup>3</sup> [https://ww2.arb.ca.gov/sites/default/files/classic/cc/scopingplan/scoping\\_plan\\_2017.pdf](https://ww2.arb.ca.gov/sites/default/files/classic/cc/scopingplan/scoping_plan_2017.pdf)

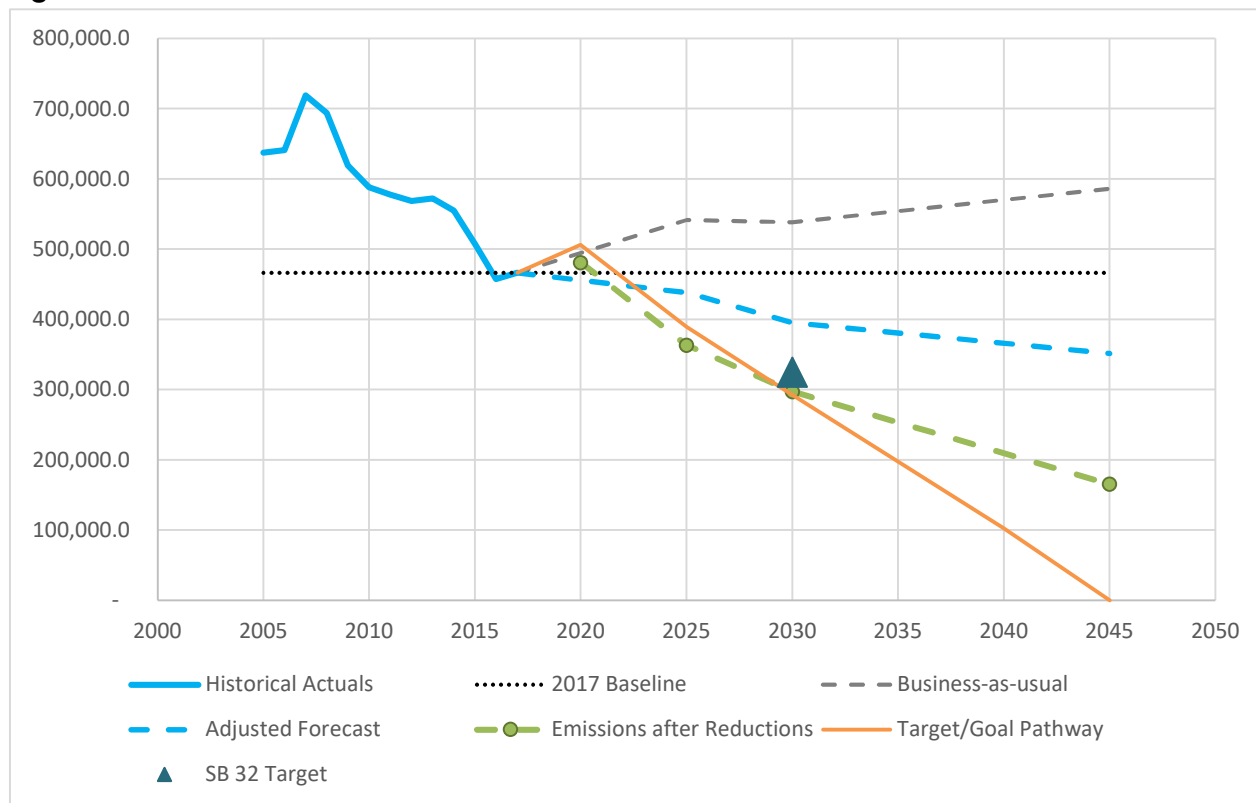
<sup>4</sup> The goal of carbon neutrality is also consistent with the Paris Agreement and the International Panel on Climate Change's target of carbon neutrality by mid-century.

<sup>5</sup> Association of Environmental Professionals, 2016.

## 2 Emission Reduction Summary

The measures and actions established by Chico’s CAP Update are expected to reduce per capita emissions below 1990 levels by 80% in 2030 and 90% in 2045. The reductions expected in 2030 exceed the requirements of SB32, but reductions expected in 2045 fall short of the carbon neutrality goal established by EO B-55-18 (Figure 1). However, as described above, this climate action plan puts Chico on the pathway to achieve carbon neutrality by 2045.

**Figure 1 Estimated Emission Reductions**



A breakdown of the emission reductions calculated for each measure is included in

Table 1. A complete description of each measure and its contributing actions is included in the sections that follow.

**Table 1 Estimated Emission Reduction Potential of CAP Measures**

Measure #	Measure	Estimated Minimum 2030 Reduction (MT CO2e)	Estimated Minimum 2045 Reduction (MT CO2e)
<b>Energy</b>			
E-1	Eliminate natural gas in all new building construction by 2025 to reduce natural gas 6% by 2030 and 16% by 2045	6,729	19,565
E-2	Electrify existing buildings starting in 2027 to reduce natural gas 12% by 2030 and 43% by 2045	13,931	51,512
E-3	Decarbonize electricity by 2024 to reduce electricity emissions 90% by 2030	39,169	0
E-4	Increase generation and storage of local renewable energy	Supportive	Supportive
<b>Transportation</b>			
T-1	Improve active transportation infrastructure to achieve greater than 6% mode shift away from passenger vehicles by 2030 and 2045	1,531	1,504
T-2	Improve ZEV infrastructure to achieve greater than 23% shift to ZEVs by 2030, and 90% by 2045	28,616	105,496
T-3	Improve shared mobility and transit programs and infrastructure	Supportive	Supportive
T-4	Implement parking and curb management procedures that support the mode shift goals of the overall transportation strategy	Supportive	Supportive
T-5	Support sustainable infill development to reduce VMT	Supportive	Supportive
<b>Waste</b>			
W-1	Update waste hauler contracts to implement the requirements of SB 1383 and achieve 75% reduction in organic waste by 2025	7,693	7,693
<b>Sequestration</b>			
S-1	Increase carbon sequestration by increasing urban canopy cover at least 10% by 2030 through new greenscaping programs	261	261
S-2	Develop and Implement the Urban Forest Master Plan	Supportive	Supportive
<b>Outreach and Education</b>			
O-1	Conduct a wholistic community outreach and education program to optimize CAP implementation	Supportive	Supportive
<b>Overall Reductions</b>			
<b>Total Reduction Needed to Meet Target/Goal</b>		<b>97,931</b>	<b>351,512</b>
<b>Estimated Reductions Achieved by Full Implementation of Measures</b>		<b>97,931</b>	<b>186,031</b>
<b>Absolute Emission Reductions from 1990 (%) (1)</b>		<b>-45%</b>	<b>-69%</b>
<b>Per Capita Emission Reductions from 1990 (%)</b>		<b>-80%</b>	<b>-90%</b>
<b>Gap to Target/Goal</b>		<b>-</b>	<b>165,480</b>



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1. Absolute emissions reduction values are estimated based on current population projections and are for reference. Actual progress toward the 2030 target will be determined by comparison to the per capita GHG emissions target of 2.76 MT of CO<sub>2</sub>e per person pursuant to the 2017 Scoping Plan Guidelines.

---

As shown in

Table 1, the measures adopted in Chico's CAP Update have the ability when fully implemented to reduce GHG emissions below the City of Chico's GHG reduction target in 2030. However, a gap still remains to reach the goal of carbon neutrality in 2045. As new technologies develop, and the state consolidates around the 2045 carbon neutrality goal, the City of Chico will monitor progress and adopt new strategies to achieve this long-term goal. Furthermore, the measures and actions in this CAP will create the basis for long-term carbon neutrality when implemented, including electrified buildings and vehicles coupled with decarbonized electricity, improved active transportation, decreased water usage and waste generation, and increased carbon sequestration.

The following sections contain the substation evidence and quantification methodology intended to provide reasonable assurance that the GHG reduction strategy adopted in the City of Chico's CAP Update will lead to the emission reductions necessary to achieve the City's ambitious 2030 emission target.

## 3 Energy

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In order for Chico to reach its 2030 reduction target and 2045 carbon neutrality target, the majority of energy utilized by buildings in the City will need to be carbon neutral. The focusing strategy for the energy measures is electrification. All-electric buildings are powered 100% by electricity and when coupled with carbon free electricity generation become carbon neutral. Based on this strategy, the CAP's energy measures consist of the following:

- Measure E-1: Procure Carbon-Free Electricity for the Community Through a CCA by 2024 and Maintain Opt-Out Rates of 5% for Residential and 15% for Commercial Through 2030 and 2045
- Measure E-2: Eliminate Natural Gas in All New Building Construction Starting in 2025 to Reduce Natural Gas 6% by 2030 and 16% by 2045 Compared to the Adjusted Forecast
- Measure E-3: Electrify Existing Residential Buildings Starting in 2027 to Reduce Overall Residential Natural Gas Consumption to 100 Therms/Person by 2030 and 30 Therms/Person by 2045
- Measure E-4: Increase Generation and Storage of Local Renewable Energy

Senate Bill 100 (SB 100) requires all electricity providers in the State to provide carbon free electricity by 2045 which will also allow the operation of electrified buildings to become carbon free by 2045. Procuring community-wide carbon-free electricity through a Community Choice Aggregation (CCA) can expedite that timeline and offer significant GHG reductions in the short term. Measure E-1 directs the City to procure carbon free electricity through the Butte Choice Energy Community Choice Aggregation, decreasing community-wide electricity emissions to almost zero well before 2045. Chico's building stock currently relies heavily on natural gas and retrofitting existing buildings to be all-electric will be a substantial task. To ensure new buildings won't need to be retrofitted later, Measure E-2 will require new buildings and major retrofits be built to utilize only electricity as an energy sources through an electrification ordinance. Meanwhile, Measure E-3 will provide a framework of updated regulations, incentives, rebates, and outreach to drive the electrification of existing buildings. Together, Measures E-1, E-2, and E-3, will reduce emissions from Chico's residential and commercial building stock to zero. Measures E-2 and E-3 will increase electricity demand on the grid into the future. To compensate for this, and increase Chico's energy resiliency overall, Measure E-4 will support local energy generation and storage projects. The details of each energy measure, including their supporting actions and evidence of their GHG reduction potential, are included below.

## Measure E-1: Procure Carbon-Free Electricity for the Community Through a CCA by 2024 and Maintain Opt-Out Rates of 5% for Residential and 15% for Commercial Through 2030 and 2045

Action #	Action	Anticipated Reduction (MT CO2e)
1	<b>Provide carbon neutral electricity to the community:</b> Procure carbon neutral electricity for the community through Butte Choice Energy Community Choice Aggregation (CCA), in accordance with the ordinance authorizing the implementation of a CCA Program through a Joint Powers Agreement with Butte County, amending Title 15 of the Municipal Code. Automatically enroll community and municipal accounts in the 100% renewable energy option by 2024 (or as market conditions prove favorable) with an opt-out option	2030: 39,169 2045: 0
2	<b>Partner with Butte Choice Energy to conduct community outreach and track opt-out rates:</b> Work with Butte Choice Energy to conduct targeted community outreach with the aim of maintaining low opt-out rates (5% or less for residential accounts and 15% or less for commercial accounts). Track opt-out rates through Butte Choice Energy and share results publicly on an annual basis.	Supportive

### *Action 1: Provide carbon neutral electricity to the community*

Electricity in Chico is currently supplied by PG&E, which provides a power mix with 39% renewable resources, and 89% GHG free overall (including nuclear and large hydro).<sup>6</sup> While the portion of renewables in PG&E's grid mix is relatively high compared to other utility providers in the state, the emission factor associated with its electricity is not expected to decrease to zero until the state-mandated year of 2045. In order to reduce GHG emissions in the short-term, the City will provide 100% carbon free electricity to the community through the Butte Choice Energy (BCE) Community Choice Aggregation (CCA). In general, CCAs use the purchasing power of the community to procure electricity directly from electricity generators. This allows the community to choose its own grid mix, with an option to procure electricity from 100% carbon free renewable generation sources. PG&E will continue to deliver power, maintain lines and infrastructure, and coordinate billing. By 2025, BCE is expected to provide three power mix options<sup>7</sup> for community members to choose from:

- Base option with 33% renewable and 80% GHG free sourcing offered at a 2% rate savings
- 50% renewable option with 80% GHG free in 2020 and 95% GHG free in 2030 offered at a 2% rate savings
- 100% renewable option offered at a slight price premium

To maximize the GHG reduction opportunity this presents, the City will automatically enroll all community accounts in a 100% carbon free option. Customers will have the option to opt-out of the CCA back to PG&E or opt-down to another grid mix option. It is expected that about 5% of residential customers and 15% of commercial customers will choose to opt-out.<sup>8</sup> Municipal accounts will have 0% op-out.

<sup>6</sup> [https://www.pge.com/en\\_US/about-pge/environment/what-we-are-doing/clean-energy-solutions/clean-energy-solutions.page?WT.mc\\_id=Vanity\\_cleanenergy](https://www.pge.com/en_US/about-pge/environment/what-we-are-doing/clean-energy-solutions/clean-energy-solutions.page?WT.mc_id=Vanity_cleanenergy)

<sup>7</sup> <https://www.buttechoiceenergy.org/what-is-cca>

<sup>8</sup> [http://buttecounty.granicus.com/MetaViewer.php?view\\_id=2&clip\\_id=512&meta\\_id=87146](http://buttecounty.granicus.com/MetaViewer.php?view_id=2&clip_id=512&meta_id=87146)

Calculations		
Year	2030	2045
Residential electricity usage (kWh) <sup>1</sup>	268,060,313	278,521,034
Commercial electricity usage (kWh) <sup>1</sup>	272,168,291	293,250,715
Municipal electricity usage (kWh) <sup>2</sup>	6,524,352	6,524,352
PG&E Electricity EF (MT CO <sub>2</sub> e/kWh) <sup>3</sup>	0.0000795	0.0000000
Emissions from electricity usage before CCA (MT CO <sub>2</sub> e)	43,481	-
CCA Electricity EF (MT CO <sub>2</sub> e/kWh) <sup>4</sup>	0.0000000	0.0000000
Weighted residential electricity EF after accounting for opt-out (MT CO <sub>2</sub> e/kWh) <sup>5</sup>	0.0000040	0.0000000
Weighted commercial electricity EF after accounting for opt-out (MT CO <sub>2</sub> e/kWh) <sup>6</sup>	0.0000119	0.0000000
Emissions from electricity usage after CCA (MT CO <sub>2</sub> e)	4,313	-
<b>Total Reductions (MT CO<sub>2</sub>e)</b>	<b>39,169</b>	<b>-</b>
<sup>1</sup> Values from forecast. See Appendix A. Additional electricity load expected from Measures E-1 and E-2 not included here due to CCA reductions for the added electricity being accounted for in each measure’s respective quantification. Municipal electricity usage subtracted from total commercial electricity usage for independent modelling. See note 2 for details on municipal electricity usage data. <sup>2</sup> Based on electricity data provided by the City of Chico for 2018. Municipal usage not expected to change substantially between 2020 and 2045. <sup>3</sup> Values from forecast. See Appendix A. <sup>4</sup> All community accounts to be automatically enrolled in 100% renewable electricity package with an opt-out option. <sup>5</sup> Assume 5% residential account opt-out such that 5% of accounts continue to have a PG&E emission factor, while 95% of accounts continue with the CCA-provided emission factor of 0 MT CO <sub>2</sub> e/kWh. Opt-out rate provided by <a href="http://buttecounty.granicus.com/MetaViewer.php?view_id=2&amp;clip_id=512&amp;meta_id=87146">http://buttecounty.granicus.com/MetaViewer.php?view_id=2&amp;clip_id=512&amp;meta_id=87146</a> . <sup>6</sup> Assume 15% commercial account opt-out. Opt-out rate provided by <a href="http://buttecounty.granicus.com/MetaViewer.php?view_id=2&amp;clip_id=512&amp;meta_id=87146">http://buttecounty.granicus.com/MetaViewer.php?view_id=2&amp;clip_id=512&amp;meta_id=87146</a> .		

*Action 2: Partner with Butte Choice Energy to conduct community outreach and track opt-out rates*

Conducting outreach and tracking opt-out rates associated with electricity accounts in Chico will assist the City in maintaining low opt-out rates for maximum participation in the CCA.

## Measure E-2: Eliminate Natural Gas in All New Building Construction Starting in 2025 to Reduce Natural Gas 6% by 2030 and 16% by 2045 Compared to the Adjusted Forecast

Action #	Action	Anticipated Reduction (MT CO <sub>2</sub> e)
1	<p><b>Require new construction to be all-electric:</b> Adopt a new ordinance which bans the installation of natural gas in new residential and commercial construction by 2025 if not already required by the State's 2025 cycle update to the Building Energy Efficiency Standards (California Code of Regulations Title 24, Parts 6 and 11). The ordinance will only apply for building types where electrification is shown to be cost-effective. Implementation will consist of the following:</p> <ol style="list-style-type: none"> <li>1. Engage and educate the community and stakeholders</li> <li>2. Conduct a Cost-effective study</li> <li>3. Develop and draft the new building ordinance for public process and revisions</li> <li>4. Formally adopt the new building ordinance</li> <li>5. Apply to the California Energy Commission for final ordinance approval</li> </ol>	<p>2030: 6,727</p> <p>2045: 19,565</p>

### *Action 1: Require new construction to be all-electric*

Continuing to allow natural gas in new buildings would result in an increase in GHG emissions through 2045, due to increases in the population and residential construction in the City projected through 2045 (see adjusted forecast in Appendix A). Conversely, GHG emissions from electricity generation are expected to decrease to almost zero by 2024 due to Measure E-3 (emissions from electricity would otherwise decrease to zero in 2045, due to SB 100). Requiring new construction to be all-electric would lead to a mandatory reduction in natural gas consumption compared to adjusted forecast projections by replacing natural gas with electricity.

Emission reductions for Action 1 were calculated separately for residential and commercial construction. It was assumed that with full implementation of the ordinance, no increases in residential and commercial natural gas demand would occur after 2025. Natural gas saved after ordinance implementation was converted to electricity usage (i.e., therms converted to kWh), with the assumption that a modern electric heat pump is on average three time more efficient than natural gas heater.<sup>9</sup> The emission factor for electricity was calculated based on the assumption that Measure E-3 would be fully implemented by 2024 (more details on how this emission factor was calculated are included in the section for Measure E-3). Total emissions saved are equivalent to emissions saved from eliminating natural gas in new construction, minus emissions from increased electricity usage.

Population forecast data from BCAG reflect a large spike in population between 2017 and 2020, after which population is expected to decrease through 2030 as formerly displaced residents leave Chico (see Appendix A). The forecast for natural gas therefore mirrors this pattern, with large increases in usage through 2020 and steady decreases through 2030. While overall natural gas usage is expected to decrease between 2020 and 2030, housing is expected to increase in Chico through 2045. Residential natural gas from new construction was therefore calculated based on housing estimates from BCAG. It was also assumed that the proportion of new residential gas usage relative to total residential gas usage would be about the same in each year as new commercial gas usage to total commercial gas usage. This relationship was used to infer new commercial natural gas usage.

<sup>9</sup> <https://help.leonardo-energy.org/hc/en-us/articles/203047881-How-efficient-is-a-heat-pump->

City of Chico  
**City of Chico Climate Action Plan Update**

<b>Calculations</b>		
<b>Year</b>	<b>2030</b>	<b>2045</b>
<b>Residential Reductions</b>		
Housing units <sup>1</sup>	45,314	50,784
NG usage (therms) <sup>2</sup>	14,235,786	15,309,899
NG usage per housing unit (therms per house)	314	301
Additional housing units since implementation year <sup>1</sup>	2,775	8,245
NG usage avoided (therms)	871,790	2,485,657
Emissions from NG usage avoided (MT CO <sub>2</sub> e) <sup>3</sup>	4,627	13,191
Electricity usage from converting to electric (kWh) <sup>4</sup>	8,514,514	24,276,669
Electricity EF (MT CO <sub>2</sub> e/kWh) <sup>5</sup>	0.0000040	-
Emissions from converted electricity usage (MT CO <sub>2</sub> e)	34	-
Emission reductions (MT CO <sub>2</sub> e)	4,593	13,191
<b>Commercial Reductions</b>		
NG usage (therms) <sup>1</sup>	6,722,232	7,396,983
NG usage avoided (therms)	411,665	1,200,946
Emissions from NG usage avoided (MT CO <sub>2</sub> e) <sup>3</sup>	2,185	6,373
Electricity usage from converting to electric (kWh) <sup>4</sup>	4,020,610	11,729,281
Electricity EF (MT CO <sub>2</sub> e/kWh) <sup>5</sup>	0.0000119	-
Emissions from converted electricity usage (MT CO <sub>2</sub> e)	48	-
Emission reductions (MT CO <sub>2</sub> e)	2,137	6,373
<b>Total Reductions (MT CO<sub>2</sub>e)</b>	<b>6,729</b>	<b>19,565</b>
<sup>1</sup> BCAG provisional long-term growth forecasts (2020) <sup>2</sup> Values from GHG Emissions Forecast. See Appendix A. <sup>3</sup> Based on an emission factor of 0.005307 MT CO <sub>2</sub> e/therm, as established in Appendix A. <sup>4</sup> Based on a conversion factor of 29.3001 kWh/therm and the assumption that electric appliances are generally three time more efficient than gas appliances. <a href="https://help.leonardo-energy.org/hc/en-us/articles/203047881-How-efficient-is-a-heat-pump">https://help.leonardo-energy.org/hc/en-us/articles/203047881-How-efficient-is-a-heat-pump</a> <sup>5</sup> The residential and commercial electricity emission factors were calculated based on opt-out rates for different CCA customers. See Measure E-3 for further details on this calculation.		

### Measure E-3: Electrify Existing Residential Buildings Starting in 2027 to Reduce Overall Residential Natural Gas Consumption to 100 Therms/Person by 2030 and 30 Therms/Person by 2045

Action #	Action	Anticipated Reduction (MT CO2e)
1	<p><b>Electrify existing residential buildings:</b> If not already required by the State’s Building Energy Efficiency Standards (California Code of Regulations Title 24, Parts 6 and 11), adopt an electrification ordinance for existing residential buildings to transition natural gas to electric in two phases, to be implemented through the building permit process.</p> <p>PHASE I: Limit expansion of natural gas lines in existing buildings by 2025.</p> <p>PHASE II: Require HVAC system replacements and hot water heaters replacements to be all-electric by 2027.</p> <p>Implementation will consist of the following:</p> <ol style="list-style-type: none"> <li>Engage and educate the community and stakeholders</li> <li>Conduct a Cost-effective study</li> <li>Develop and draft the new building ordinance for public process and revisions</li> <li>Formally adopt the new building ordinance</li> <li>Apply to the California Energy Commission for final ordinance approval</li> </ol>	<p>2030: 13,470</p> <p>2045: 50,360</p>
2	<p><b>Update RECO to support electrification :</b> Expand the City’s Residential Energy Conservation Ordinance (RECO), Title 16 of the Municipal Code, to cover substantial remodels (over 50%). Amend RECO to require electrification and/or energy conservation improvements for substantial remodels (over 50%) in the same way that RECO currently requires these types of upgrades upon transfer/sale of homes and apartments. The amendment will include electrification options such as installation of a 200 amp panel and/or installation of electric heat pump appliances for HVAC and hot water heaters as well as the option to go beyond the base requirements for energy conservation set forth in the State’s Building Energy Efficiency Standards (California Code of Regulations Title 24, Part 6).</p>	
3	<p><b>Electrify municipal buildings:</b> Adopt decarbonization plan to decarbonize municipal buildings by 2045. This plan would include a new building electrification policy as well as an existing building natural gas phase-out policy. Decarbonization of municipal buildings will be driven by the PG&amp;E Sustainable Solutions Turnkey Program, which aims to achieve net neutrality in electricity usage by 2030, and work towards full decarbonization by 2045.</p>	<p>2030: 460</p> <p>2045: 1,150</p>
4	<p><b>Perform an electrification feasibility study:</b> Conduct a feasibility study/existing building analysis to understand the costs associated with electrifying existing residential and commercial buildings in the City of Chico.</p>	Supportive
5	<p><b>Track electrification progress:</b> Develop a permit tracking program for existing building electrification to track annual progress in achieving the City’s electrification goals.</p>	Supportive

Action #	Action	Anticipated Reduction (MT CO2e)
6	<p><b>Identify and partner with stakeholders to conduct electrification outreach, promotion, and education:</b> Leverage partnerships with stakeholders to conduct outreach, promotion, and education around new and existing building electrification, including:</p> <ul style="list-style-type: none"> <li>▪ Induction/electric stove cooking competition to demonstrate the competitiveness of electric stoves for replacing gas stoves</li> <li>▪ Information sessions/events that educate the public on safety concerns around gas stoves and health/cost benefits of replacing water heaters and space heaters with electric heat pumps</li> <li>▪ Develop financial and technical resources, including hosting workforce development trainings for installers and building owners/operators to discuss benefits and technical requirements of electrification and move towards all-electric requirements</li> <li>▪ Conduct internal trainings with planners and building officials on state decarbonization goals and incentives available for electric homes</li> <li>▪ Establish a comprehensive, coordinated electrification education campaign for property owners and occupants, including an updated list of rebates and incentives available for residents wanting to electrify their homes</li> </ul>	Supportive
7	<p><b>Partner with stakeholders to develop resident-level funding pathways for implementing electrification ordinance:</b> Leverage partnerships with stakeholders and establish funding pathways to ease community members’ costs when complying with an electrification ordinance or meeting State standards, including:</p> <ul style="list-style-type: none"> <li>▪ Investigation of a transfer tax rebate for electric panels and/or other upgrades</li> <li>▪ Partner with PG&amp;E, Butte Choice Energy, and/or other stakeholders to create or expand electrification/retrofit programs and incentives, especially for low-income residents. These could include the PACE program, PG&amp;E’s low-income weatherization program, tariffed on-bill financing, metered energy efficiency, or others.</li> </ul>	Supportive

*Actions 1 & 2: Electrify existing Residential buildings & update RECO to support electrification*

Actions 1 and 2 were quantified together for simplicity and to avoid double counting. Natural gas usage from existing buildings accounted for about 20% of emissions in Chico in 2017. While the City is limited in its ability to require whole-building all-electric retrofits, the City can adjust the building permitting process to limit natural gas line expansion and ensure that natural gas appliances such as hot water heaters and space heaters are replaced with electric appliances at time-of-replacement (Action 1) or during major retrofits or at time-of-sale (Action 2). Approximately 34% of residential natural gas usage is used for water heaters, while 40% is used for space heating.<sup>10</sup> The average life-span for water heaters and HVAC systems is 10 years and 18 years, respectively, and the ordinance would be fully implemented by 2025.<sup>11</sup> Action 1 would require the City of Chico no longer accept permits to replace natural gas HVAC and hot water heaters starting in 2027, especially if voluntary efforts have not been successful. These

<sup>10</sup> <https://www.synapse-energy.com/sites/default/files/Decarbonization-Heating-CA-Buildings-17-092-1.pdf>

<sup>11</sup> <https://www.lowes.com/n/how-to/when-to-replace-a-water-heater>

<https://www.thisoldhouse.com/ideas/how-long-things-last>



units have been selected due to their large contribution to natural gas use and their cost effectiveness.<sup>12</sup> Based on a 2027 implementation date and the assumed life span of the covered equipment natural gas usage in existing buildings should decrease 30% by 2030, and 74% by 2045. This timeline would be expedited along the way by Action 2, which updates RECO to encourage electrification at time-of-retrofit or at time-of-sale. Based on data provided by the Sierra North Valley Realtors, approximately 4% of homes in Chico are sold annually, though this number can fluctuate between years.

Similar to calculations used for Measure E-1, avoided natural gas usage was assumed to be replaced by additional electricity usage, and electric appliances were assumed to be three times more efficient than their natural gas counterparts. The emission factor for electricity is assumed to be consistent with Measure E-3.

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<sup>12</sup> [https://www.ethree.com/wp-content/uploads/2019/04/E3\\_Residential\\_Building\\_Electrification\\_in\\_California\\_April\\_2019.pdf](https://www.ethree.com/wp-content/uploads/2019/04/E3_Residential_Building_Electrification_in_California_April_2019.pdf)

City of Chico  
**City of Chico Climate Action Plan Update**

Calculations		
Year	2030	2045
Residential NG usage (therms) <sup>1</sup>	14,235,786	15,309,899
Residential NG usage after new building electrification is implemented (therms) <sup>2</sup>	13,363,996	12,824,242
Percentage of homes with replaced water heaters <sup>3</sup>	33%	100%
NG reduction from water heater replacement (%) <sup>4</sup>	11%	34%
NG saved from water heater replacement (therms)	1,489,362	4,360,242
Percentage of homes with replaced HVAC <sup>5</sup>	20%	100%
NG reduction from HVAC replacement (%) <sup>6</sup>	8%	40%
NG saved from HVAC replacement (therms)	1,067,732	5,129,697
Total NG saved (therms)	2,557,094	9,489,939
Emissions from total NG saved (MT CO <sub>2</sub> e) <sup>7</sup>	13,570	50,363
Electricity usage from converting to electric (kWh) <sup>8</sup>	24,974,372	92,685,388
Electricity EF (MT CO <sub>2</sub> e/kWh) <sup>9</sup>	0.0000040	-
Emissions from converted electricity usage (MT CO <sub>2</sub> e)	99	-
<b>Total Reductions (MT CO<sub>2</sub>e)</b>	<b>13,471</b>	<b>50,363</b>

<sup>1</sup> Values from forecast. See Appendix A.

<sup>2</sup> Forecasted natural gas minus natural gas lost to new building electrification

<sup>3</sup> Assume 100% of homes replace their water heaters 10 years after ordinance is first passed, with 4% of homes replacing each year as they are sold and the remaining 96% replacing incrementally with each year. Based on average water heater lifetime of 10 years.

<https://www.lowes.com/n/how-to/when-to-replace-a-water-heater>. 4% sale rate based on data provided by the Sierra North Valley Realtors.

<sup>4</sup> Assume 34% of natural gas usage goes to water heaters. <https://www.synapse-energy.com/sites/default/files/Decarbonization-Heating-CA-Buildings-17-092-1.pdf>. Multiply by percentage of homes with replaced water heaters to derive total percentage of natural gas reduction from water heater replacement.

<sup>5</sup> Assume 100% of homes replace their HVAC 18 years after ordinance is first passed, with 4% of homes replacing each year as they are sold and the remaining 96% replacing incrementally with each year. Based on average HVAC lifetime of 18 years.

<https://www.thisoldhouse.com/ideas/how-long-things-last>. 4% sale rate based on data provided by the Sierra North Valley Realtors.

<sup>6</sup> Assume 40% of natural gas usage goes to heating/cooling. <https://www.synapse-energy.com/sites/default/files/Decarbonization-Heating-CA-Buildings-17-092-1.pdf>. Multiply by percentage of homes with replaced water heaters to derive total percentage of natural gas reduction from HVAC replacement.

<sup>7</sup> Based on an emission factor of 0.005307 MT CO<sub>2</sub>e/therm, as established in Appendix A.

<sup>8</sup> Based on a conversion factor of 29.3001 kWh/therm and the assumption that electric appliances are generally three time more efficient than gas appliances. <https://help.leonardo-energy.org/hc/en-us/articles/203047881-How-efficient-is-a-heat-pump->

<sup>9</sup> The residential electricity emission factor was calculated based on opt-out rates for different CCA customers. See Measure E-3 for further details on this calculation.

### Action 3: Electrify municipal buildings

This action commits the City of Chico to electrifying the buildings it owns and operates by 2045. Annual natural gas usage for all municipal buildings was provided by the City for 2018 and assumed to be approximately consistent from year to year, as no major expansions or reductions are planned. The electricity emission factor was estimated to be zero in 2030 and 2045 due to implementation of the CCA with 100% carbon-free electricity by 2024 (Measure E-3) and assuming 0% opt-out for municipal electricity accounts. Emission reductions are calculated as avoided natural gas emissions minus replacement electricity emissions, as for Actions 1 and 2.

Calculations		
Year	2030	2045
Expected NG usage (therms) <sup>1</sup>	216,490	216,490
Expected emissions (MT CO <sub>2</sub> e) <sup>2</sup>	1,149	1,149
NG reduction from electrification (%) <sup>3</sup>	40%	100%
NG saved (therms)	86,596	216,490
Emissions from NG saved (MT CO <sub>2</sub> e) <sup>2</sup>	460	1,149
Electricity usage from converting to electric <sup>4</sup>	845,757	2,114,393
Electricity EF (MT CO <sub>2</sub> e/kWh) <sup>5</sup>	-	-
Emissions from converted electricity usage (MT CO <sub>2</sub> e)	-	-
<b>Total Reductions (MT CO<sub>2</sub>e)</b>	<b>460</b>	<b>1,149</b>

<sup>1</sup> Values from forecast. See Appendix A.  
<sup>2</sup> Based on an emission factor of 0.005307 MT CO<sub>2</sub>e/therm, as established in Appendix A.  
<sup>3</sup> Assuming linear electrification progress from 0% in 2020 to 100% in 2045  
<sup>4</sup> Based on a conversion factor of 29.3001 kWh/therm and the assumption that electric appliances are generally three time more efficient than gas appliances. <https://help.leonardo-energy.org/hc/en-us/articles/203047881-How-efficient-is-a-heat-pump->  
<sup>5</sup> Assuming 0% opt-out from the CCA for municipal accounts

### Action 4: Perform an electrification feasibility study

Performing an electrification feasibility study will support implementation of Actions 1 and 2, contributing to achieving the GHG reduction benefits of those actions. The feasibility study will help determine which buildings in Chico can be electrified, how to make electrification cost effective in specific cases, clarify the timeline on which electrification will happen, and investigate more concretely how to implement electrification equitably. A feasibility study could also investigate if and how commercial buildings in Chico could be electrified cost effectively, leading to additional GHG reduction potential not accounted for here.

### Action 5: Track electrification progress

The best mechanism the City will have for tracking electrification progress – and accurately measuring its GHG reduction benefit as it happens – is through a permit tracking program. Tracking electrification progress on a yearly schedule will allow the City to adjust its electrification approach and respond to potential obstacles as they occur and as new information about electrification becomes available.

*Action 6: Identify and partner with stakeholders to conduct electrification outreach, promotion, and education*

The impacts associated with promotional and educational outreach for electrification have not been well documented due to the cutting-edge nature of the strategy. Electrification as a GHG reduction strategy has only begun to gain traction in California mostly due to the implementation of SB 100 and the expansion of community choice aggregations. While it is not clear how the community will respond to electrification, energy efficiency outreach has been conducted since as early as the 1970's and some research has been conducted on the effects of outreach and education on energy. One study in New York showed that out of the 8,991 people who participated in informational programs, 69% implemented the recommended practices.<sup>13</sup> Another research meta-analysis reviewed dozens of papers covering various energy efficiency, water efficiency, and waste outreach and found that education-only campaigns could produce between 10-12% energy savings.<sup>14</sup>

Electrification is a new idea and not well understood by the community. The education associated with this action as well as the Climate Action Plan itself will facilitate adoption of all-electric technologies. The City will conduct a CAP update between 3 and 5 years to check progress and adopt more voluntary or potentially mandatory measures if necessary. Due to the indirect causal link between education and community-wide action, this measure is not quantified but considered supportive to the overall measure.

*Action 7: Partner with stakeholders to develop resident-level funding pathways for implementing electrification ordinance*

This action would focus on building the funding pathway to make existing building electrification (Actions 1 and 2) possible, particularly for low-income residents of Chico. The largest barrier to existing building electrification is higher up-front capital costs compared to natural gas.<sup>15</sup> Utility-offered incentives to offset these costs for the end-user are therefore among the most promising opportunities for updating this technology.<sup>16</sup> Once up-front costs are financed, long term savings can be used to achieve cash flow positive retrofits and/or acceptable ROI's. Demonstrating cost effective pathways for existing building electrification will be a key step before mandatory requirements can be set. Examples of funding/financing strategies include:

**Low-income electrification/retrofit programs:** Electrification programs that target low-income residents are the most cost-effective and potentially successful approach for equitable decarbonization to combat climate change.<sup>17</sup> For example, the Low-Income Weatherization Program (LIWP) is the state's first energy efficiency program that targets low-income Californians and has reduced energy bills in participating multifamily buildings by 30% and overall energy usage by an average of 40%.<sup>18</sup> A case study on a major energy retrofit in a Lancaster 100-unit low income multifamily complex resulted in a one-third reduction

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<sup>13</sup> [https://www.joe.org/joe/2009december/pdf/JOE\\_v47\\_6a6.pdf](https://www.joe.org/joe/2009december/pdf/JOE_v47_6a6.pdf)

<sup>14</sup> [https://aceee.org/files/proceedings/2000/data/papers/SS00\\_Panel8\\_Paper10.pdf](https://aceee.org/files/proceedings/2000/data/papers/SS00_Panel8_Paper10.pdf)

<sup>15</sup> California Center for Sustainable Energy. 2009. Solar Water Heating Pilot Program: Interim Evaluation Report.

[https://www.ethree.com/wp-content/uploads/2019/04/E3\\_Residential\\_Building\\_Electrification\\_in\\_California\\_April\\_2019.pdf](https://www.ethree.com/wp-content/uploads/2019/04/E3_Residential_Building_Electrification_in_California_April_2019.pdf)

<sup>16</sup> <https://www.synapse-energy.com/sites/default/files/Decarbonization-Heating-CA-Buildings-17-092-1.pdf>

<sup>17</sup> [http://greenlining.org/wp-content/uploads/2019/10/Greenlining\\_EquitableElectrification\\_Report\\_2019\\_WEB.pdf](http://greenlining.org/wp-content/uploads/2019/10/Greenlining_EquitableElectrification_Report_2019_WEB.pdf)

<sup>18</sup> California Housing Partnership Corporation and Association for Energy Affordability (2018). California's Cap-and-Trade-Funded Low Income Weatherization Program Multifamily: Impact Report, 3.

in natural gas use (approximately 145 therms per apartment).<sup>19</sup> The study also showed that such retrofits can result in increased tenant retention, improved health and comfort, and better ability to afford necessities like food, medicine, health care, and rent.

**On-bill financing:** A case study from affordable multi-family residential complexes in Santa Monica showed that electricity savings from the program ranged from 1,811-17,712 kWh and natural gas savings ranged from 914-2,567 therms, with overall energy improvement ranging from 10-35%.<sup>20</sup>

**Energy efficiency retrofit programs (e.g. PACE, PG&E's low-income weatherization program, Million Watt Challenge, metered energy efficiency):** While the use of carbon neutral electricity by 2045 due to SB100 ensures all-electric buildings have zero energy emissions, there is still a need to reduce energy consumption within Chico. Reducing energy consumption will reduce stress on the electricity grid, require less renewable energy generation to meet needs thereby saving resources, and help reduce energy bills within the community.

Action 7 is considered supportive to Actions 1 and 2 and therefore not quantified.

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<sup>19</sup> <https://ww2.energy.ca.gov/2019publications/CEC-500-2019-021/CEC-500-2019-021.pdf>

<sup>20</sup> <https://1p08d91kd0c03rlxhmhtydpr-wpengine.netdna-ssl.com/wp-content/uploads/2017/03/Santa-Monica-Test-Web.pdf>

## Measure E-4: Increase Generation and Storage of Local Renewable Energy

Action #	Action	Anticipated Reduction (MT CO <sub>2</sub> e)
1	<b>Coordinate with stakeholders to provide local energy generation support and incentives for the community:</b> Partner with PG&E and/or other stakeholders to support and incentivize local on-site energy generation and storage resources within the community with a focus on underserved communities. This could include a co-located community solar and storage project.	Supportive
2	<b>Streamline battery storage building permit requirements:</b> Coordinate City departments to establish and streamline battery storage building permit requirements to allow for easier implementation of these technologies within the community.	Supportive
3	<b>Conduct an energy generation feasibility study:</b> Conduct a feasibility study through the PG&E Sustainable Solutions Turnkey (SST) program to assess cost and applicable locations for installation of battery back-up systems, generators, or a micro-grid throughout the City. Engage with the community to determine how local energy generation systems can support community infrastructure as well as critical public infrastructure	Supportive
4	<b>Install renewable energy technology at municipal facilities:</b> Implement the comprehensive PG&E Sustainable Solutions Turnkey Program to install renewable energy technology at municipal facilities. Key energy conservation measures include: <ul style="list-style-type: none"> <li>▪ Increasing backup generation capacity and adding battery storage at City facilities</li> <li>▪ Upgrading aeration systems at the Wastewater Treatment Plan to reduce energy consumption by 11%</li> <li>▪ Upgrading and automating all City HVAC systems</li> <li>▪ Installing solar PV at the Municipal Services Parking Lot to create 290 kW energy savings</li> <li>▪ Replacing aging 1MW solar PV system at the Wastewater Treatment Plan, and adding an additional 738 kW of solar PV within the existing footprint to create a total of 1.75 MW energy savings</li> <li>▪ Updating City-operated irrigation control system design and development City-wide.</li> </ul>	Supportive

### *Action 1: Coordinate with stakeholders to provide local energy generation and storage support and incentives for the community*

This action will support the overall transition to an electrified building stock at the lowest cost and with the most resilience. Distributed local energy generation and storage, such as on-site solar and storage batteries, can be used instead of traditional transmission and distribution infrastructure upgrades to help meet the increasing demand that electrification will put on the grid. While it’s hard to know exactly how effective incentives for on-site solar and battery storage will be, current solar adoption trends in Chico indicate that these options are desirable for local business owners and homeowners alike.

Residential solar installations have demonstrated success in reducing emissions. A residential solar panel system has the capability of providing for the electricity needs of an entire home with about 80% lower carbon emissions than fossil fuels.<sup>21</sup> The largest barrier to residential solar is up-front installation costs<sup>22</sup>, suggesting that utility-provided incentives would lead to installation increases. Battery storage can greatly maximize the benefits of renewable energy systems like solar PV. A recent 2019 study from the University of Michigan found that in California as a whole, adding 60GW of renewables could achieve

<sup>21</sup> [https://nature.berkeley.edu/classes/es196/projects/2013final/ArifM\\_2013.pdf](https://nature.berkeley.edu/classes/es196/projects/2013final/ArifM_2013.pdf)

<sup>22</sup> Ibid

72% CO<sub>2</sub> reductions with close to one third curtailment.<sup>23</sup> Adding energy storage technologies could increase this to 90% reduction and only 9% curtailment, under one modeled scenario.<sup>24</sup> While industrial and commercial battery storage will drive these reductions, residential energy storage will also play an important part in the effort to increase battery storage across the state. Residential energy storage is often more flexible and resilient than larger utility-owned systems because the network is well-distributed and has buy-in from both the utility and the owners/residents.<sup>25</sup> Residential energy storage exceeded utility-scale storage installations in the U.S. in 2018, reflecting the high value customers are placing on having their own storage systems.<sup>26</sup>

#### *Action 2: Streamline battery storage requirements*

To further support battery storage installation projects in the community, the City will work to streamline battery storage requirements to reduce the development barrier for these kinds of projects. While difficult to quantify direct GHG reduction effects of this action, it will still play a key role in the overall local energy generation goals of the measure.

#### *Action 3: Conduct an energy generation feasibility study*

An energy generation feasibility study will help the City to determine where and how to build local renewable energy to benefit the community. A feasibility study will provide information on what type of energy generation technology is available, at what cost, and for what purpose. The process of developing the feasibility study will also help the City identify potential stakeholders to partner with and funding sources to use in implementing an energy generation project. This action is currently being pursued through the PG&E Sustainable Solutions Turnkey Program.

#### *Action 4: Install renewable energy technology at municipal facilities*

While difficult to directly quantify the effects of this action on community-wide emissions, this action will allow the City to do its part in providing local energy generation and storage. City-driven energy generation and storage projects help local governments and their communities achieve substantial energy, environmental, resilience, and economic benefits.<sup>27</sup> Projects like these can also indirectly reduce community emissions by creating publicity and awareness around the issue.<sup>28</sup>

The City is currently working with PG&E through the Sustainable Solutions Turnkey (SST) program to achieve energy cost reductions and environmental stewardship goals. Past projects with the SST program include a significant LED retrofit project in 2016 (estimated to save 519,725.75 kWh annually) and a preliminary energy assessment of City facilities in 2018. Ten preliminary projects have been identified to pursue through the SST program, including expanding the existing one-megawatt solar array at the wastewater treatment plant (the wastewater treatment plant accounts for 45% of electricity usage at the City), and adding backup generation capacity and battery storage. The City is also currently working on

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<sup>23</sup> Curtailment occurs when more power is produced than needed at a given time, leading to energy losses

<sup>24</sup> <http://css.umich.edu/publication/role-energy-storage-deep-decarbonization-electricity-production>

<sup>25</sup> <https://www.mckinsey.com/industries/electric-power-and-natural-gas/our-insights/how-residential-energy-storage-could-help-support-the-power-grid>

<sup>26</sup> Ibid

<sup>27</sup> <https://www.energy.gov/sites/prod/files/2017/02/f34/onsiterenewables508.pdf>

<sup>28</sup> <https://www.energy.gov/sites/prod/files/2017/02/f34/onsiterenewables508.pdf>

identifying paths towards potential projects to become a zero net energy organization, meaning the City would generate or offset its complete annual energy usage and would not incur any electrical utility costs. In 2019, the City moved forward with phase three of the SST program and entered into a contract with PG&E for an investment grade audit (IGA). The IGA is an in-depth evaluation providing further calculations, implementation costs of each project, identifying eligible utility rebates and incentives, confirming energy savings, and producing 30% engineering design documents. The City will make a final decision on which of the ten identified projects to move forward on during phase four of the SST program. As part of the decision electrification and achievement of the long-term carbon neutrality target will be considered.



## 4 Transportation

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Reducing transportation emissions and becoming a carbon neutral City means reducing the number of miles driven by fossil fuel-powered vehicles, particularly passenger vehicles, which account for 98% of gasoline usage in the Butte County region.<sup>29</sup> Chico has set a target of 35% reduction in transportation fuels by 2030 and will accomplish this through the following measures:

- Measure T-1: Improve Active Transportation Infrastructure to Achieve Greater Than 6% Bicycle Mode Share by 2030 and 12% Bicycle Mode Share by 2045
- Measure T-2: Improve EV Infrastructure to Achieve Greater Than 23% EV Share of Car Registrations by 2030, and 90% by 2045
- Measure T-3: Improve Shared Mobility and Transit Programs and Infrastructure
- Measure T-4: Implement Parking and Curb Management Procedures that Support the Mode Shift Goals of the Overall Transportation Strategy
- Measure T-5: Support Implementation of the City's General Plan that Promotes Sustainable Infill development and Mixed-use development in New Growth Areas to Reduce Vehicle Miles Traveled (VMT)

The City's transportation strategy consists of a multi-pronged approach for incentivizing alternatives to fossil fuel-powered vehicle trips, including shifting transportation mode share to active transportation and public transit options, especially biking, through Measures T-1 and T-3; then electrifying to the greatest extent possible the remaining passenger vehicle trips through Measure T-2. Measures T-4 and T-5 will further maximize the effects of Measures T-1, T-2, and T-3.

To successfully achieve a greater than 6% mode shift to active transportation (Measure T-1), the City must provide low stress and convenient infrastructure and prioritize active transportation movement. Infrastructure needs including bikeways, sidewalk improvements, and expansions of both kinds of infrastructure to all areas of the City. Once the infrastructure is available and stress/comfort is not an issue, comparison with other cities around the world suggest more people will choose active transportation.

Improving shared mobility and transit programs and infrastructure through Measure T-3 will also help to shift mode share to public transit. To do this the City must work with its partners, including BCAG/Butte Regional Transit, to expand service lines and increase the convenience of transit by reducing the time it takes to reach a destination via transit as well as reducing wait times (headways) for transit. By making transit more convenient and making decisions to prioritize transit over single occupancy vehicles Chico will begin to shift towards shared transit.

While the City cannot require its residents to buy ZEVs and electrify remaining passenger vehicle trips, Measure T-3 will ensure the infrastructure and support is present in the City to begin to remove present barriers to ZEV adoption.

Finally, Measure T-4 will help create behavior disincentives for owning a fossil fuel-powered vehicle through dynamic parking pricing, improved curbside management, and overall support for active transportation and ZEVs in place of fossil fuel-powered transportation. Measure T-5 will provide the long-term planning and development framework that will continue to make Chico as a whole highly accessible

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<sup>29</sup> CARB EMFAC2017 model.

for active transportation and public transit options. The details of each transportation measure, including their supporting actions and evidence of their GHG reduction potential, are included below.

## Measure T-1: Improve Active Transportation Infrastructure to Achieve Greater Than 6% Bicycle Mode Share by 2030 and 12% Bicycle Mode Share by 2045

Action #	Action	Anticipated Reduction (MT CO <sub>2</sub> e)
1	<p><b>Implement Chico Bicycle Master Plan:</b> Implement the Chico Bicycle Plan 2019 Update in accordance with the Plan's goals, objectives, and policies. Implementation of the Plan may include:</p> <ul style="list-style-type: none"> <li>▪ Adding additional miles to the bikeway network</li> <li>▪ Implementing new end-of-trip facilities and enforcement protocols to reduce bicycle theft</li> <li>▪ Conducting road repairs and road maintenance</li> <li>▪ Improving/expanding wayfinding, safety, and comfort</li> <li>▪ Integrating with transit and other transport modes</li> <li>▪ Conducting promotion and education around biking in Chico</li> <li>▪ Identifying and competing for funding sources</li> </ul>	<p>2030: 1,530</p> <p>2045: 1,500</p>
2	<p><b>Require shaded and convenient bike parking:</b> Require shaded Park-a-Bike style rack or equivalent when installing bike parking in new developments.</p>	Supportive
3	<p><b>Require major road upgrades to include bicycle infrastructure:</b> Require major road upgrades to include bicycle infrastructure and its maintenance unless a significant cost/feasibility issue is shown. Update Title 18 Standard Details on each roadway section type to include the applicable bikeway modifications such as Type II lanes and buffered bikeway.</p>	Supportive
4	<p><b>Perform a street/intersection study:</b> Conduct a street/intersection study to identify streets and intersections that can be improved for pedestrians and bicyclists through traffic calming measures and/or where multi-use pathway opportunities exist to increase active transportation.</p>	Supportive
5	<p><b>Complete an Active Transportation Plan:</b> Develop and implement an Active Transportation Plan (consistent with the General Plan) that identifies funding strategies and policies for development of pedestrian, bicycle, and other modes of alternative transportation projects. Work with the City's bike/ped working group to identify high priority areas. Example improvements include:</p> <ul style="list-style-type: none"> <li>▪ Pave shoulders of streets that have high traffic counts</li> <li>▪ Separate bike lanes from motor traffic with concrete bumper blocks or better</li> <li>▪ Establish a safe east-west connection over highway 99</li> </ul>	Supportive
6	<p><b>Identify and partner with stakeholders to conduct outreach, promotion, and education:</b> Leverage partnerships with stakeholders to conduct ongoing outreach, promotion, and education around active transportation in Chico. This could include:</p> <ul style="list-style-type: none"> <li>▪ Establishing City-wide events or programs that promote active transportation in the community</li> <li>▪ Regularly updating the City's Bicycle and Pedestrian Network Map and sharing through City and stakeholder partnership platforms</li> <li>▪ Supporting Chico Velo in hosting workshops and classes on bike riding, safety, and maintenance by certified instructors</li> <li>▪ Instituting car-free days downtown, potentially coupled with Farmer's Market or other large and regular events</li> <li>▪ Consolidating a list of local employer-provided bicycle parking, lockers, showers, and incentives as a demonstration tool for other interested employers</li> </ul>	Supportive
7	<p><b>Create a Bike/Ped/Parking Coordinator Position:</b> Create a Bike/Ped/Parking Coordinator position for the City to ensure implementation of active and shared mobility measures.</p>	Supportive

### *Action 1: Implement Chico Bicycle Master Plan*

The overall goal of the Chico Bicycle Master Plan is to continue making Chico a more bike-friendly community, where people of all ages and abilities feel comfortable and safe choosing bicycles for transportation needs. Implementing the Chico Bicycle Master Plan 2019 Update will consist of coordinating City departments with stakeholders (e.g., Chico Velo, CUSD, Butte County, and frontline communities) to accomplish the following:

- Adding approximately 140 miles to the bikeway network based on a list of 250 prioritized projects and regular community outreach and feedback with the goal of improving connectivity throughout Chico between residential areas (especially low-income neighborhoods), schools, transit stations, recreational areas, and other key destinations
- Designing and implementing an effective network-wide wayfinding system
- Continuing current maintenance programs (e.g., monthly sweeping of all bikeway facilities and the Right-of-Way Hotline) and implementing new ones (e.g., Adopt-a-Trail program with Chico Velo, prioritizing key bike routes for paving)
- Improving safety on bike paths with regular maintenance, lighting, and video cameras, by supporting development of the Butte County Bicycle Ticket Diversion program, developing programmatic enforcement procedures, and providing bicycle safety education programs in partnership with stakeholders
- Improving comfort on bike paths by providing for and maintaining shaded routes where possible
- Improve and increase end-of-trip facilities such as secure, shaded, and well-lit bicycle parking by working with partners/stakeholders and using the permitting process for new development. The City will make bike lockers at City Hall usable for the public and add bike locker facilities at off-street parking lots
- Working with Butte Regional Transit, Greyhound Bus, and Amtrak's Coast Starlight to integrate with transit and other transport modes to address the first/last mile challenge
- Partnering with stakeholders (e.g., CUSD, Chico Velo) to promote and encourage biking in Chico.
- Identifying and competing for available funding sources for bicycle projects

A complete description of the goals, strategy, policy, and implementation framework for expanding and improving Chico's bikeway network is included in the Chico Bicycle Master Plan 2019 Update. The Plan will be updated every three years to ensure improvement projects are correctly prioritized and the Plan continues to meet grant funding requirements.

Fully implementing the Bicycle Master Plan is expected to increase bicycle mode share from 6% in 2017 to 12% in 2030. In order to estimate the mode shift potential associated with implementing the Bicycle Master Plan, other cities with similar buildouts were compared. Currently the City of Davis has a bike network similar to what Chico would have at full implementation. Davis currently has a 20% mode share.<sup>30</sup> Therefore, an increase in mode share from 6% to 12% is considered conservative. Emission reduction calculations assumed the average bike trip length was 1.5 miles<sup>31</sup> and used model results from EMFAC to characterize gasoline usage in Chico.

#### **Calculations**

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<sup>30</sup> <https://www.theguardian.com/cities/2015/aug/03/davis-california-the-american-city-which-fell-in-love-with-the-bicycle>

<sup>31</sup> Caltrans California Household Travel Survey (2013)/CARB Bike Path Reductions Technical Documentation (2019)

Year	2030	2045
Mode share shift <sup>1</sup>	6%	6%
Average passenger car mileage (mpg) <sup>2</sup>	32	38
Gasoline usage (gallons) <sup>3</sup>	14,701,198	13,554,245
Estimated % of gasoline that is used for passenger vehicles (EMFAC) <sup>2</sup>	98.0%	99.7%
Passenger vehicle gasoline usage	14,400,705	13,507,979
Estimated trips/gallon gasoline for passenger vehicles (EMFAC) <sup>2</sup>	4.32	5.37
Estimated passenger vehicle trips	62,157,314	72,471,010
New bike trips substituted for vehicle trips	3,729,439	4,348,261
New bike trips substituted for vehicle trips (miles) <sup>4</sup>	5,594,158	6,522,391
Gasoline avoided from switch to bikes (gallons)	174,242	171,083
<b>Total Reductions (MT CO<sub>2</sub>e)</b>	<b>1,531</b>	<b>1,504</b>
<sup>1</sup> Chico Bicycle Master Plan Update (2018) projects that Chico will achieve a 12% bicycle mode share by 2030 assuming the plan is fully implemented. As Chico is currently at 6% bicycle mode share, the remaining mode share shift in 2030 and 2045 is expected to be 6%. <sup>2</sup> Derived from EMFAC model output for Butte County 2030 and 2045 <sup>3</sup> Values from forecast. See Appendix A. <sup>4</sup> Assume the average bicycle trip is 1.5 miles. Caltrans California Household Travel Survey (2013)/CARB Bike Path Reductions Technical Documentation (2019)		

### *Action 2: Require shaded and convenient bike parking*

High quality bike parking leads to increased comfort for bikers, making it easier for residents to choose biking as a primary method of transportation. Shaded bike parking is important in areas subject to high temperatures, like Chico. Park-a-bike style racks are often preferred by cyclists because they facilitate better bike security.

### *Action 3: Require major road upgrades to include bicycle infrastructure*

Including bicycle infrastructure at the time of major road upgrades significantly decreases the cost of installation. This action is included as a best practice to decrease the cost burden on the City and further facilitating its timely implementation of the Bicycle Master Plan.

### *Actions 4 & 5: Perform a street/intersection study & complete an Active Transportation Plan*

Performing a street/intersection study will provide the necessary traffic pattern information and firsthand feedback from the community to better identify and eliminate the hurdles which keep people from walking and biking. This information can be used to complete an Active Transportation Plan – a key recommendation of the Chico Bicycle Master Plan to integrate bicycle, pedestrian, and transit planning in Chico. These actions would be undertaken in coordination with the City's bike/ped working group, which has already identified some high-priority projects.

Currently, the engineering department is applying for a grant to update all 106 traffic signals throughout the City to smart technologies. The grant would replace the hardware and software of traffic lights to an Intelligent transportation system (ITS). The system adapts to peak demand times to increase traffic flow and reduce idling between 20-50%. Roundabout on East Avenue and Wildwood Avenue leading to Upper Park Road was completed in 2011. The City is also looking into installing a flashing yellow arrow pilot project on 5<sup>th</sup> and Mangrove. Flashing yellow arrows have been proven to be more easily and intuitively understood by drivers. The City has also completed a number of roundabout installation projects and has identified funding for more. Roundabouts improve safety and reduce vehicle emissions by eliminating engine idling times at red lights.

Improving active transportation networks is an important part of building Complete Streets – streets that accommodate bikes, cars, shared transit, and pedestrians in an accessible way. Nationally, 16.4% of vehicle trips were one mile or less in 2017, a distance easily travelled by foot or bicycle. An improved and expanded pedestrian network is the most effective and direct approach for shifting those shorter vehicle trips to walking, and studies show that distance to destinations is one of the strongest predictors of walking as a mode choice. However, not much research has been conducted to determine quantitatively how improving the pedestrian network translates to increased pedestrian mode share. This is further complicated by the fact that while improved pedestrian networks almost always have a positive correlation with increased walking, that does not always translate to decreased VMT. In other words, increased walking does not mean that walking trips are replacing driving trips. One study from 1993 looked at how improving a pedestrian network affected the number of vehicle miles travelled in Portland, OR in 1985 and found that a 1% increase in the pedestrian network was associated with a 0.14% decrease in number of vehicle trips travelled.

*Action 6: Identify and partner with stakeholders to conduct outreach, promotion, and education*

Providing education on the benefits of active transportation as well as technical information such as trip planning, incentives and other programs will help generate momentum around active transportation and support the overall measure. The City currently runs a program that provides a \$50 credit for City employees who bike to work and coordinates with Chico Velo to run a Bike-to-Work month. The additional promotional activities identified under this action will continue to build these kinds of programs.

*Action 7: Create a Bike/Ped/Parking Coordinator Position*

A bike/ped/parking coordinator position has been discussed for multiple years by City staff, to help coordinate active transportation promotional and education programs and work with the Bike & Ped working group as well as other City partners and stakeholders. This action is supportive to the overall measure and particularly supportive to Action 6.

## Measure T-2: Improve EV Infrastructure to Achieve Greater Than 23% EV Share of Car Registrations by 2030, and 90% by 2045

Action #	Action	Anticipated Reduction (MT CO <sub>2e</sub> )
1	<p><b>Increase privately owned EV charging infrastructure:</b> If not already required by the State’s Building Energy Efficiency Standards, consistent with the Final Butte PEV Readiness Plan, amend the City’s Building Code by 2023 to require the following:</p> <ul style="list-style-type: none"> <li>▪ EV capable private garages for new single-family and duplex residential development</li> <li>▪ 20% EV charging capable spaces and panel capacity for new multi-family residential development</li> <li>▪ 20% EV charging capable spaces for new commercial development</li> <li>▪ At least 1% working EV charging spaces for all new development and major retrofits</li> </ul>	2030: 28,620
2	<p><b>Increase publicly accessible EV charging infrastructure:</b> Work with public and private partners to ensure there are at least 942 publicly accessible DCFC and Level 2 EV chargers with the City’s Sphere of Influence, with a focus on providing access to low-income households and affordable housing by 2030. Prioritize locations based on analysis in the Final Butte PEV Readiness Plan.</p>	2045: 105,500
3	<p><b>Increase City-owned EV charging infrastructure:</b> Install new publicly accessible EV chargers at City-owned facilities. Develop and implement a fee for use of City-owned chargers to encourage efficient use and turnover, especially for those without home charging capability. Allocate parking fee revenue towards projects that support EV infrastructure, alternative fuel projects, and active transportation projects.</p>	
4	<p><b>Identify and partner with stakeholders to develop ZEV-related rebates:</b> Investigate partnerships with public and private stakeholders to develop rebates on at-home electric circuits, panel upgrades, and Level 2 chargers.</p>	Supportive
5	<p><b>Encourage EV adoption and infrastructure improvements:</b> Conduct outreach, promotion, and education to encourage EV adoption and infrastructure improvements. This could include the following:</p> <ul style="list-style-type: none"> <li>▪ Providing education and outreach to the community on the benefits of ZEVs, availability of public charging, and relevant rebates and incentives available for businesses and residents</li> <li>▪ Working with major employers (e.g., CSUC, Fifth Sun, Build.com, Enloe) to provide EV charging for employees and encourage EV adoption among employees</li> </ul>	Supportive
6	<p><b>Establish electrical and technical standards for electric vehicle supply equipment (EVSE).</b> EVSE standards to be established include construction of equipment, wiring methods, and safety protection, consistent with the California Electrical Code and the Underwriter’s Laboratories guidance on EVSE.</p>	Supportive
7	<p><b>Establish universal EV signage:</b> Establish universal signage and marking requirements for EV parking spaces.</p>	Supportive

Action #	Action	Anticipated Reduction (MT CO <sub>2</sub> e)
8	<p><b>Streamline the EVSE permitting and inspection processes:</b> Streamline both the EVSE permitting and inspection processes, which may include:</p> <ul style="list-style-type: none"> <li>▪ Prioritizing EVSE permitting for faster turnaround times</li> <li>▪ Establishing flat fees for standard installations</li> <li>▪ Enabling homeowners and licensed contractors to submit EVSE permit applications online</li> <li>▪ Allowing EVSE across different zoning classifications</li> <li>▪ Considering simple EVSE installations as exempt from CEQA on a case-by-case basis</li> <li>▪ Allowing installation of EVSE as a mitigation measure for large projects</li> <li>▪ Condensing inspections for more complex installations that do not include panel upgrades or underground conduit</li> <li>▪ Establishing a 24-hour flexible inspection request program online</li> <li>▪ Providing shorter inspection windows</li> <li>▪ Removing requirement for electrician to be present during inspection to decrease consumer costs</li> </ul>	Supportive

<sup>1</sup> EV = electric vehicle

<sup>2</sup> EVSE = electric vehicle supply equipment

*Actions 1, 2, and 3: Increase privately owned, publicly accessible, and City-owned EV charging infrastructure*

Actions 1, 2, and 3 together will provide the primary mechanism through which the City of Chico will encourage electric vehicle (EV) adoption within the community. The state has established a goal of putting 5 million EVs on the road by 2030. However, the recent passing of executive order N-79-20 calls for 100% of passenger vehicles to be all electric by 2035. This new executive order puts the total number of EV's on the road by 2035 at approximately 15 million.<sup>32</sup> Based on the current number of vehicles registered in California and a 2% growth rate per year, 15 million EV's accounts for 35% of total vehicles in 2035. Interpolating between today's EV percentage (5%) gives us an expected EV adoption rate of 25%. The City has established its own goal in line with this and aims to reach 23% EV adoption by 2030 and 90% by 2045. Chico currently has 299 electric vehicles and 311 plug-in hybrid vehicles out of 86,548 currently registered, accounting for 0.7% of the vehicles registered within the City.<sup>33</sup> If EV adoption rates are outpacing EV charging infrastructure, adjustments can be made over time to reflect total EVs as well as charging technologies and consumer behaviors.

While the City cannot require residents to buy and use ZEVs rather than gas-powered vehicles, the City will take actions to incentivize this behavior change and support this level of EV adoption. The City's primary target to achieve this measure is to provide one public EV charger for every 20 EVs and ensure as many privately owned chargers are installed in new development as practicable, in line with the leading cities in California (San Francisco, Los Angeles, and San Jose) and recent charging infrastructure studies. Since the City of Chico already has 12 existing public charging stations with another 4 funded, 942 new public chargers are needed to meet the forecasted demand by 2030. The need for charging infrastructure may change over time, depending on new technologies such as smart chargers and trends in personal EV

<sup>32</sup> <https://spectrumnews1.com/ca/la-west/transportation/2020/10/05/what-it-will-take-to-sell-100--evs-in-california>

<sup>33</sup> [https://www.dmv.ca.gov/portal/uploads/2020/09/MotorVehicleFuelTypes\\_City\\_01012020.pdf](https://www.dmv.ca.gov/portal/uploads/2020/09/MotorVehicleFuelTypes_City_01012020.pdf)



adoption. The City will continue to monitor the most recent research on EV infrastructure needs and update long-term goals as necessary.

**Action 1:** This action will account for the majority of the targeted number of EV chargers in 2025 and 2030. EV-ready building codes are one of the most effective and low-cost strategies for states and local governments to encourage consumers to buy or lease electric vehicles and can save consumers thousands of dollars in installation costs.<sup>34</sup>

**Actions 2 & 3:** The City of Chico currently hosts 12 publicly available EV charging stations, with an additional 4 installations in the works. In the City, public charging stations are clustered along the Hwy 99 corridor, with a new Level 2 charging station opening at the new CA Hwy Patrol offices at Hwy 99 and Southgate Avenue. Chico has DC Fast Charging Stations at 3 locations; Butte College Skyway Center, Chico Nissan Cohasset Rd, and Sierra Nevada Brewing Company. Additional Level 2 public charging stations are located at Sierra Nevada Brewing Company, Butte College Chico Center, Oxford Suites on Business Lane, Enloe Medical Center parking garage on the Esplanade, Chico Volkswagen on Main Street, CSUC on Cherry Street, Sun Valley Acoustical on Ivy Street, and Alternative Energy Systems at Hwy 99. In addition to increasing EV charging infrastructure, Chico has committed to replacing fleet vehicles with electric vehicles when feasible.

The Public Works Department established a fee to recover the costs for use of City-owned EV charging units at the rate of 0.2\$ per Kilowatt hour. This fee will be used to maintain the charging units and to cover electricity costs. While not directly quantifiable, EV charging fees will increase turnover at charging stations, helping to promote equitable access to EV charging infrastructure and encourage widespread EV adoption across a greater demographic range.

The next phase for electric vehicle supply equipment (EVSE) expansion will provide additional publicly accessible charging. Emission reductions from Actions 1, 2, and 3 were calculated together as emissions saved by meeting EV adoption goals in 2030 and 2045.

Calculations		
Year	2030	2045
Gasoline sales after mode shift to bikes (gallons) <sup>1</sup>	14,226,463	13,336,896
Emissions from gasoline (MT CO <sub>2</sub> e) <sup>2</sup>	125,036	117,218
EV adoption <sup>3</sup>	23%	90%
Emissions from gasoline saved (MT CO <sub>2</sub> e)	28,758	105,496
Average gas mileage (MPG from EMFAC) <sup>4</sup>	32	38
Average kWh/gallon of gas	11	13
Electricity EF (MT CO <sub>2</sub> e/kWh) <sup>5</sup>	0.0000040	0.0000000
Emissions from electricity usage for EVs	142	0
<b>Total Reductions (MT CO<sub>2</sub>e)</b>	<b>28,616</b>	<b>105,496</b>

<sup>34</sup> <https://www.swenergy.org/cracking-the-code-on-ev-ready-building-codes>

<sup>1</sup> Gasoline sales from forecast (see Appendix A) minus gasoline avoided from mode shift to bikes  
<sup>2</sup> Based on an emission factor of 0.008789 MT CO<sub>2</sub>e/gallon gasoline, as established in Appendix A  
<sup>3</sup> Based on executive order N-79-20 100% of passenger vehicle sales will electric by 2035. Assuming 15 million EV's by 2035 due to N-79-20 and a 2% growth rate from current vehicle registrations (32,000,000) and a 5% current share of EV's California would be projected to have 25% EV's by 2030. 23% is therefore a more conservative estimate in line with State goals. (<https://spectrumnews1.com/ca/la-west/transportation/2020/10/05/what-it-will-take-to-sell-100--evs-in-california>)  
<sup>4</sup> Derived from EMFAC model output for Butte County 2030 and 2045  
<sup>5</sup> The residential electricity emission factor was calculated based on opt-out rates for different CCA customers. See Measure E-3 for further details on this calculation.

The number of new public chargers needed to support Chico’s EV adoption goals were also calculated, based on 2020 vehicle registration data from the DMV and the assumption that one public charger should be available for every 20 EVs, taking into account the 12 built and 4 funded public EV charging stations already in the City. Total registered vehicles were forecasted based on the 2020 ratio of registered vehicles to population.

EV Charger Count Calculations		
Year	2030	2045
Population <sup>1</sup>	107,712	116,420
Total registered vehicles <sup>2</sup>	83,315	90,051
Registered EV goal <sup>3</sup>	19,162	81,046
EV's per Charger <sup>4</sup>	20	20
New public EV chargers needed <sup>5</sup>	942	4,036

<sup>1</sup> Values from forecast. See Appendix A.  
<sup>2</sup> Based on a calculated value for cars for capita (0.773) derived by dividing the total number of registered vehicles in Chico in 2020 ([https://www.dmv.ca.gov/portal/uploads/2020/09/MotorVehicleFuelTypes\\_City\\_01012020.pdf](https://www.dmv.ca.gov/portal/uploads/2020/09/MotorVehicleFuelTypes_City_01012020.pdf)) by the 2020 population of Chico as established in Appendix A.  
<sup>3</sup> Calculated as total registered vehicles multiplied by EV adoption percentage in above table  
<sup>4</sup> [https://theicct.org/sites/default/files/publications/US\\_charging\\_Gap\\_20190124.pdf](https://theicct.org/sites/default/files/publications/US_charging_Gap_20190124.pdf)  
<sup>5</sup> Based on the assumption that approximately one public EV charger is needed per 20 EVs, taking into account the existing 16 EV chargers already in Chico. This assumption may change over time due to better technology, changes to consumer behavior, or both. The total number of chargers especially in 2045 will need to be revisited to ensure the numbers reflect the current EV landscape<sup>35</sup>

*Action 4: Identify and partner with stakeholders to develop ZEV-related rebates*

The primary barrier to EV adoption is consumer costs related to the purchase of the vehicle and associated home charging equipment. Developing ZEV-related rebates in partnership with City stakeholders will shift the cost burden away from community members, encouraging higher EV adoption rates.

*Action 5: Encourage EV adoption and infrastructure improvements*

Providing information on existing and future programs, incentives, resources, and benefits of electric vehicle adoption to the community will increase adoption and contribute to the overall goal of EV adoption in the City. The City will encourage EV adoption and infrastructure improvements through a coordinated education, promotion, and outreach campaign. Educating the community on the benefits of EVs and partnering with stakeholders to provide more targeted outreach to specific community groups will support the overall goals of the measure. To facilitate the installation of EVSE by residents, Chico will

<sup>35</sup> [https://theicct.org/sites/default/files/publications/US\\_charging\\_Gap\\_20190124.pdf](https://theicct.org/sites/default/files/publications/US_charging_Gap_20190124.pdf)

additionally develop guidance documents that summarize local building code and permitting requirements related to EVSE installation, to be provided online

*Action 6: Establish electrical and technical standards for EVSE*

The Final Butte PEV Readiness Plan recommends that local agencies establish electrical and technical standards for EVSE, including construction of equipment, wiring methods, and safety protection. Relevant standards can be found in the California Electrical Code and the Underwriter's Laboratories guidance on EVSE. This measure ensures that Chico will have clear guidelines and standards in place for installing EVSE infrastructure.

*Action 7: Establish universal EV signage*

The Final Butte PEV Readiness Plan identifies clear, consistent, and visible EV signage as vital for ease of use and reduction of potential issues and conflicts associated with EV charging. The Readiness Plan recommends using standard signs and markings for EV charging stations and parking stalls contained in the California Manual of Uniform Traffic Control Devices to ensure signage consistency throughout the Butte County region.

*Action 8: Streamline the EVSE permitting and inspection processes*

Streamlining the permitting and inspection procedures for EVSE ensures reduced wait times and costs for new EV owners. Applying for a permit and waiting for an inspector can be time intensive and costly – as many as three separate visits by the installer may be required to apply for the permit, perform the work, and complete the inspection, and a fourth visit may be needed if the utility requires a separate inspection. To avoid this, the City will streamline the EVSE permitting and inspection process to further ease the burden on new EV owners and support the goals of the measure.

## Measure T-3: Improve Shared Mobility and Transit Programs and Infrastructure

Action #	Action	Anticipated Reduction (MT CO <sub>2</sub> e)
1	<p><b>Partner with BCAG to improve and expand transit within the City:</b> This could include:</p> <ul style="list-style-type: none"> <li>▪ Expanded transit service, especially along transit priority corridors, and more frequent and reliable transit service. More frequent transit can begin to act as a shuttle, especially since downtown employees and CSUC students and faculty are eligible for free transit passes</li> <li>▪ Improved and/or more efficient transit technology</li> <li>▪ Improved service/communication through interactive service maps, app payments, and real time arrival info</li> <li>▪ Increased active transportation access to transit stops</li> <li>▪ Enhanced, comfortable stops and stations</li> <li>▪ Education and outreach to the community on new and existing shared transit options</li> <li>▪ Subsidized transit passes</li> <li>▪ New electric hop-on hop-off trolley service through major points of interest (e.g., downtown, Bidwell Park, Bidwell Mansion, Sierra Nevada, fair grounds, Chico State)</li> </ul>	Supportive
2	<p><b>Prepare for shared bike programs:</b> Conduct an active transportation share (e.g., bike-share, scooter-share) feasibility study. Update municipal ordinances to prepare the City for shared mobility programs in accordance with the Bicycle Master Plan and the Downtown Access Plan. Consider starting a bike share pilot program in Downtown, ideally with docked e-bikes.</p>	Supportive
3	<p><b>New employer trip reduction programs:</b> Implement General Plan Action CIRC 9.1.2 to reduce single occupancy vehicle trips associated with work commutes. As a condition of project approval, require new non-residential projects that will employ more than 100 people to submit a Travel Demand Management Plan that identifies strategies to reduce single-occupancy vehicle trips, including encouraging employers to provide transit subsidies, bicycle facilities, alternative work schedules, telecommuting and preferential parking for carpool/vanpools.</p>	Supportive
4	<p><b>Conduct a transportation equity study:</b> Partner with CSUC to conduct a transportation equity study to investigate current barriers for minority, low-income, and senior populations in disadvantaged communities to take transit, walk, bike, use rideshare, or carshare.</p>	Supportive
5	<p><b>Conduct a local transportation survey:</b> Support BCAG in conducting local transportation surveys every five years to better understand the community’s needs and motivation for traveling by car versus other alternatives such as by bike or bus. Use survey results to inform transit expansion and improvement projects.</p>	Supportive
6	<p><b>Encourage and facilitate carsharing services:</b> Perform ongoing outreach to carsharing companies about the potential to implement a carsharing program in Chico, preferably electric.</p>	Supportive
7	<p><b>Encourage use of local transit:</b> Promote use of B-Line for Downtown transit especially. This could include bus open houses and promotion of DoubleMap app</p>	Supportive
8	<p><b>Invest in TDM strategies:</b> In accordance with the Downtown Access Plan, designate and use a portion of paid parking revenue to invest in TDM strategies including Actions T-3-1 to T-3-7 that will ensure cost-effective Downtown access by improving transit, bicycle facilities, and create incentives for people to avoid driving</p>	Supportive

### *Action 1: Partner with BCAG to improve and expand transit within the City*

In general, increases and improvements to public transportation systems reduce a city’s dependence on fossil fuels and reduce VMT. The best ways to improve a transit system and reduce driving is to expand its

geographical reach and increase the frequency and reliability of transit service. Each new mile of transit usage replaces VMT on much more than a 1:1 basis. Approximately 1% increase in transit frequency saves 0.5% in VMT.<sup>36</sup> Bus Rapid Transit can also yield a corridor-level VMT reduction of 1-2%.<sup>37</sup>

In addition, effective communication, especially communication that takes advantage of new and emerging technologies to accurately and easily disseminate trip planning and real-time status information, is a strong factor in helping customers decide to use transit for business or leisure trips.<sup>38</sup> Further, improving transit access has the potential to shift trips from cars to transit, which may reduce vehicle trips, VMT, and greenhouse gas emissions, with time spent getting to a transit stop being the key indicator of transit access.<sup>39</sup> While difficult to directly quantify, improving transit stops and stations can contribute to improved transit access, and is therefore an important component of the overall measure.

### *Action 2: Prepare for shared bike programs*

A 2019 report from the City of Santa Monica found that 49% of shared rideable trips replaced vehicle trips based on answers to survey questions.<sup>40</sup> A 2014 study from Utrecht University suggests that the car substitution rate of shared rideables is dependent on what proportion of trips are already taken by car in a city.<sup>41</sup> In the study, Minneapolis and Melbourne had between 70% and 76% vehicle mode share in 2014 and showed high rates of car mode substitution (19% to 21%) after shared rideables were introduced. On the other hand, London and Washington DC had between 36% and 46% vehicle mode share in 2014 and showed much lower rates of car mode substitution where shared rideables were introduced (2% to 7%). Sacramento and Santa Monica both had high vehicle mode share (83% and 72% respectively) before shared rideables were introduced, suggesting that the City of Chico would see a similar if not higher car substitution rate of shared rideables as Santa Monica and Sacramento. Both studies previously mentioned suggest that average trip duration of shared rideable trips is about 2 miles (this is seen consistently across the six diverse cities mentioned above) and appears to be largely independent of other city metrics.

An e-bike ride share program has the potential to be even more successful, as e-bike riders can go longer distances and are more accessible to non-riders. A study in Portland, OR found that a 15% e-bike mode share could result in a 12% reduction in transportation-related emissions.<sup>42</sup>

### *Action 3: New employer trip reduction programs*

Requiring new projects to develop a transportation system management plan will help control expansion of passenger vehicle trips in the future and contribute to providing much-needed infrastructure for active transportation options as part of the cost of new projects. Newly construction office buildings or other places of work could also consider meeting these requirements through a telecommuting strategy. In light of the recent changes made to combat the spread of COVID-19, telecommuting has proven to be an implementable and effective strategy for reducing reliance on passenger vehicles. Continuing to leverage

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<sup>36</sup> <https://www.smartgrowthamerica.org/app/legacy/documents/smartgrowthclimatepolicies.pdf>

<sup>37</sup> <https://www.smartgrowthamerica.org/app/legacy/documents/smartgrowthclimatepolicies.pdf>

<sup>38</sup> <https://transitleadership.org/docs/TLS-WP-Improving-the-Customer-Experience.pdf>

<sup>39</sup> [https://ww3.arb.ca.gov/cc/sb375/policies/transitaccess/transit\\_access\\_brief120313.pdf](https://ww3.arb.ca.gov/cc/sb375/policies/transitaccess/transit_access_brief120313.pdf)

<sup>40</sup> [https://www.smgov.net/uploadedFiles/Departments/PCD/Transportation/SantaMonicaSharedMobilityEvaluation\\_Final\\_110419.pdf](https://www.smgov.net/uploadedFiles/Departments/PCD/Transportation/SantaMonicaSharedMobilityEvaluation_Final_110419.pdf)

<sup>41</sup> <http://mobility-workspace.eu/wp-content/uploads/Bike-shares-impact-on-car-use-3.pdf>

<sup>42</sup> <https://www.sciencedirect.com/science/article/pii/S1361920920306696>

the telecommuting and remote work lessons learned during the pandemic will allow the City of Chico to reduce transportation emissions well into the future.

*Action 4: Conduct a transportation equity study*

A transportation equity study would help ensure the actions supporting shared mobility are implemented in an equitable way. From an emission reduction perspective, this is important because it ensures the active transportation programs and infrastructure built going forward facilitates rather than inhibits all segments of the population to take part. Ensuring all residents can take part in these programs means maximizing GHG reduction benefits. From an equity perspective, it can increase transportation access for those who need it most and decrease the social burdens experienced by many frontline communities. Comprehensive equity analysis allows planners to better anticipate problems and incorporate equity objectives in planning.<sup>43</sup>

*Action 5: Conduct a local transportation survey*

Conducting local transportation surveys will help the City to better understand the community's needs and motivations for travelling by car versus other alternatives such as by bike or bus. This will allow the City to respond dynamically to the needs of the community and optimize active transportation projects. The surveys will also help inform the evolving list of projects included as part of the Bicycle Master Plan.

*Action 6: Encourage and facilitate carsharing services*

Research from the Transportation Sustainability Research Center at the University of California Berkeley shows that car share programs lower vehicle ownership and overall VMT.<sup>44</sup> While a majority of car share members use the program to add or replace vehicle trips (leading generally to small VMT increases), a minority of members (2-5%) use car share as a replacement for vehicle ownership (leading generally to larger VMT reductions). The net effect is overall decrease in vehicle ownership, VMT, and ultimately GHG emissions. Approximately one car share vehicle replaces seven to eleven cars and VMT is reduced, on average, between 6% to 16% per car share household assuming one-way usage.

*Action 7: Encourage use of local transit*

Encouraging use of local transit could help shift Chico residents away from passenger vehicles and increase transit mode share. The City currently partners with BCAG to subsidize transit passes for employers and employees who work or live within the Central Business District of Chico. Bus passes are also provided to City of Chico employees and CSUC staff and students. This will be especially effective when combined with improvement and expansion of transit services, as described under Action 1.

*Action 8: Invest in TDM strategies*

This action will help provide funding for the other actions under Measure T-3.

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<sup>43</sup> <https://www.vtpi.org/equity.pdf>

<sup>44</sup> [http://innovativemobility.org/wp-content/uploads/2016/07/Impactsofcar2go\\_FiveCities\\_2016.pdf](http://innovativemobility.org/wp-content/uploads/2016/07/Impactsofcar2go_FiveCities_2016.pdf)

## Measure T-4: Implement Parking and Curb Management Procedures that Support the Mode Shift Goals of the Overall Transportation Strategy

Action #	Action	Anticipated Reduction (MT CO <sub>2</sub> e)
1	<b>Utilize dynamic parking pricing Downtown:</b> In accordance with the Downtown Access Plan, utilize dynamic pricing for Downtown area parking, increasing costs of parking during times of high usage and special events.	Supportive
2	<b>Improve curbside management:</b> Improve curbside management in accordance with the Downtown Access Plan. This may include updating the Municipal Code to require active loading only, prohibit double parking, define locations for additional loading zones, and design loading zone signage.	Supportive
3	<b>Encourage parklets downtown:</b> Identify opportunities for development of parklets throughout the City's Downtown, to replace parking spaces with bike parking or outdoor restaurant seating.	Supportive
4	<b>Establish carpool/vanpool/shuttle parking minimums:</b> Update the Zoning Code to establish minimums for carpool/vanpool/shuttle parking requirements in new non-residential development.	Supportive

### *Action 1: Utilize dynamic parking pricing Downtown*

Curbside management strategies can help shift cities towards sustainable citywide mobility without compromising space and business needs.<sup>45</sup> In San Francisco, a parking pilot program called SFPark instituted dynamic parking pricing for on-street parking and experienced a 30% drop in VMT for the area, 8% drop in traffic volume, and improved meter compliance and parking turnover.<sup>46</sup> In general, increasing the price to park is one of several related factors that can reduce VMT and promote mode switching.<sup>47</sup> This approach is more effective when combined with infill development, investments in alternative transportation, and travel demand management programs.

### *Action 2: Improve curbside management*

Curb space is a major resource within the City serving multiple functions relating to mobility. By continuing to price curb space appropriately and preparing for a change to autonomous vehicles, the City of Chico can ensure the highest and best use of this limited resource.

### *Action 3: Encourage parklets downtown*

Over the past 6 years, Chico has seen an influx of outdoor restaurant seating that has replaced parking spaces in downtown. Encouraging this type of expansion is not only good for businesses<sup>48</sup> downtown but reduces parking spaces to help the City reduce emissions from cars.<sup>49</sup>

<sup>45</sup> <https://nacto.org/wp-content/uploads/2017/11/NACTO-Curb-Appeal-Curbside-Management.pdf>

<sup>46</sup> <https://www.ite.org/pub/?id=C2D66E96%2DFF01%2D0BA8%2D68C3%2D65CC9116A5AE>

<sup>47</sup> <https://dot.ca.gov/-/media/dot-media/programs/research-innovation-system-information/documents/f0016902-final-pricing-parking-management-to-reduce-vehicles-miles-travelled-pi.pdf>

<sup>48</sup> <https://www.bloomberg.com/news/articles/2014-10-13/3-ways-that-turning-parking-spots-into-parklets-helps-businesses>

<sup>49</sup> <https://www.scientificamerican.com/article/reducing-parking-cut-auto-emission/>

*Action 4: Establish carpool/vanpool/shuttle parking minimums*

Establishing parking minimums for carpool, vanpool, and shuttles in new non-residential development can incentivize shared transportation and encourage a shift away from single passenger vehicles.



## Measure T-5: Support Implementation of the City’s General Plan that Promotes Sustainable Infill development and Mixed-use development in New Growth Areas to Reduce Vehicle Miles Traveled (VMT)

Action #	Action	Anticipated Reduction (MT CO <sub>2</sub> e)
1	<b>Support infill growth:</b> Continue to support infill growth and thoughtful mixed-use development in new growth areas consistent with the Chico 2030 General Plan and the regional Sustainable Communities Strategy.	Supportive

### *Action 1: Support infill growth*

While not easily quantifiable, infill growth that increases density within areas of the community that provide multiple services and better access to jobs can help reduce per capita emissions in those areas due to reduced VMT. This is especially effective if paired with affordable housing policies and programs, as this allows a greater portion of the population to access high density areas and reduce their emissions. Affordable housing can therefore also help reduce suburban sprawl. A Berkeley study on carbon footprint planning suggests that a 10-fold increase in population density in central cities corresponds to 25% lower GHG emissions<sup>50</sup> due mostly to decreases in VMT. This can be substantially increased if efforts are additionally made to reduce suburban sprawl. Another study conducted by UC Davis found that a 10% increase in residential density would reduce VMT by 1.9%.<sup>51</sup> University of Waterloo performed a case study in Toronto to determine how quickly existing areas could be densified to meet minimum transit supportive density thresholds. The study found that 3.8 million additional residents could be residing in transit supportive environments if about 1.2 million units were added with current unit densities between 5 and 20 units per hectare. Given historic growth rates, units could be built within 34 to 95 years. Co-benefits of these action include increased stability and access to services for disadvantaged communities.

<sup>50</sup> <https://www.cogitatiopress.com/urbanplanning/article/view/1218/1218>

<sup>51</sup> <https://www.sciencedirect.com/science/article/pii/S0191261510000536>

## 5 Waste

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Emission reductions in the waste sector are driven by compliance with SB 1383, which requires all jurisdictions in California to reduce organic waste disposal 75% and increase edible food recovery 20% relative to 2014 levels by 2025. CalRecycle has provided a suite of recommendations and requirements for complying with SB 1383, including the following:

- Conduct capacity planning and ensure there is adequate capacity and collection services to comply with SB 1383 requirements
- Increase organic waste collection services for all residents and businesses
- Implement an edible food recovery program for commercial edible food generators, with compliance beginning between 2022 and 2024.
- Adopt enforceable ordinances prior to 2022 to ensure that all organics generators and edible food generators are compliant
- Procure organic waste to meet or exceed organic waste product procurement targets for the City, as notified by CalRecycle by 2022
- Conduct education and outreach to all businesses, residents, and commercial edible food generators by 2022
- Monitor compliance beginning in 2022, conduct enforcement beginning in 2024, and maintain records of implementation

The main mechanism through which Chico will comply with SB 1383 is by updating waste hauler contracts and identifying and partnering with appropriate stakeholders to ensure requirements for organic waste reduction and edible food recovery are met (Measure W-1). The details of the measure, including its supporting actions and evidence of its GHG reduction potential, are included below.

## Measure W-1: Update Waste Hauler Franchise Agreements to Implement Requirements of SB 1383 and Achieve 75% Reduction Below 2014 Levels in Organic Waste to 0.4 Tons of Waste/Person by 2025 and Maintain Through 2045

Action #	Action	Anticipated Reduction (MT CO <sub>2</sub> e)
1	<b>Require residential and commercial organic waste collection through updated waste hauler contracts:</b> Update waste hauler contracts to include expanded organic waste collection. Pass an ordinance by 2022 requiring residential and commercial organics generators to subscribe to organics collection programs or alternatively report organics self-hauling and/or backhauling. Allow limited waivers and exemptions to generators for de minimis volumes and physical space constraints and maintain records for waivers/exemptions	2030: 7,690 2045: 7,690
2	<b>Require edible food recovery:</b> Adopt an edible food recovery ordinance or similarly enforceable mechanism to ensure edible food generators, food recovery services, and food recovery organizations comply with State requirements to increase recovery rates.	Supportive
3	<b>Partner with North State Rendering to expand use of the digester:</b> Work with North State Rendering to expand use of organics in the digester. Conduct a pilot to demonstrate effectiveness and identify funding sources for a larger expansion.	Supportive
4	<b>Conduct capacity planning for organic waste collection:</b> Engage in organic waste collection capacity planning by executing the following: <ul style="list-style-type: none"> <li>▪ Estimate Chico’s disposal of organic waste in tons</li> <li>▪ Identify and verify amount of available organics waste recycling infrastructure</li> <li>▪ Estimate the amount of new or expanded capacity needed to process organic waste</li> <li>▪ Work with the City of Chico’s Recycling and Solid Waste Division and waste haulers to coordinate organic waste delivery to Recology’s Oroville Transfer Station and Ostrom Road organics facility</li> <li>▪ Develop and submit an implementation schedule highlighting planning effort to provide enough new or expanded organics capacity, including timelines and relevant milestones by the end of the report period</li> </ul> Identify proposed new or expanded facilities that could be used for additional capacity	Supportive
5	<b>Conduct capacity planning for edible food recovery:</b> Engage in edible food recovery capacity planning by executing the following actions: <ul style="list-style-type: none"> <li>▪ Estimate the amount of edible food that will be disposed by organics generators in Chico</li> <li>▪ Work with commercial food generators to reduce excess edible food generation</li> <li>▪ Work regionally to establish a full list of food recovery organizations that can receive edible food from Chico businesses</li> <li>▪ Identify proposed new or expanded food recovery capacity</li> <li>▪ Identify the minimum capacity required to recover 20% of edible food that is estimated to be disposed</li> <li>▪ If existing and planned capacity is insufficient based on the above process, the City of Chico must develop and submit an implementation schedule highlighting the planning effort to provide enough new or expanded capacity for increasing edible food donations and identify proposed new or expanded facilities to be used to for additional capacity</li> </ul>	Supportive

Action #	Action	Anticipated Reduction (MT CO <sub>2</sub> e)
6	<p><b>Develop and implement a partnered education and outreach program:</b> Update waste hauler contracts and partner with stakeholders (e.g., Recology, CSUC, Chico State, BEC) to develop and implement an education and outreach program around SB 1383:</p> <ul style="list-style-type: none"> <li>▪ Coordinate with Recology’s education and outreach personnel to expand on existing community outreach</li> <li>▪ Conduct outreach and education at schools on composting, recycling, and waste reduction</li> <li>▪ Provide education to the community on home composting techniques</li> <li>▪ Inform organics generators/edible food generators on requirements to properly separate materials, organic waste prevention and on-site recycling, methane reduction benefits of composting, and information related to edible food donation</li> <li>▪ Hold a compost give-away event for Chico residents</li> <li>▪ Identify percentage of organics generators who are “limited English-Speaking households” or “linguistically isolated.” If more than five percent (5%) of Chico’s organics generators are defined as “limited English-speaking households” or linguistically isolated,” provide education and outreach in a language or languages that will assure the information is understood by that community</li> </ul>	Supportive
7	<p><b>Develop and implement an inspection and compliance program:</b> Update waste hauler contracts to implement an inspection and compliance program for the edible food recovery program and organics procurement program with defined enforcement mechanisms and penalties, to begin prior to 2024. Maintain records of compliance in accordance with SB 1383.</p>	Supportive

*Action 1: Require residential and commercial organic waste collection through updated waste hauler contracts*

Requiring residential and commercial organic waste generators to subscribe to an organics collection program (provided through updated waste hauler contracts) is expected to provide the level of composting required to reduce Chico’s organic waste disposal 75% below 2014 levels by 2025, one of the primary goals of SB 1383. Both waste haulers in Chico have been working diligently to expand composting services, and Recology has completed construction of a new facility at Ostrom Road. Chico residents are currently able to drop off yard and greenwaste at the composting facility at the airport. This action will capitalize on those efforts and expand them to meet the necessary composting capacity.

Chico sent almost 70,000 tons of municipal solid waste to the landfill in 2014 (see Appendix A), of which approximately 45% was organic (18% food, 17% mixed paper, and 9% yard waste).<sup>52</sup> Calculations assumed that emission reductions would come from diverting that waste to compost, decreasing the disposal emission factor to zero. In fact, the emission factor for composting those materials is negative, due to the carbon sequestration potential of compost, but these negative emissions were not credited to the City of Chico as carbon sequestration of the compost would occur at the location of procurement. For the purposes of emission calculations, landfill emission factors were assumed to be 0.388 MT CO<sub>2</sub>e/ton for food, 0.334 MT CO<sub>2</sub>e/ton for mixed paper, and 0.207 MT CO<sub>2</sub>e/ton for yard waste.<sup>53</sup>

Calculations		
Year	2030	2045

<sup>52</sup> Percentages are state averages. <https://www2.calrecycle.ca.gov/Publications/Download/1301>

<sup>53</sup> Method for Estimating Greenhouse Gas Emission Reductions from Diversion of Organic Waste from Landfills to Compost Facilities (CARB, 2017)

Organics reduction from 2014 <sup>1</sup>	75%	75%
Diverted food (tons) <sup>2</sup>	9,447	9,447
Diverted mixed paper (tons) <sup>2</sup>	9,082	9,082
Diverted yard waste (tons) <sup>2</sup>	4,802	4,802
Emissions from landfilling (MT CO <sub>2</sub> e) <sup>3</sup>	7,693	7,693
<b>Total Reductions (MT CO<sub>2</sub>e)</b>	<b>7,693</b>	<b>7,693</b>
<sup>1</sup> SB 1383 requires 75% reduction in organic waste from 2014 levels by 2025. <sup>2</sup> Total diverted organic waste calculated as 75% of 2014 waste levels, as established in Appendix A (69,595 tons). Per CalRecycle, approximately 18.1% of organic waste is food, 17.4% is mixed paper, and 9.2% is yard waste. <a href="https://www2.calrecycle.ca.gov/Publications/Download/1301">https://www2.calrecycle.ca.gov/Publications/Download/1301</a> <sup>3</sup> Assumes the emission factor is 0.338 MT CO <sub>2</sub> e/ton for food, 0.334 MT CO <sub>2</sub> e/ton for mixed paper, and 0.207 MT CO <sub>2</sub> e/ton for yard waste per <i>Method for Estimating Greenhouse Gas Emission Reductions from Diversion of Organic Waste from Landfills to Compost Facilities</i> (CARB, 2017)		

### Action 2: Require edible food recovery

An edible food recovery ordinance will provide an enforceable mechanism through which the City can help organics generators meet the edible food recovery requirements of SB 1383. Jurisdictions are responsible for implementing an edible food recovery program for commercial edible food generators. This means ensuring that there are edible food recovery organizations that have enough capacity and collection services, which will be accomplished through implementation of Action 6. Commercial edible food generators must recover for human consumption the maximum amount of their edible food that they would otherwise dispose of in landfills by making written agreements with food recovery organizations or services to accept this food instead. “Tier One” food generators — supermarkets and large grocery stores, food services providers, food distributors and wholesale food vendors — must comply beginning January 1, 2022. “Tier Two” food generators — large restaurants, hotels with an on-site food facility and 200 or more rooms, health facilities with an on-site food facility and 100 or more beds, large venues and large events, state agencies with large cafeterias and local education agencies with on-site food facilities — have until January 1, 2024 to comply.

CalRecycle currently does not have an estimate for what percentage of the California waste stream is edible, therefore the effects of this action have not been quantified but characterized as supportive. However, CalRecycle estimates that every 2 ½ tons of edible food recovered is the equivalent of taking one car off the road for a year.<sup>54</sup>

### Action 3: Partner with North State Rendering to expand use of the digester

North State Rendering is located in Oroville, CA and manages the anaerobic digester at the old rendering plant. Digestate is currently being buried at the landfill, leading to avoidable emissions. Anaerobic digestion can help develop clean energy sources and reduce GHG emissions.<sup>55</sup> Anaerobic digestion systems capture methane from feedstock that might otherwise be released into the atmosphere as a potent gas. The captured methane can then serve as an energy source to produce heat or generate electricity. The main barrier to expanded use of the digester is the high capital costs to operate it, which may be offset by grant opportunities. California offers credits through its Low Carbon Fuel Standard program that could provide funding for this type of project.

<sup>54</sup> <https://www.calrecycle.ca.gov/blogs/in-the-loop/in-the-loop/2020/03/02/yolo-county-edible-food-recovery-kick-off>

<sup>55</sup> <https://www.everycrsreport.com/reports/R40667.html>

*Actions 4 & 5: Conduct capacity planning for organic waste collection and edible food recovery*

SB 1383 requires jurisdictions to conduct capacity planning around SB 1383 to ensure organics recovery and edible food recovery targets can be reasonably met. Conducting capacity planning will help the City develop an implementation plan for SB 1383 and provide information for discussions with waste haulers and other stakeholders, providing support for the GHG reductions expected from overall measure implementation.

*Action 6: Develop and implement a partnered education and outreach program*

While this action will not lead to direct GHG emission reductions, it is an important component of the strategy behind Measure W-1 and will help maximize the success of direct GHG reduction actions such as Actions 1 and 2. For example, education and outreach around composting and food waste reduction can provide the information needed by residents to start a home compost pile and/or reduce their overall waste. Providing these materials in English and Spanish will further the impacts of this action.

*Action 7: Develop and implement an inspection and compliance program*

Conducting inspection and compliance activities around the requirements of SB 1383 will help ensure the community is doing its best to achieve the desired organics waste reduction and edible food recovery targets, thereby supporting the GHG emission reductions inherent to Actions 1 and 2.

## 6 Sequestration

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A carbon neutral future includes carbon sequestration mechanisms which take carbon out of the atmosphere. The best technology cities have for achieving higher rates of carbon sequestration is through increasing the urban tree canopy by planting more trees and greenscaping. The CAP measures supporting this goal will do just that – increase carbon sequestration through greenscaping programs:

- Measure S-1: Increase Carbon Sequestration by Increasing urban Canopy Cover at Least 10% by 2030 Through New Greenscaping Programs
- Measure S-2: Develop and Implement the urban Forest Master Plan

The details of each action supporting the carbon sequestration measures and evidence of their GHG reduction potential are included below.

## Measure S-1: Increase Carbon Sequestration by Increasing urban Canopy Cover at Least 10% by 2030 Through New Greenscaping Programs

Action #	Action	Anticipated Reduction (MT CO <sub>2</sub> e)
1	<b>Implement Chico’s Urban Forest Revitalization Program:</b> Implement the Urban Forest Revitalization Program to plant 700 trees by March 2022 (adopted) and 4,500 trees by 2030 (new goal). Focus on areas of the City with low tree canopy cover based on canopy map and optimize carbon sequestration through management of the existing urban forest.	2030: 261 2045: 261
2	<b>Increase greenspace in Chico:</b> Identify and participate in partnership opportunities necessary to convert public and private spaces into water efficient greenspace and increase the City’s carbon sequestering greenspace by 2030.	Supportive
3	<b>Improve greenspace management to maximize carbon sequestration:</b> Improve management of public open space and park lands, including use of compost, to maximize carbon sequestration. Through permit review, evaluate and ensure that landscaping plans utilize native species identified in the Urban Forest Management Plan where feasible.	Supportive
5	<b>Require shade trees in new major developments:</b> Require new development to include shade trees for enhanced energy savings, provided it would not interfere with solar installation. Tree species and location would be determined in coordination with the City’s Urban Forester. Street tree planting shall also be required for all new single-family subdivisions	Supportive

### Action 1: Implement Chico's Urban Forest Revitalization Program

Chico’s Urban Forest Revitalization Program identifies the goal of planting 700 trees by March 2022 in currently identified low-income communities with low tree canopy cover. Action 1 extends the goals of this program with the additional goal of planting 4,500 trees by 2030. As of September 2020, the City has identified approximately 9,000 tree planting locations in its Right-of-Way, suggesting that an even higher tree planting goal could be set for 2045. Emission reduction calculations associated with this action assume that both the 2022 and 2030 tree planting goals will be met, and that the carbon sequestration potential for seedlings averaged over 40 years is about 0.058 MT CO<sub>2</sub>e per tree per year. This number is an average of the 40-year carbon sequestration potential for four common tree species already being planted in Chico: red oak, black tupelo, valley/white oak, and red maple.<sup>56</sup>

Calculations		
Year	2030	2045
Trees Planted <sup>1</sup>	4500	4500
<b>Total Reductions (MT CO<sub>2</sub>e)<sup>2</sup></b>	<b>261</b>	<b>261</b>

<sup>1</sup> Per the City’s Urban Forest Revitalization Program  
<sup>2</sup> Assuming a carbon sequestration potential of 0.057979 MT CO<sub>2</sub>e/tree/year; an average of four common municipal tree types (red oak – 0.05268 MT CO<sub>2</sub>e/tree/year, black tupelo – 0.03816 MT CO<sub>2</sub>e/tree/year, valley/white oak – 0.08466 MT CO<sub>2</sub>e/tree/year, and red maple – 0.05641 MT CO<sub>2</sub>e/tree/year). <https://planting.itreetools.org/app/report/>

<sup>56</sup> <https://planting.itreetools.org/app/report/>



*Actions 2-5: Increase greenspace, improve greenspace management to maximize carbon sequestration & require shade trees in new major developments*

In addition to the concrete tree planting goals the City has established under Action 1, Actions 2-5 will help create additional carbon sequestration potential for the City. However, emission reductions from these actions are not quantified, due to the difficulty in determining the exact impact these actions will have on GHG emissions in Chico. As the City moves forward in implementing these actions, an updated inventory will help quantify their impacts.

Past efforts to increase greenspace include efforts to develop multiple community gardens. Staff collaborated with a CSUC class to develop an inventory of sites appropriate for community gardens and shared the results with local, interested parties. In 2012, the City collaborated with BEC to develop a 1-acre community garden on the City-owned vacant property at Notre Dame and Humboldt Avenue. In 2014, BEC developed another community garden on City-owned property on Nord Avenue. There are 3 farmers markets, two year-round, that operate within the city.

**Measure S-2: Develop and Implement the Urban Forest Master Plan**

Action #	Action	Anticipated Reduction (MT CO <sub>2</sub> e)
1	<b>Develop, adopt and implement the urban Forest Master Plan:</b> Create an actionable strategic plan for the City’s urban forest that will guide it to its vision of a healthy, robust and resilient urban forest over the next 40 years. The plan shall include sections on work programs, policies, ordinances, sustainable urban forest management, design, planting, staffing, stewardship, carbon offset, storm water management, creek, open space and natural resource management, public tree inventory, and community participation and education.	Supportive
2	<b>Conduct a canopy cover analysis:</b> Conduct a tree canopy coverage analysis that includes all trees within the city limits, including public and private property trees, open space, natural resources area, creek and riparian areas, and golf courses. The resulting study should provide information on the number of trees and tree density on all identified areas and provide analysis if trees are equitably distributed throughout the city and present a clear picture on where city should strategically invest resources.	Supportive
3	<b>Conduct citywide tree planting analysis:</b> Conduct a tree planting analysis to gain a better understanding of the urban forest’s overall condition. The resulting information should be used to develop management recommendations associated with tree removal, tree planting, trimming cycle adjustments and related maintenance activities. Additionally, the results of this analysis should be used to develop a list of recommended tree species that will be suitable for the city’s current environmental conditions as well as anticipated conditions caused by climate change.	Supportive

*Actions 1-3: Implement Urban Forest Master Plan, conduct canopy cover analysis & citywide tree planting analysis*

The Urban Forest Management Plan will provide Chico with a comprehensive strategy for urban greening within the City, to be supported by a canopy cover and tree planting analysis. Further greening within the City will increase the carbon sequestration potential of the City.

## 7 Outreach and Education

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A coordinated outreach and education effort is an important part of any CAP to provide the information and context to the community that is necessary for successful measure implementation. Most measures included in the CAP have a measure-specific outreach, education, and promotion component; the purpose of the outreach and education measure included here is to provide over-arching promotion for why the City has a CAP and how the CAP's big-picture strategies will help decrease emissions and improve life in Chico. During the CAP development process, the City identified many potential partners in developing measure-specific outreach and education programs. These partners will be crucial in the over-arching outreach and education efforts included here as well.

**Measure O-1: Conduct a wholistic community outreach and education program to optimize CAP implementation**

Action #	Action	Anticipated Reduction (MT CO <sub>2</sub> e)
1	<b>Conduct partnered community outreach and education:</b> Develop a plan for ongoing community outreach strategies to maintain education and promotion of the CAP. This includes regular maintenance of the City’s CAP webpage and ongoing PR, working with CUSD to create K-12 lesson plans, and partnering with CSUC and non-profits.	Supportive

*Action 1: Conduct partnered community outreach and education*

This action will serve as an umbrella for all education, outreach, and promotion actions under each emissions sector, and will help promote the CAP within the community and ensure the CAP is implemented equitably. A coordinated and partnered outreach and education program will help increase buy-in among community members and educate residents, business-owners, and students in Chico about doing their part to reduce emissions within the community.

The City has already established a good track record to support this Action. The City has participated in CSUC’s This Way to Sustainability conference and attends other meetings and conferences locally that address issues effecting the environment, economy, and social equity. City employees often are invited to speak at CSUC classes on the topics of environment, economy, and social equity.

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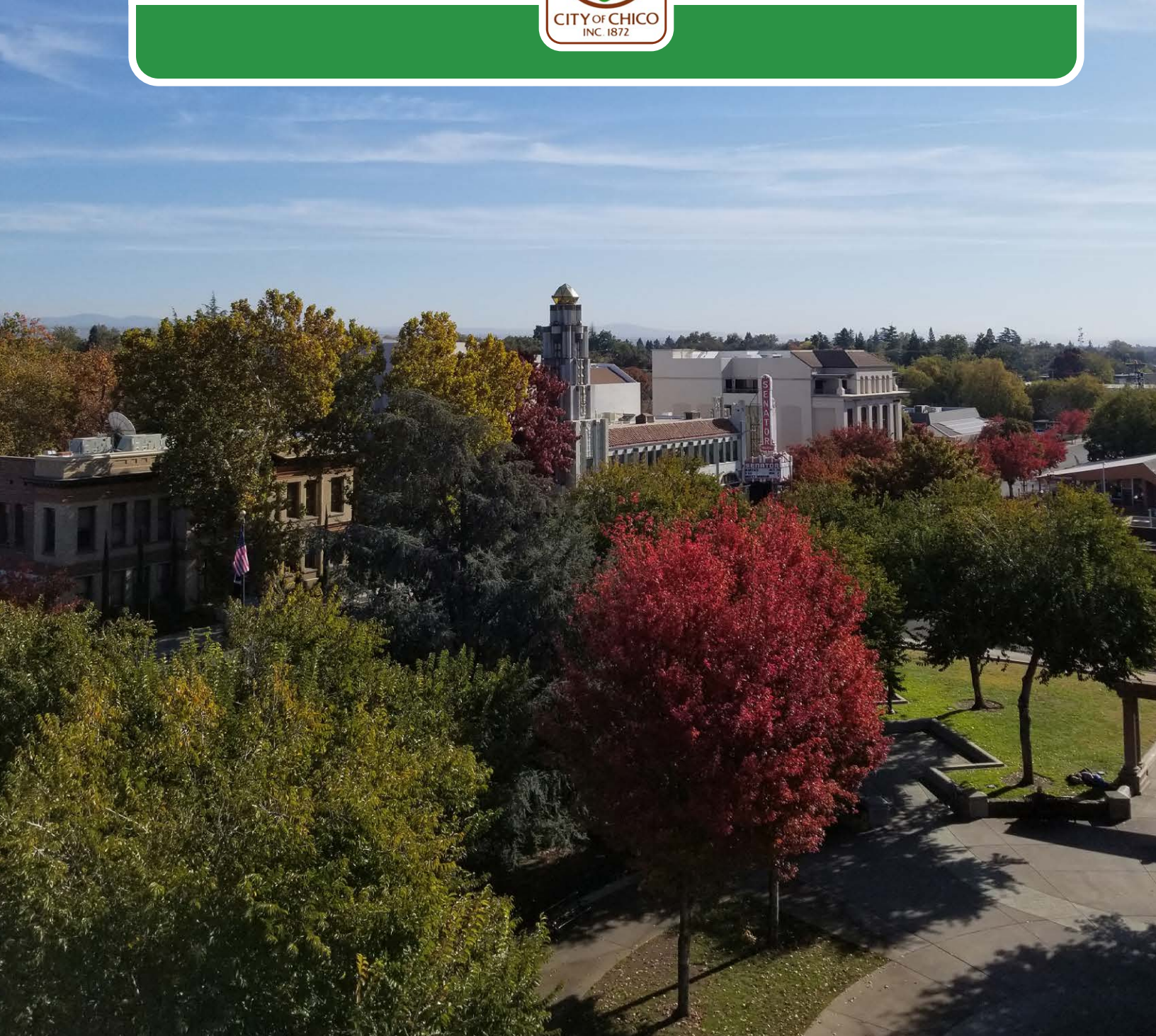
# City of Chico, California

411 Main Street

Chico, CA 95928

530-896-7200

[chico.ca.us](http://chico.ca.us)





**From:** [Chico CAP](#)  
**To:** [Molly Marcussen](#)  
**Subject:** Chico CAP - New Simple Contact Form Entry  
**Date:** Wednesday, September 1, 2021 12:58:11 PM

**ATTENTION:** This message originated from outside **City of Chico**. Please exercise judgment before opening attachments, clicking on links, or replying.

**Name**

Christian Rucki

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**Email**

[ruckichristian@hotmail.com](mailto:ruckichristian@hotmail.com)

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**Which document do you have comments for?**

CAP Update

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**Comments**

Hi my name is Christian Rucki and I am a third-year student at Chico State University and have happily lived in Chico for all of that time. I would say I first became interested in the issue of Climate Change and more specifically what local representatives are doing to combat it my freshman year when I attended the "Great Debate" which was focused exactly on that issue. I saw wildly intelligent students argue in favor of their climate friendly ideas with poise and passion, something in which I had never before seen someone my age do at a professional level. This inspired me to make my voice heard to the people who are able to make the necessary changes in our city in order to do our part in preserving our planet.

**From:** [Christian Rucki](#)  
**To:** [Molly Marcussen](#)  
**Cc:** [abykerk-Kauffman@csuchico.edu](mailto:abykerk-Kauffman@csuchico.edu)  
**Subject:** Climate Action Plan Update  
**Date:** Wednesday, September 1, 2021 1:12:56 PM

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Hi my name is Christian Rucki and I am a third-year student at Chico State University who has lived in Chico for all three of those years. I first became interested in the subject of climate change and specifically what my local government was doing about it my freshman year when I attended the "Great Debate" which was focused on the issue. I was able to watch wildly intelligent students argue in favor of environmentally friendly changes we could make around the city with poise and courage. This inspired me to continue to challenge my local leaders on these issues as long as they remain such. This is why I would like to reinforce an idea which was highlighted by my Geological Science teacher, professor Ann Bykerk-Kauffman, she highlighted our goal for bicycle transportation mode share to be a mere 12% by 2045. Now according to bikeleague.org Chico 2017 bicycle usage as a means of transportation was 5.5%, only a half percent under our 2030 goal. Meanwhile cities like Davis and Santa Cruz have already surpassed 15%. In addition a survey conducted by you shows that 74% of residents would be "moderately likely" or more to ride a bike if the current infrastructure was improved. I highlight a few of these numbers because I think that we can do much better than 12% by 2045, there is no reason Chico a college town with similar geography to Davis should have a significantly lower bike usage. Correct your survey issues on if people would be likely to ride a bike and instead be asking why people are NOT riding bikes. I can say with a fair amount of confidence from personal experience and data collected that the biggest issue students have preventing them from riding bikes is the issue of theft. If the city is able to reduce the bike theft rate in Chico by investing in more/more secure bike parking then many more students would be inclined to ride a bike.

**From:** [Jon Luvaas](#)  
**To:** [Molly Marcussen](#)  
**Subject:** Climate Action Plan  
**Date:** Wednesday, September 1, 2021 1:20:15 PM

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Hello Molly,

I'm writing to urge the City to expedite plans and policies that support and finance safe and separated bike routes and bike paths throughout Chico, especially in high traffic areas and at multi-directional intersections, which are challenging and dangerous to cross on bikes.

Thank you.

Jon Luvaas, Chico

Sent from my iPhone

## Chico Climate Action Plan 2021 Draft and EIR Draft

### Public Comments by Tom Barrett

#### CAP and Draft EIR

I'm not sure how developing a draft EIR for a draft plan works. Since you are seeking comments on a "draft" plan and at the same time comments on a draft EIR for that draft plan you are either assuming that there won't be any significant changes to the draft plan except typos or if there are you will not incorporate them because you would have to reissue the draft EIR to reflect the revised draft plan. Should the draft be finalized before releasing the draft EIR?

#### General Comments

1. **CAP implementation responsibility.** Who will take the lead and will be responsible for implementing this CAP for the City? Page 102 vaguely states that the City is responsible for implementing the CAP but doesn't identify who in the City or what department will be responsible. Will there be a new City department developed to deal with this program? Will MOUs be developed between the City and other organizations with a stake in this program?
2. **Implementation Plan.** The CAP lacks any kind of real implementation component. When will implementation plan(s) be developed for each of the actions?
3. **Transparency.** The CAP claims that Chico "exceeded its goal to reduce its GHG emissions in 2020 by 25%" with a 27% reduction in GHGs up through 2017. The CAP doesn't state how "we" achieved these reductions. However, this remarkable reduction in GHGs does not appear to be the result of the City's part in implementing actions that would reduce GHGs or carbon. In fact, the City's GHG reduction graph matches the State's indicating that this was a statewide phenomenon and not a local one, which is fine reduction is reduction. But be up front about it. Appendix B, which is the emissions inventory for this CAP, states that "This decrease is primarily due to a decreasing electricity emission factor". Therefore, while the CAP claims to meet and exceed its 2020 goal (with 2017 data) the reduction was apparently not due to anything that the previous CAP recommended but based in part on how emissions are calculated and the effects of the downturn in the economy after 2008. There had to be some reduction by locals seeing all the solar PV systems installed and EV charging stations. Why doesn't the CAP discuss the reduction in GHGs up front and not bury it in the appendices?
4. **GHG reduction Report Card.** Why doesn't the CAP discuss the successful actions accomplished from the previous CAP or since Chico made a commitment to address climate change and GHG reduction?
  - a. If installing solar PV systems on homes and businesses is a goal of the CAP, how many residential, commercial, institutional, and industrial solar electric systems have been installed in Chico over the past 10 years by: year, kW installed, estimated kWhs generated, and CO<sub>2</sub>e reduced?
  - b. How many new homes are built each year, by year, with PV systems installed and/or PV ready homes?
  - c. How many battery storage systems have been installed by sector, capacity, and year?

- d. How many registered electric vehicles (by year) are registered in Chico?
  - e. How many electrical vehicles are in use by the City of Chico, Chico Unified, CSU Chico, Butte County, etc.?
  - f. How many solar water heating systems have been installed by sector and year?
  - g. How many large remodel jobs (>50% or something) have been built and implemented Chico's existing RECO ordinance?
  - h. What are the ridership levels for Butte Transit by year? By route? By destination? Increasing? Decreasing? Meeting or exceeding expectations?
5. **Studies, plans, and analyses.** The CAP recommends at least a dozen different studies plans, and analyses to be developed before implementing a number of recommended actions.
- a. When will these be done and who will do them?
  - b. Will they be done by 2025 when a lot of this plan is supposed to be implemented?
  - c. Most of these are cost effectiveness studies so shouldn't we know the results before implementing the recommendations?
6. **Cost effectiveness.** There are numerous statements throughout the CAP stating that decarbonization strategies promoted in the CAP will "lower costs for the average resident and business owner"; "saves the community money in both the short- and long-term"; "were built to be cost-effective, have funding opportunities, and/or have a high return on investment". Where is the evidence for these statements?
- a. No cost-effectiveness analysis or ROI has been done on any of the suggested action items and no actual funding sources identified. When will that be done?
  - b. Many CAP activities state that a cost effectiveness study is required before implementing the activity, so how can you make these statements when the analysis has yet to be completed.
  - c. The BCE was promoted as a least cost alternative to PG&E power and guarantees were made to residents that their bills would be lower. The CAP states that all residents will be required to transition to a "100% renewable sourced electricity" rate with BCE which will cost more than the standard rate. Despite the promises, BCE will cost more than PG&E based on the recommendation of this CAP. It will take BCE until 2024 or later to be implemented and longer to transition to the "all renewable rate". Why not require it right now? PG&E has a 100% renewable rate schedule right now.
  - d. The CAP lacks transparency with regards to actual costs to implement these strategies. Reducing GHGs and decarbonizing our energy will cost each and every one of us more, but that's okay, it needs to be done. That should be made apparent and not hidden by the jargon in this document.
  - e. Statements are repeated throughout the document that residents and business will benefit in the short- and long-term economically without any proof of how they will benefit. There are no discussions of actual or proposed costs. The bottom line is that electrifying existing homes and businesses will cost money up front (the short-term) and is very likely to be costly in the long-term as utility costs continue to rise.
  - f. What criteria will be used to determine cost-effectiveness?

7. **Solar compatible zoning codes.** Will the City's zoning codes allow large-scale solar electric systems to be development within City limits? If solar electric systems are not specifically allowed by zoning code won't zone code modification or overlay zone codes be developed to allow solar development?
8. **City commitment to carbon neutrality.** If the City is really committed to carbon neutrality it could immediately implement the following actions to promote the transition to electrifying the community:
  - a. Charge \$0 for building permits for residential (businesses can treat permits as business expenses and write them off on their taxes, households can't):
    - i. Solar PV and storage battery installations
    - ii. Solar thermal installations
    - iii. EV charging systems
    - iv. Electrification projects requiring permits (such as upgrading electric panels on older homes)
  - b. Require all new construction to be oriented on an east-west axis to maximize solar gain for solar systems.
  - c. Implement a solar shading ordinance to ensure residents have solar access to their roofs/yards.
  - d. Related Tax Revenue Possible Funding Sources – some of the funds brought into the City from GHGs sources could be targeted to fund decarbonization efforts.
    - i. Gas tax revenue \$5.7 million
    - ii. Parking \$992,893
    - iii. Utility users' tax (natural gas and electricity) - \$6.1 million
  - e. Electrify all City facilities.
    - i. Convert the City's fleet to all electric vehicles.
    - ii. Install EV chargers on 25% of all off-street parking spaces.
    - iii. Remove all gas appliances from city facilities.
9. **Tax revenue losses.** The City has never been keen on adopting anything that would effectively cut tax revenues like funding energy efficiency improvements on residents' homes. The CAP does not address the loss of tax revenue from:
  - a. Installed solar electric systems reducing purchased electricity and UUT revenue. If 10% of buildings installed solar electric there would be an approximate \$500,000 annual loss in tax revenue from the tax on electricity.
  - b. Reducing and or eliminating natural gas revenue from the UUT (16% of total UUT revenue), additional electric consumption would increase the UUT from electric purchases unless offset by installed solar electric.
  - c. Reducing vehicle miles traveled in Chico 10% to reduce GHGs would lose \$570,000 annually from gas tax monies from

- d. Converting to electric vehicles would also reduce gas tax revenue. For every 10% reduction in gas and diesel consumption due to EVs would reduce the tax revenue by \$570,000 and almost completely eliminate it when all vehicles become EVs by 2050.
10. **BCE revenue losses.** The success of the BCE CCA depends on the residents of Chico/Butte Co purchasing the contracted for electricity from BCE. Every solar electric installation will reduce the amount of electricity which would have to be purchased. How is BCE set up to handle this? The CAP expects BCE to fund activities which will reduce electric consumption which will affect their revenue. How is this being addressed to keep BCE solvent?
11. **Free bus rides.** Butte County Transit could offer free ride on their buses and get subsidized through Cap-and-Trade funds.
12. **Yard and garden tool electrification.** According to the EPA, each gas-powered lawn mower produces as much air pollution as 43 new automobiles driven 12,000 per year – lawn care produces 13 billion pounds of toxic pollutants per year. Require yard service companies and residents to replace gas-powered lawnmowers, leaf blowers, trimmers with electric and battery-powered tools for lawn service companies and residents. The EPA estimates that hour-for-hour, gasoline powered lawn mowers produce 11 times as much pollution as a new car. Implement a rebate or buy-back program of gas-powered lawn mowers, leaf-blowers, and small gas-powered tools to encourage and promote the conversion to electric or battery-powered landscaping tools. Operating gas-powered landscaping tools only.

For example, the South Coast Air Quality Management District (South Coast AQMD) has two programs that help clean the air through the replacement of gasoline-powered residential lawn mowers and commercial lawn and garden equipment:

- *The public can receive a rebate of up to \$250 with the purchase of a cordless, battery-electric lawn mower. An operable, gasoline powered lawn mower must be scrapped in order to be eligible for the rebate.*
  - *The Commercial Electric Lawn and Garden Equipment Incentive & Exchange Program is available for commercial landscapers and gardeners operating within the South Coast AQMD's region providing up to 75% off commercial lawn and garden equipment. This program is also open to local governments, school districts, colleges and non-profits. Commercial lawn and garden equipment will be made available at a discounted price through pre-authorized dealerships. Equipment available through this program includes handheld trimmers, chainsaws, pruners, backpack and handheld blowers and ride-on, stand-on, walk-behind and robotic lawn mowers. An equivalent operable gasoline or diesel powered piece of lawn or garden equipment must be scrapped when the new battery-electric equipment is purchased.*
13. **Battery disposal and recycling.** A robust and effective battery disposal and recycling program needs to be implemented to keep depleted batteries out of the landfill for vehicles, tools, electronic equipment, etc.
14. **Gas bar-b-ques.** Gas bar-b-ques produce GHGs too. With over 35,000 households in the City of Chico it is likely that at least 50% have propane BBQ's and more with briquette and natural gas BBQ's. Natural gas stove typically have burners that consume 8,000, 10,000, and 12,000 BTUs (British Thermal Units) per house, while bar-b-que burners are in the 30,000 to 80,000 BTU range or even more. Cooking food on a stove top might take 15 – 30 minutes using around 6,000

BTUs, while cooking on a gas grill with propane may take an hour or more and use 50,000 BTUs for a meal. If gas stoves are being banned so should bar-b-ques.

15. **Decorative natural gas appliances and heaters.** Outlaw decorative natural gas appliances in restaurants and bars. For example: Burgers and Brews has a large natural gas decorative fire pit in their outdoor seating area. Ban gas-fired outdoor space heaters at bars and restaurants.
16. **Energy conservation and efficiency improvements.** There is little or no discussion on the role of energy conservation and efficiency in reducing GHS. No actions targeting conservation or efficiency improvements in our homes and businesses. Why are no resources focused on this tried and true method to reduce energy consumption and decrease GHGs discussed?
17. **Decarbonization workforce development.** Encourage Butte College to develop decarbonization technicians and energy conservation and efficiency specialists besides solar electric and thermal systems designers and installers.
18. **BAQMD.** Where is the Butte Air Quality Management District in all of this? Are they involved in climate action planning? They are referenced twice in the CAP appendix as partners but all they did was pass on information. They should have an active roll in Chico's CAP.

### **Adaptation and Resilience**

Adaptation and resilience were not addressed in the document, and this is critical moving forward as it is too late to stop global warming and climate change and now we need to focus on resilience and adapting to climatic changes while reducing GHGs and becoming carbon neutral.

### **Transportation actions for large facilities and trip generators**

Here are some ideas that could be applied to large facilities and trip generators:

1. CSU Chico, Enloe, the Chico Unified School District, the City and other institutional and industrial stakeholders with large heat loads requiring natural gas shall:
  - a. Utilize CHP (combined heat and power) technologies to derive electrical generation with their natural gas fired boilers to get an electrical generation benefit from their natural gas use.
  - b. Develop a local, resilient, microgrid infrastructure incorporating CHP facilities with solar and other electrical generators.
2. Large trip generators like CSU Chico, Enloe, Chico Unified and other stakeholders in the community with more than 10 employees:
  - a. Be required to install EV charging stations for employees and students. Initially in the next 5 years 10% of parking capacity; then by 10 years from now increasing until 50% of park stalls contain charging stations; and 100% in 20 years or sooner.
  - b. Be required to install E-bike charging stations at 10% of facility occupation (students and employees) initially and increased as need increases.
  - c. Convert bare parking lots to PV shaded parking lots to power EV charging stations.



- d. Encourage employers to allow their employees to work-at-home at least two-days a week with the goal of each large employer reducing one vehicle trip to work per employee.
  - e. Implement a Walk-to-School program through Chico Unified. Most children go to their neighborhood schools and are within walking distance; however, parents and guardians are reluctant to walk their kids to school and end up driving them. Organize Walk-to-School activities to encourage parents to walk their kids to school and reduce vehicle trips.
3. Electric vehicles
- a. Convert fleet vehicles for the City of Chico, Chico Unified, and the County to 100% electric vehicles (except specialty service vehicles) by 2025.
  - b. Request the Post Office and other federal agencies local fleets be electric by 2025.
  - c. Encourage local stakeholders with fleets to convert to all electric vehicles by 2025.
  - d. Require taxis, Uber, Lift, etc. vehicles to be electric or hybrid vehicles by 2022 by licensing these services.

## Page 2 Vision for Climate Action In Chico

### Comments:

1. The CAP defines “carbon neutrality” as “achieving net-zero CO<sub>2</sub>e emissions, such that any GHG created are offset by sequestering activities.” Most of the measures and actions in this document are not “sequestration” actions but CO<sub>2</sub> reduction actions. The definition should take this into account too.
2. GHG reduction is not just about carbon reduction. This plan seems to be limited solely to reducing CO<sub>2</sub> or achieving carbon neutrality, and while CO<sub>2</sub> is the largest source of GHGs the other GHGs (methane, nitrous oxide, and refrigerant gases: hydrofluorocarbons (HFCs), perfluorocarbons, sulfur hexafluoride, and nitrogen trifluoride) are critically important to reduce too. Why is the focus on Chico’s CAP only related to carbon neutrality?
3. There are not many sequestering activities in this document except the discussion of a tree plan for the City. Does this CAP seek to utilize the urban forest to offset carbon production from electrical generation and transportation emissions?
4. With electrification moving forward throughout the state the control of fugitive HFC emissions will be critical, yet I see nothing that addresses these GHGs while you suggest we need more refrigerant appliances; heat pumps instead of gas furnaces and heat pump water heaters instead of gas-fired ones. What safeguards are in place to reduce these critical emissions?
5. The carbon neutral strategy in this CAP ignores maximizing energy and conservation strategies along with electrification and renewable energy production. All of these need to be addressed incorporated. Despite it being almost 50 years since the first energy crisis there is still a lot of energy that can be conserved or eliminated through energy efficiency improvements.

## Page 5 History of Sustainability in Chico

### Comments:

Not sure how this is a history of sustainability in Chico, lots of things are missing to be a history of sustainability. Seems more like a discussion of GHG reduction achievements since 2005.

1. How has the City of Chico reduced GHG emissions since 2005?
2. What were the things that were done locally to achieve a 27% reduction?
3. Are these only CO<sub>2</sub> emissions or are other GHGs included in this?

## Page 16 Respiratory Illness

NO<sub>2</sub> emissions from natural gas usage in buildings account for **92% of outdoor NO<sub>2</sub>** concentrations in California

- Check your facts or correct your error (outdoor or indoor?). NO<sub>2</sub> emissions from natural gas usage in buildings do not account for 92% of outdoor NO<sub>2</sub> concentrations in California. It mainly comes from vehicles and industry. In fact, EPA shows that NO<sub>2</sub> emissions from buildings are typically less than 10% of total outdoor NO<sub>2</sub> emissions.
- When you reference your claims, you really should have a detailed reference. Simply stating the data is from the EPA National Emission Inventory, 2017 is inadequate, what page? You might be right but I couldn't find it.

## Heat-Related Illness

*Vulnerable populations are less likely or unable to own an air conditioner because they cannot afford to pay the utility bill, which tends to be higher in low-income populations living in aging buildings with poor insulation and ventilation.*

### Comments:

- “Vulnerable populations” refer to the elderly, immune-suppressed, chronically sick, etc. who are vulnerable to the effects of heat or does it refer to households that don't have a cooling system?
- Believe it or not low-income households on average have lower utility bills for a number of reasons: they conserve energy because they can't afford to pay for it so their bills are lower; they are more likely to live in apartments which use less energy per square foot than SFUs; they are more likely to be renters and their landlords may not have installed a cooling system in their home; and most are on CARE rates receiving 50% reduction in electrical costs. They may be more vulnerable to the effects of temperature because they can't afford to run their air conditioners, or they can't afford to buy one (or their landlord hasn't provided them with one).
- The State's and the IOU's (investor-owned utilities) weatherization program have been installing insulation and weatherizing low-income households since the late 1970's so it is very likely that most, if not all, low-income households have insulation and ventilation (unless there is construction defect or electrical issue that keeps it from being insulated)

- Another claim without proof or reference.

### Ecological Degradation and Disease

*The changing climate is affecting biological resources and ecological function in Chico, especially in spaces like Bidwell Park that span multiple habitat types. Decreasing ecological function can lead to faster-spreading diseases, to which humans and crops may be vulnerable.*

### Comments:

- Where are your reference for these claims?
- Yes, climate changes will cause changes in ecosystems as they adapt to new conditions, but does it decrease ecological function and lead to disease? A diverse habitat adapts, changes, and survives. Single-crop habitats (monocultures), like our agricultural system, fail to adapt, become susceptible to disease, and die out.
- How is it affecting “spaces” like Bidwell Park? Bidwell Park isn’t a space, it is a variety of related ecosystems.
- As climatic conditions change, resilient ecosystems respond by: adapting (migrating to higher elevations or latitudes), change in function (forest density may increase with increasing carbon in the atmosphere or a lake may change into a bog, a savanna may turn into a desert); species composition may change from less adaptable ones to more adaptable ones; less dominate to more dominate; some long-term species may disappear while new exotics show up and establish themselves. Less resilient species disappear. This isn’t necessarily a “degradation” of an ecosystem function but a change. You may be used to a woodland savanna dominated by blue oaks and grey pines but once it is taken over by other species better adapted to dryer, more atmospheric carbon, and hotter climates and changes in front of your eyes, you may consider it a negative result of climate change. Maybe it is, but nature doesn’t “think” that way, it adapts.
- What faster-spreading diseases are causing problems due to climate change in Chico? Covid, West Nile virus, encephalitis, malaria, scabies, lyme disease, red-spotted spider mites? Let’s see the references to this claim too.
- Why would “faster-spreading” be the qualifier for diseases? Heck a slow-spreading disease could be just as deadly.
- Our agricultural community is not a resilient system and is at risk. Continued droughts are impacting water supplies, while our greatest agricultural commodity locally are almonds, which are one of the highest water consuming crops. Instead of adapting to drought conditions farmers drill deeper to keep their cash crop growing and degrade the local aquifers, which affects everyone and nature.

**Page 17. Health of the Local Economy**

*Climate change is expected to disproportionately affect small and medium businesses in Chico due to lack of capital and resources combined with a low number of operational facilities. Climate change is also forcing the business-as-usual approach to infrastructure and energy to become more expensive.*

- How is it expected it to disproportionately affect small and medium businesses in Chico? You can backup this statement with some kind of evidence? Not all small and medium businesses are struggling and don't have access to capital or resources. Many small and medium businesses are that way because that is what they want. On average one-third of business start-ups fail within 5 years. What evidence do you have that that will increase in Chico as a result of climate change?
- Show the number of Chico business licenses by year to see if they are being affected.
- Energy is becoming more expensive even as California's energy portfolio increases its renewable component and it makes up a greater portion of the energy mix. In fact, the move to require time-of-use rates, which are significantly higher during summer months, is directly related to the use of solar PV in the energy mix.
- Electrifying businesses will increase their expenses for upgrading equipment and other requirements will add to their costs. So yes, you are right, climate change will cost small and medium businesses more to operate as they comply with new regulations designed to reduce GHGs.
- There was no mention of the CEC's BUILD (Building Initiative for Low-Income Development) Program for low-income developments and ECH Program for new and existing homes.
  - *The BUILD Program will provide incentives for the deployment of near-zero-emission building technologies in low-income residential buildings that reduce greenhouse gas (GHG) emissions significantly beyond what otherwise would be expected to result from the implementation of the prescriptive standards described in Part 6 of Title 24 of the California Code of Regulations (California Energy Code).*
  - *Equipment for Clean Heating. This program offers incentives to install building decarbonization technologies into new and existing homes.*

**Page 17. Cost of Natural Gas**

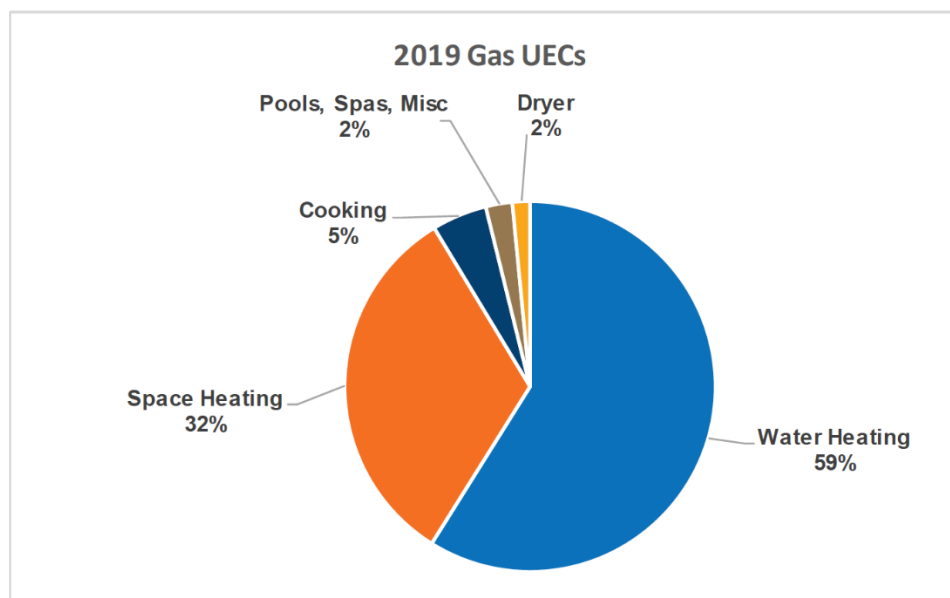
*Residential natural gas usage is projected to decline 25% by 2050 due to increased energy efficiency. This will lead to dramatically increased natural gas prices to maintain the high costs of natural gas infrastructure. This is expected to disproportionately affect residents and businesses who rely on natural gas for cooking and heating*

**Comments:**

1. First, cooking with natural gas is a minor portion of a household's energy use in California, 7% of natural gas consumption.

2. Second, residential natural gas usage will decline because people are decarbonizing and replacing natural gas appliances with electric ones. This will push them on board the decarbonization train.
3. Third, why haven't you talked about the electrical infrastructure the way you do natural gas? The electrical supply infrastructure is in a critical state. PG&E announced that they are going to spend billions just undergrounding power to prevent fires in the future. The grid is strained. All the renewable energy farms will require significant infrastructure to get the power from the farm to the family, yet it isn't a factor in this discussion. Electric rates are rising and will continue to rise and affect all all-electric consumers in a big way.

**2019 RASS: 360 therms per household**



Source: 2019 California Residential Appliance Saturation Survey.

### Page 38. Equity Context

The City of Chico understands the importance of incorporating the needs and perspectives of diverse members of the community, particularly those of under-served and underrepresented populations, into the CAP's strategies.

#### Comments:

1. Fix the footnote typo. It is CalEnviroScreen not CalEnviroStreen
2. I'm not sure what defines an under-served and underrepresented population in this context. The low-income community in Chico and Butte County as well as the whole state has been

served very well in terms of energy conservation, efficiency, and recently, solar electric and thermal systems. Middle-income Californians have benefitted very little from the public purpose fees used to pay for energy programs administered by IOUs. Most of it (over \$1.5 billion per year) is allocated to low-income assistance programs with little going to middle-income households.

Here is a list of resources for low-income households:

- a. CARE – the California Alternative Rate for Energy is a utility/CPUC program that subsidizes low-income utility users. Utilities in California spend over \$1 billion every year (per CPUC CARE filings) subsidizing electricity rates by up to 52% (based on the tiered rate system) and gas rates by 20%. This saves low-income customers \$300 to \$500 a year or more off their utility bills.
- b. FERA – Family Electric Rate Assistance is a discounted electric rate for families (more than 2 people) who don't qualify for CARE (which is set at 200% of the federal poverty level). The income to qualify is higher than CARE but not quite middle-income. For electricity only.
- c. Chico Utility Users Tax Rebate – the City of Chico rebates qualified low-income residents for their UUT. The City has allocated \$2,000 in projected rebate funds. If over a quarter of the City's population considered "low-income" households it appears that the City doesn't not promote the UUT rebate very well.
- d. City of Chico Home Rehab Program – the City's Home Rehab Program as provided assistance to low-income homeowners to upgrade their homes. Many of the projects include upgrading windows and doors, weatherizing the building, new HVAC and water heater systems, upgrading the electric systems and roofs (needed for low-income solar electric programs).
- e. Energy Savings Assistance Program – aka the IOU Weatherization Program has provided weatherization (insulation, weatherstripping, lighting, minor home repair, shell sealing, appliance replacement (primary and second refrigerators, window/wall AC, HE washing machines, and installing evaporative coolers), furnace and water heater repair and replacement (for owner-occupied units only), duct testing and sealing, and AC tune-ups. This program, under different names, has been serving the low-income community since roughly 1980. Around \$750 million a year is spent on the program. At the end of 2020 the ESA Program met it's CPUC set goal of weatherizing every low-income household that wanted to be weatherized. Not only has it weatherized every qualified low-income household in the State, but it has done it three and four times since 1980.
- f. State of California Department of Community Services and Development (CSD) has a weatherization program too. In Butte County it is provided by the Community Action Agency of Butte County. Spending allowances can exceed \$10,000 per household or more. The State's Wx Program can change out HVAC systems if they are cost-effective based on a DOE-approved energy audit. Program can replace broken ranges, water heaters, etc. It is likely that the LIWP program because it is State-funded with Cap and Trade money can electrify residences. Unlike the ESA Program the State's Wx Program can upgrade renter-occupied residences in addition to owner-occupied.

Funding Sources

- i. LIHEAP - Funded by the Dept. of Health and Human Services (DHHS) the Low-Income Home Energy Assistance Program (LIHEAP) provide bill payment assistance and weatherization measures.
  - ii. DOE WAP – Department of Energy Weatherization Assistance Program is another weatherization funding source the State uses for low-income households.
  - iii. LIWP – Low-Income Weatherization Program – State funded from Cap and Trade funds. Includes weatherization for single-family homes, multi-family, and solar electric systems.
3. The CAP needs to involve the Community Action Agency of Butte County to get them involved in bringing the low-income community up to speed on decarbonization. They also have access to funds for almost anything low-income related and can install any electrification measures.
  4. I would argue that the middle-income folks are under-served and underrepresented with regards to energy assistance. The best the IOUs have been able to do for the middle-income households is provide a rebate program, and that is a pretty limited offering. The expectation is that middle income folks can afford to have insulation installed or upgraded in their ceilings, walls, and floors, windows replaced, building envelope tightened, HVAC systems upgraded to the latest energy efficient ones, water heaters replaced with energy efficient ones, and all the lighting replaced. Instead, middle-income households are typically two-income earners, working full-time to pay for their over-priced home, the two cars, insurances, taxes, utility bills, children’s activities, and trying to save for their children’s college funds. If they have extra money it isn’t going to make their homes energy efficient.

*Some Chico residents live in census tracts among the 25% most disadvantaged in the state.*

**Comments:**

1. The latest CalEnviroScreen database listed one census tract in Chico (Chapmantown) out of 23 as being “disadvantaged”. How does one turn one tract into “tracts”?
2. Where does the statement “*the 25% most disadvantaged in the state*” come from?
3. There are funding and assistance opportunities for disadvantaged communities. They are more “advantaged” than medium-income neighborhoods where no funds are available to upgrade appliances to decarbonize. Instead of giving millions of dollars to residents of disadvantaged communities we should be spending money fixing what makes them disadvantaged.

2021 CalEnviroScreen Disadvantaged Communities - Chico, Butte County, CA					
Census Tract	Total Population	CES 3.0 Score	CES 3.0 Percentile	CES 3.0 Percentile Range	SB 535 Disadvantaged Community
6007000103	3,902	7.8	7.8	5-10%	No
6007000904	6,071	8.3	9.3	5-10%	No

6007000901	2,142	8.4	9.4	5-10%	No
6007000402	7,030	8.7	10.2	10-15%	No
6007000401	1,771	11.0	15.1	15-20%	No
6007000601	3,304	11.8	17.1	15-20%	No
6007001400	5,797	13.0	20.1	20-25%	No
6007000102	3,900	14.2	23.0	20-25%	No
6007000104	5,636	14.9	24.8	20-25%	No
6007000800	5,295	15.3	25.9	25-30%	No
6007000202	3,723	18.4	34.2	30-35%	No
6007000501	4,333	19.5	37.0	35-40%	No
6007000201	4,052	20.0	38.4	35-40%	No
6007000300	4,410	20.5	39.5	35-40%	No
6007000700	4,694	21.0	40.9	40-45%	No
6007000502	4,204	21.8	42.6	40-45%	No
6007000604	4,217	26.9	53.7	50-55%	No
6007000903	6,117	27.1	54.0	50-55%	No
6007000603	3,130	30.6	60.7	60-65%	No
6007001100	4,572	33.4	65.5	65-70%	No
6007001000	4,801	34.7	67.7	65-70%	No
6007001200	3,556	36.7	71.2	70-75%	No
<b>6007001300</b>	<b>4,169</b>	<b>47.0</b>	<b>85.5</b>	<b>85-90%</b>	<b>Yes</b>
Total Pop =	100,826				
	Average	20.5	37.1		
	Min	7.8	7.8		
	Max	47.0	85.5		
	Median	19.5	37.0		

### Page 39 Education and Leadership

*The City understands that implementation of the CAP will lead to change and many of these changes will require the adoption of new technologies and behaviors. This change is unlikely to occur without conversations between the City, key stakeholders, and the community through establishing partnerships and conducting community education and outreach.*

#### Comments:

1. Changes aren't likely to occur without COMMITMENT from stakeholders, partners, and the community. Conversations aren't enough.



**Page 43 Community and City Costs****Comments:**

1. “In general, all-electric models (HVAC) are more expensive” – not necessarily. There are many all-electric HVAC systems (heat pumps) that are less expensive than gas-fired ones to buy and install. There are plenty of choices in the market right now and there will be more in the next few years.
2. The most cost-effective may not get the job done. If decarbonizing was cost-effective it would have been done. It isn't cost-effectiveness but that should be the only criteria. Taking advantage of all the funding that may be available is great, but state and federal funds are taxpayer financed and utility money is ratepayer financed. TANSTAAFL – there ain't no such thing as a free lunch!

**Page 47 Electrification and Grid Reliability**

*HVACs are used primarily in the winter and would not contribute significantly to peak demand in the summer.*

**Comments:**

1. HVAC stands for Heating, Ventilation, and Air Conditioning and are used more in the summer than in the winter. Chico has a hot and getting hotter climate and most people use air conditioning from their HVAC system.
2. Demand peaks in the summer because of all the HVAC air conditioning systems! Who wrote this?
3. There are other cooling options besides HVAC systems that aren't discussed in this document. They are much cheaper to operate than HVAC systems because they use much less electricity but require water.

**4. GHG Reduction Framework****1. Collaboration – Partnering for Support**

*The City recognizes that effective climate action does not occur in a vacuum and that groups outside of the municipal government may be better positioned to implement specific actions and measures. To successfully implement the CAP, it will take collaboration across City departments, with local non-profits, utility providers, community groups, business associations, local institutions, and the community to achieve the goals of this CAP. The sector strategies incorporate many actions focused on collaborating with the City's extensive list of partners. Collaboration with these groups began before the inception of the CAP, but were expanded through targeted outreach, and will continue to grow as the CAP is implemented. A full list of stakeholders engaged during the CAP update is included in Appendix A but some of the key local partners who will have a role in implementing the Chico CAP include:*

**Comments:**

1. Having stakeholder collaboration and support is critical to the success of a program like this CAP; however, stakeholder and partner participation is also required if the community is going to reduce GHG it can't be done on the backs of homeowners alone.
2. This document seems to equate stakeholders and partners. Stakeholders have some kind of vested interest (a stake) in what you are proposing while partners have a role in doing it. I see very few partnership roles in this CAP.
3. What is the CAP asking stakeholders and partners to do specifically? The CAP is replete with statements that stakeholders (but for some reason partners aren't mentioned) will be included, solicited, engaged, etc. but nowhere are there specific actions (roles) that they will commit to do to reduce GHGs.
4. Some actions say to "partner with stakeholders" to accomplish something but nothing specific.
  - a. CSU Chico is the largest employer in the City with over 4,000 employees and around 20,000 students and creates the greatest local GHG impact. What is their role in this CAP? I couldn't identify any specific actions for CSUC in this document. Has CSUC agreed to do to reduce GHG gasses? How does it fit with the CAP strategies? When will they implement their measures?
  - b. Chico Unified is another larger employer with a lot of local impact especially on vehicular GHGs as they are one of the largest trip generators in the community. What have they been asked to do to reduce GHGs?
  - c. Enloe Medical Center is another large employer in Chico and operates out of multiple facilities. Have the offered to reduce GHGs in compliance with this plan? What are they going to do and when?
  - d. Sierra Nevada Brewing Co. is already ahead of everyone in terms of GHG reduction and sustainability and are a great role model. How many charging stations do they have?
  - e. Butte Regional Transit (BCAG) provides alternative transport and is an important partner in the CAP. Can they be funded to provide free or subsidized fares for riders to reduce vehicle use?
  - f. Butte College is also a major employer with thousands of students that affect local GHGs. What are they going to do to reduce GHGs with their energy use, trip generations, renewable, charging stations, etc.

**Measure E-1 Procure Carbon-Free Electricity for the Community Through a CCA by 2024 and Maintain an Opt-Out Rates of 5% for Residential and 15% for Commercial Through 2030 and 2045.**

**Action E-1-1 Provide carbon neutral electricity to the community**

*Procure carbon neutral electricity for the community through Butte Choice Energy Community Choice Aggregation (CCA), in accordance with the ordinance authorizing the implementation of a CCA Program through a Joint Powers Agreement with Butte County, amending Title 15 of the Municipal Code. Automatically enroll community and municipal accounts in the 100% renewable energy option by 2024 (or as market conditions prove favorable) with an opt-out option.*

### Comments:

1. How much extra will the 100% renewable option cost community members? Based on tariffs charged by existing CCA's the 100% renewable option is a more costly option, while the BCE was promoted to the public as a less costly option.
2. Will BCE develop it's own carbon neutral power sources?
3. Is BCE going to purchase excess power produced by local residents, businesses, corporations, groups, and investors?
4. What kind of purchase agreements will they have for individuals who produce more than they consume? Net-metering agreements? Annualized billing with reimbursements for excess power produces? This information needs to be generated quickly so that residents know how to develop their solar systems at their homes and businesses before BCE starts in 2014.
5. Where do the profits generated by selling power to BCE customers go? Will they fund local conservation and efficiency improvement activities? How much are they expected to generate?
6. BCE needs to provide regular information on customers who generate energy, by size of facility, type, amount produced, % of portfolio, etc. to keep the public fully informed about the drive to electrify the BCE service territory.

### **Action E-1-2 Partner with Butte Choice Energy to conduct community outreach and track opt-out rates.**

*Work with Butte Choice Energy to conduct targeted community outreach with the aim of maintaining low opt-out rates (5% or less for residential accounts and 15% or less for commercial accounts). Track opt-out rates through Butte Choice Energy and share results publicly on an annual basis.*

### Comments:

1. "Partner" with BCE? I thought BCE was a quasi-city agency. Forget partnering with BCE – require BCE to conduct customer tracking and community outreach.
2. Who is going to "work with BCE" to do this? Isn't is part of BCE's management responsibilities to be able to provide opt-out numbers on a monthly basis and conduct follow-up contact calling to find out why community members are opting out.
3. Will BCE have a marketing department?
4. Why is a 15% commercial opt-out rate acceptable?

**Measure E-2 Eliminate Natural Gas in All New Building Construction Starting in 2025 to Reduce Natural Gas 6% by 2030 and 16% by 2045 Compared to the Adjusted Forecast.****Action E-2-1 Require new construction to be all-electric**

*Adopt a new ordinance which bans the installation of natural gas in new residential and commercial construction by 2025 if not already required by the State's 2025 Title 24 Building Energy Efficiency Standards. The ordinance will only apply for building types where electrification is shown to be cost-effective Implementation will consist of the following:*

- 1. Engage and educate the community and shareholders*
- 2. Conduct a Cost-effectiveness Study*
- 3. Develop and draft the new building ordinance for public process and revisions*
- 4. Formally adopt the new building ordinance*
- 5. Apply to the CEC for final ordinance approval*

**Comments:**

1. This action recommends adopting an ordinance that will “engage and educate the community and shareholders” and “conduct a Cost-effectiveness Study”. An ordinance doesn’t do that, will you clarify this action. Also, it isn’t “public process and revisions” it is usually “public review and revision”.
2. If the “public” will not accept such an ordinance, will it be implemented anyway?
3. What will the ordinance entail? The elimination of gas lines in new individual buildings or whole developments?
4. What building types does it apply to? All?
5. How will cost-effectiveness be determined? This document states multiple times that decarbonizing new buildings “is cost-effective in the long-term” so why conduct a cost-effectiveness study in the first place?
6. What if it is found it not to be cost-effective? Ordinances don’t have a “statement of overriding considerations” like an EIR does where it can be implemented even if not cost-effective.
7. Is the cost-effectiveness analysis done on a project-by-project basis? Which I would assume would need an energy audit or energy analysis over and above current Title 24 requirements.
8. Will the cost-effectiveness include the costs of electric appliances to replace gas appliances (stoves, ovens, dryers, etc.)?

**Measure E-3 Electrify Existing Residential Buildings Starting in 2027 to Reduce Overall Residential Natural Gas Consumption to 100 Therms/Person by 2030 and 30 Therms/Person by 2045.**

**Action E-3-1 Electrify existing residential buildings**

*If not already required by the State's Building Efficiency Standards (Title 24), adopt an electrification ordinance for existing residential buildings to transition natural gas to electric in two phases, to be implemented through the building permit process.*

*Phase I: Limit expansion of natural gas lines in existing buildings by 2025.*

*Phase II: Require HVAC system replacements and hot water heaters replacement to be all electric by 2027.*

*Implementation will consist of the following:*

- 1. Engage and educate the community and stakeholders*
- 2. Conduct a Cost-effective(ness) study*
- 3. Develop and draft the new building ordinance for public process and revisions*
- 4. Formally adopt the new building ordinance*
- 5. Apply to the CEC for final ordinance approval*

**Comments:**

- 1. This action recommends adopting an ordinance that will “engage and educate the community and shareholders” and “conduct a Cost-effectiveness Study”. An ordinance doesn’t do that, will you clarify this action. Also, it isn’t “public process and revisions” it is usually “public review and revision”.*
- 2. If this requirement is through the permit process (and yes Title 24 will require it) how many permits are taken out each year for HVAC or water heater replacements?*
- 3. If the “public” will not accept such an ordinance, will it be implemented anyway?*
- 4. There isn’t much need for gas line expansion in most remodel jobs as typically it is the duct system that is extended for new HVAC systems.*
- 5. Many people will likely forgo the permit process to keep from doing this.*
- 6. These measures aren’t for new buildings so maybe you want an “existing building ordinance” instead of a “new building ordinance?”*
- 7. What about other gas appliances being replaced with electric ones, such was clothes dryers?*

**Action E-3-2: Update RECO to support electrification**

*Expand the City's Residential Energy Conservation Ordinance (RECO) to cover substantial remodels (over 50%). Amend RECO to require electrification and/or energy conservation improvements for substantial*

*remodels in the same way that RECO currently requires these types of upgrades upon transfer/sale of homes and apartments. The amendment will include electrification options such as installation of a 200 amp panel and/or installation of electric heat pump appliances for HVAC and hot water heaters as well as the option to go beyond the base requirements for energy conservation set forth in the Title 24.*

### **Comments:**

1. Substantial remodels over 50%. 50% of what? Square footage, value of the home, number of bedrooms, conditioned space?
2. Action E-3-1 requires the HVAC and water heater to electric when someone applies for a permit to replace either, why is this necessary then?
3. The RECO is based on the sale of the house, is this proposing that the houses be electrified when they are sold?
4. How successful has Chico RECO been? Does anyone actually do it? How does the City know?
5. When a home is remodeled, it has to be in compliance with Title 24 and the permitting process. RECO applies to homes when they are resold so how will that work?
6. The RECO ordinance is not up-to-date with energy regulations and standard practices. For example: ceiling insulation for Chico's climate zone, per Title-24 is R-38, yet the RECO only requires R-30. Caulking exterior cracks has no guarantee of doing anything. It isn't a standard weatherization practice which seals structures using pressure diagnostics (blower doors and duct blasters). Why not upgrade it to maybe reduce energy consumed?
7. The CEC proposed a similar thing a number of years ago and the Real Estate and building interests killed it.

### **Action E-3-3 Decarbonize municipal buildings**

*Adopt decarbonization plan to decarbonize municipal buildings by 2045. This plan would include a new building electrification policy as well as an existing building natural gas phase-out policy. Decarbonization of municipal building will be driven by PG&E SST Program.*

### **Comments:**

1. If the City is serious about decarbonization they should be leading by example instead of following from behind. You proposed residential and commercial decarbonization starting in 2025 but not for city buildings until 2045?
2. Are the new HVAC systems currently being installed by the PG&E Sustainable Solutions Turnkey (SST) program all electric or are they gas-fired HVAC systems?
3. A decarbonization implementation plan for the City facilities and operations should be developed immediately and finished by 2023.
4. A decarbonization plan for the City also needs to include the vehicle fleet.

5. What about the other governmental agencies in and around Chico I don't see anything from them in this document? Do they have a buy-in or are they an also-ran if required to by law? This action item should be "Decarbonize Public Buildings, Facilities, and Fleets".

### **Action E-3-4 Perform an electrification feasibility study**

*Conduct a feasibility study/existing building analysis to understand the cost associated with electrifying existing residential and commercial buildings in the City of Chico.*

#### **Comments:**

1. This should be the NUMBER 1 thing that is done before developing and implementing any decarbonization measures.
2. This study should be conducted and completed within a year of adopting the CAP.
3. What criteria would make electrification unfeasible?
4. How is this action item different from the cost-effectiveness study in E-3-1, and E-3-2?

### **Action E-3-5 Track electrification progress**

*Develop a permit tracking system for existing building electrification to track annual progress in achieving the City's electrification goals.*

#### **Comments:**

1. The City doesn't already have a permit tracking system or database? That should be a given, not only for electrification modifications but for any all permit applications.
2. What level of compliance with the permitting process do you think will happen with these requirements?

### **Action E-3-6 Identify and partner with stakeholders to conduct electrification outreach, promotion, and education**

*Leverage partnerships with stakeholders to conduct outreach, promotion, and education around new and existing building electrification, including:*

- *Induction/electric stove cooking competition to demonstrate the competitiveness of electric stoves for replacing gas stoves*
- *Information sessions/events that educate the public on safety concerns around gas stoves and health/cost benefits of replacing water heaters and space heaters with electric heat pumps*

- *Develop financial and technical resources, including hosting workforce development trainings for installers and building owners/operators to discuss benefits and technical requirements of electrification and move towards all-electric requirements*
- *Conduct internal trainings with planners and building officials on state decarbonization goal and incentives available for electric homes*
- *Establish a comprehensive, coordinated electrification education campaign for property owner and occupants, including an updated list of rebates and incentives available for residents wanting to electrify their homes*

**Comments:**

1. What is the City of Chico's proposed budget for developing a comprehensive public relations campaign? It will be critical to get buy-in from the Chico community for any of actions in this plan. This will cost money and needs to be implemented immediately.
2. Induction stoves aren't the only electric cooking technology that can be used to de-gassify a home.
3. The biggest health issue associated with gas appliances are the combustion byproducts associated with incomplete combustion of which carbon monoxide (CO) and aldehydes are the two biggest hazards, for that reason they should not be used. The claim that cooking with gas stoves causes asthma has yet to be conclusively proven. A study by LBNL identifies minute amounts of carcinogenic compounds in the "exhaust" of stoves and it becomes a cause all of a sudden even though there is little epidemiological evidence that is actually causes cancer.
4. This action item is about educating the public on the benefits of electrification and that should be its focus. Developing financial and technical resources should be its own action item because these resources are going to be needed big time if you want the public's buy in.
5. Isn't the City already conducting internal training for planners and building officials with regards to California's climate mandates and executive orders, and other important things that they should know about the State's effort to reduce GHGs?

**Action E-3-7 Partner with stakeholders to develop resident-level funding pathways for implementing electrification ordinance**

*Leverage partnerships with stakeholders and establish funding pathways to ease community members' costs when complying with an electrification ordinance or meeting State standards, including:*

1. *Investigation of a transfer tax rebate for electric panels and/or other upgrades*
2. *Partner with PG&E, Butte Choice Energy, and/or other stakeholders to create or expand electrification/retrofit programs and incentives, especially for low-income residents. These could include the PACE program, PG&E's low-income weatherization program, tariffed on-bill financing, metered energy efficiency, or others.*

**Comments:**



1. Clean the jargon up like “funding pathways”? Why not just say “identify sources of financial support to implement electrification measures”?
2. Will BCE develop incentives for these measures? Show in BCE’s budget where they will utilize revenue collected from their customers to incentivize electrification measures and other energy conservation and efficiency programs.
3. Will BCE apply for Public Purpose Program funds to provide incentives to customers?
4. PG&E is redesigning and developing financial programs to support electrification and hopefully will provides funds to CCAs from Public Purpose Program funds.
5. PG&E’s Energy Savings Assistance (ESA) Program continues to be funded to provide equity programs to low-income households, including CCA customers. Over \$1 billion a year is used to fund these IOU programs throughout the State. However, the ESA Program met its goal of weatherizing every qualified household in the State that wished to receive services by December 2020. The ESA Program is being modified by IOUs for the near future and is likely to provide electrification measures in addition to the typical weatherization measures. The CARE program also subsidizes qualified low-income households by reducing the costs of their electricity by almost 50% and natural gas by 20%. These programs are already in place and are funded the only effort needed by this CAP is to get the word out to encourage qualified customers to apply for these programs.
6. What is missing from PG&E’s portfolio are subsidies and incentives for middle income households. Very little of the public purpose funds charged to ratepayers are targeted for middle income households, yet they are the largest users. Petition the California Public Utilities Commission to set aside PPP funds for middle income ratepayers to use for electrification measures.
7. PACE funding is a miserable failure and should not be used. There are too many problems with this funding source.
8. On-bill financing would be an option that BCE could implement easily.
9. Have you identified other “stakeholders” that would fund these improvements?

### **Measure E-4 Increase Generation and Storage of Local Renewable Energy**

#### **Action E-4-1 Coordinate with stakeholders to provide local energy generation support and incentives for the community**

*Partner with PG&E and or other stakeholders to support and incentivize local on-site energy generation and storage within the community with a focus on underserved communities. This could include a co-located community solar and storage project.*

#### **Comments:**

1. What do you mean by “local on-site energy generation and storage”? “On-site” is local isn’t it. Off-site is somewhere else, right? Do you mean “locally owned”?

2. What “on-site energy generation and storage do you suggest? Solar PV? Fuel cells that utilize natural gas? Methane generators? Biofuel production and energy generation?
3. What scale? Residential, commercial, industrial, or utility (BCE)?
4. What stakeholders are envisioned that would support and incentivize such projects? I can’t think of any who would invest without getting something in return.
5. Why would PG&E support and incentivize the development of on-site energy generation? The goals of this CAP are to reduce or eliminate natural gas consumption and to both produce electricity locally and promote BCE’s purchase of electricity from non-PG&E sources. How cooperative do you think PG&E will be to incentivize projects when their revenue stream is completely threatened?
6. How will small power producers feed into BCE purchasing program in the BCE’s territory? What will it take to be a qualified generator for them?
7. Net-metering incentivizes individuals to oversize the PV systems on their homes and is not longer used by IOUs in the State. How will BCE pay for residential PV production? Will excess electricity generated by individuals be net-metered or annualized so that you are never paid for excess electricity generated over a one year period.
8. How will BCE purchase electricity from a solar electric co-op that installs panels on residents and charges customers for solar electricity consumed with a submeter?
9. What is a “co-located community solar and storage project”? And who would be responsible for it, the City of Chico, private developers, some mysterious stakeholder, etc.? What kind of power purchase agreements will BCE enter into with these systems?
10. What would a focus on underserved communities look like? Who or what are the “underserved communities” in our community?
11. Low-income households (not communities) have access to the State’s low-income solar program already and low-income weatherization programs. Is this the underserved community you are talking about? What more would you do to help them generate energy? Hint: biggest obstacle to installing solar on low-income households is ownership and condition of the roof. Replacing the roof so the panels can be installed increases costs by \$5 – 10,000 and PV can’t be installed until the roof is replaced and it isn’t funded by any program except housing rehab programs.
12. One underserved segment (community?) I provided energy conservation services to was the small business community. We provided services to over 10,000 small businesses in Northern California. Is this one of the underserved communities you are thinking about?
13. Shouldn’t the community’s biggest users be a focus to reduce GHGs?
14. How many underserved communities do we have here in Chico?

There isn't much in this action to encouraging PV system development on individual homes – local, on-site, distributed generation. There are things that can be done by the City to make it work better that haven't been discussed such as:

1. Solar orientation - require developers to orient homes for maximum solar gain - long axis (long enough to install 75% of the panels needed) in a east-west orientation.
2. Construct roof pitches to maximize solar gain in the winter for all electric homes. An optimal roof pitch minimizes the need for expensive mounting racks and makes the system cheaper to

install and maximizes production. The optimal pitch for a south-facing roof to mount panels on is 35 degrees or a 9/12 roof and 99% of optimum for 30 – 40 degree pitches (7/12 to 10/12). Other orientations can significantly reduce solar PV production requiring additional panels to make up for the loss.

3. Minimize roof size (or footprint) of the home to reduce solar heat gain and reduce cooling costs.
4. Streamline permit process.
5. Streamline the connection process. With a CCA who will be responsible for connecting individual PV systems to the grid. I assume PG&E. I also have heard that there is a huge time lag from the time a PV system is installed and permitted to when it is actually connected to the grid by PG&E.

What about other renewable energy technologies that haven't been mentioned:

1. Solar water heating systems are another source of GHG free water heating and is renewable. This hasn't been discussed at all. Require the installation of solar water heating systems in all new homes.
2. Encourage the development of passive solar homes that can provide solar heating in the winter. Goes along with orientation of homes to maximize winter heat gain. Require overhangs to shade windows.
3. Require window shading devices on the exterior of homes to reduce solar heat gain in the summer and that can be adapted to optimize solar gain in the winter.

### **Action E-4-2 Streamline battery storage building permit requirements**

*Coordinate City departments to establish and streamline battery storage building permit requirements to allow for easier implementation of these technologies within the community.*

#### **Comments:**

1. Has there been a problem with these permits or the permitting process?
2. Why would coordination with city departments ease implementation? Which other city departments would be involved besides the Building Department and the Building Code Official?
3. Has the solar electric permit process been streamlined and functioning well?

### **Action E-4-3 Conduct an energy generation feasibility study**

*Conduct a feasibility study through the PG&E Sustainable Solutions Turnkey (SST) program to assess cost and applicable locations for installation of battery back-up systems, generators, or a micro-grid throughout the City. Engage with the community to determine how local energy generation systems can support community infrastructure as well as critical public infrastructure.*

#### **Comments:**

1. The PG&E SST program is designed for PG&E's large customers, in this Action who is the large PG&E customer that would apply for the SST? The City? BCE?
2. Is there another funding source if PG&E's SST Program won't fund such a feasibility study? Or are all the eggs of this CAP in this one basket?
3. Not sure what "engaging the community to determine how local energy generation systems can support community infrastructure" means. Is this just jargon or is there some actual examples of this that can be added to this action item to explain its intent?
4. What is critical public infrastructure that would need the community to determine its energy generation needs? An explanation of how this action item would work or what exactly it would do might help understand all jargon you use.
5. What is needed is a feasibility study to identify barriers to installing community solar projects on parking lots, public buildings, and industrial sites (like the airport).
6. Will the energy generated by the community be cheaper than energy purchased through the BCE? If so, great. If not, why bother?
7. If a feasibility study is conducted, should it also focus on how energy generation can be a revenue generator for the City to provide the incentives for other aspects of the proposed CAP actions.
8. What about a micro-grid feasibility study?

**Action E-4-4 Install renewable energy technology at municipal facilities**

*Implement the comprehensive PG&E Sustainable Solutions Turnkey (SST) program to install renewable energy technology at municipal facilities.*

- *Increasing backup generation capacity and adding battery storage at City facilities.*
- *Upgrading aeration systems.*
- *Upgrading and automating all City HVAC systems.*
- *Install solar PV at the Municipal Services Parking Lot to create 290 kW energy savings.*
- *Replace aging 1 MW at Waste Treatment Plant and add 738 kW to make it 1.75 MW energy savings.*
- *Update City-operated irrigation control system design and development City-wide.*

**Comments:**

1. Only two of these action items have anything to do with renewable energy technology. The others are energy and efficiency measures.
2. To keep this action item true to its title it should be split into two different actions items:
  - a. Install renewable energy technology at municipal facilities
  - b. Utilize PG&E SST Program funding to reduce energy and water consumption.

3. Kind of a basic Energy 101 thing but installing renewable energy systems does not create energy savings, they create energy. Energy efficiency and conservation save energy, energy production does not. Energy production what may save money over the long term, but producing energy is not the same as “saving energy”.
4. Will the backup generators be powered by renewable energy or GHG emitting standard generators powered by natural gas, diesel, or gasoline. What renewable energy technologies will be used for backup generation? Biofuel generators or fuel cells?
5. Upgrading aeration systems is a facility improvement that may reduce energy but cannot see where it is a renewable energy project.
6. Upgrading and automating all City HVAC systems is not a renewable energy project, it is an efficiency and facility improvement project. Hasn't the City already done this or are in the process of doing this with the PG&E SST program? Not a renewable energy project.
7. Are the HVAC systems that have just been installed or are being installed with PG&E's SST Program complying with the desire for the electrification of all natural gas appliances? Are they utilizing heat pump technology or another non-GHG technology? If so what kind of non-GHG systems are being installed.
8. Are the HVAC systems utilizing a non HFC refrigerant?
9. Most of these are in progress and were scheduled to be completed prior to the adoption of this CAP, so why are they mentioned as an action to be accomplished.
10. Why is the “aging” solar system at the waste treatment plant being retired? Is it still producing electricity? What is the efficiency level now? What makes it at the end of it's useful life?
11. Replacing an “aging” system is the same as installing a new system so shouldn't this action item say to “install a 1.75 MW photovoltaic system” at the waste treatment plant.
12. What will happen to the old system? Will the City sell the old, aged, useless panels that still work or throw them away?
13. Updating City-operated irrigation control system isn't renewable energy production. Do you mean solarize irrigation control systems citywide so that they are powered by the Sun and not the grid?
14. Why not an action item that states that the City will eliminate water consuming vegetation on median strips and other greenscapes and utilize localized drought tolerant native plants when vegetation is desired. The Park Commission approved a policy in the 1990's to reduce or eliminate vegetation that requires constant watering like grass in public spaces. Unfortunately, this policy has since been ignored by the City.

## Transportation

### Measure T-1 Improve Active Transportation Infrastructure to Achieve Greater Than 6% Bicycle Mode Share by 2030 and 12% by 2045

#### Action T-1-1 Implement Chico Bicycle Master Plan

*Implement the Chico Bicycle Plan 2019 Update in accordance with the Plan's goals, objectives, and policies. Implementation of the Plan may include:*

- *Adding additional miles to the bikeway network*
- *Implementing new end-of-trip facilities and enforcement protocols to reduce bicycle theft*
- *Conducting road repairs and road maintenance*
- *Improving/expanding wayfinding, safety, and comfort*
- *Integrating with transit and other transport modes*
- *Conducting promotion and education around biking in Chico*
- *Identifying and competing for funding sources*

#### Comments:

1. What are "enforcement protocols to reduce bicycle theft" and how will they work to reduce bike theft? The City of Chico PD has shown little or no interest in the rampant bicycle theft problem in Chico. Hundreds of bicycles are stolen every month. When notified about bike chop shops in town the police won't check them out. Do "enforcement protocols" include getting the PD to do their job?
2. Butte College, a large trip generator in our community, has bus stops located around town. There aren't enough stops so that students can simply walk to the bus stop, and many have to ride their bikes to the stop or drive and park nearby. Due to the high incidence of bike thefts at these bus stops and some places a lack of bike parking in neighborhoods it is not an encouraging mode of transportation. Bike parking around BC bus stops needs to be significantly improved and monitored to prevent bike theft, which is common at these sites and discourages use of the bus if a student bikes. Are there any specific fixes for this that BC will do to encourage bike and now e-bike users to use their bus service?

#### Action T-1-2 Require shaded and convenient bike parking

*Require shaded Park-a-Bike style rack or equivalent when installing bike parking in new development.*

#### Comments:

1. You cannot specify a product, even refer to it, in a document like this. There are many types and styles of bike racks, Park-a-Bike is a manufacturer NOT a type or style, and they have many styles and types.

2. What is a Park-a-Bike style rack or equivalent? And what about it is appealing to a multi-modal transit user?
3. This refers to “new development” what about old developments or anywhere else? It needs to be done everywhere.
4. This should be an easy “partner engagement” action for any business that vehicle generate trips that can be traded for bike trips.
5. I just did an around town survey of bus stops and the facilities are pathetic. Only a few have bike racks and then they are the lollipop style. I didn’t see a single bike at any of them. The bus stop at K-Mart is a shambles. A vendor has set up and is covering half of the bike racks with a pop-up shade tent waiting for riders to sell them cell phone service. Why would this appeal to anyone to use the B-Line? A few stops have shaded seating, some just a bench, and others nothing. One guy was standing out in the sun waiting for a bus. The bus stop on MLK Way across from Barnes and Nobles is in the middle of the block on the opposite side of the street from the stores. One has to walk across the middle of a very busy road or walk to the nearest crosswalks that are not very convenient. At night none of the stops are lit even though they have plenty of surface area on the structure, those with structures to put enough PV panels to power a lighting system and possible even charging for e-bikes.
6. If Butte College is to be a partner in this effort, they need to survey their bus stops and determine how many bikes can be parked at their stops and if there is capacity for increasing bike parking. They also need to be responsible for providing safe bike parking at their bus stops. To encourage use each bus stop needs to provide shelter during inclement weather and lighting for nighttime use.
7. Butte Transit also needs to assess their bus stops for bike parking and provide bike racks at stops. They also need to provide lit shelters stops to encourage usage in inclement weather.
8. A full-service bike rack should provide safe secure bike locking, e-bike charging, a lit environment, and other amenities to encourage bike riding. A sheltered bike parking area can be developed with solar panels that can charge batteries to power the lights and charging stations for e-bikes.
9. Apartments need to be required to provide bike parking and e-bike charging stations. These stations actually can pay for themselves by assessing a fee for charging.

#### **Action T-1-5 Complete an Active Transportation Plan**

*Develop and implement an Active Transportation Plan (consistent with the General Plan) that identifies funding strategies and policies for development of pedestrian, bicycle, and other modes of alternative transportation projects. Work with the City’s bike/ped working group to identify high priority areas.*

*Example improvements include:*

- *Pave shoulders of streets that have high traffic counts*
- *Separate bike lanes from motor traffic with concrete bumper blocks or better*
- *Establish a safe east-west connection over highway 99*

**Comments:**

1. What is an “Active Transportation Plan”? It just identifies funding strategies and policies for alternative transportation projects? Seems like it needs to do more than just identify funding strategies and policies.
2. Why not develop an “Alternative Transportation Plan”? Fossil fuel powered transportation is the biggest source of GHGs so this should be one of the top measure to undertake. An ATP should include:
  - a. An transportation assessment of the community.
  - b. Identify methods and modes of transportation that reduces GHGs.
  - c. Identify methods for reducing vehicular trips like a Walk-to-School Program, Work-at-Home program, etc.
  - d. Transit mode transitions and develop facilities to support these. Sheltered bike parking at bus stops and stations. Charging facilities for EVs and e-power transportation.
  - e. Goals to reduce trips.
  - f. Actions for large trip generators to do to reduce vehicular trips.
  - g. Land use planning to reduce vehicular.
  - h. A plan to restrict vehicular access to downtown and other heavily biked areas.
3. “Establish a safe east-west connection over Highway 99”? Where? This is really vague. Almost all east-west corridors run under Highway 99 and the bridged roads are Park Ave, 20<sup>th</sup> St., Mangrove, and Eaton. Which one? There are a number of Highway 99 crossings that need to be improved to make it more friendly for bikes and peds.
  - a. An bike/pedestrian bridge has been approved for the 20<sup>th</sup> Street area already and is waiting to be built. Is this the one mentioned here?
  - b. The recently remodeled 8<sup>th</sup> and 9<sup>th</sup> Street couplet/Highway 99 crossing fails at creating a bike or ped friendly interchange. The bike lane disappears under the freeway and there is no easy way to cross from the north side of 8<sup>th</sup> St. to the south side after the freeway – i.e. no cross walk. This interchange was poorly done on the west side and the east side is confusing with the bike path and sidewalk merging. There was no attention paid to pedestrians and bikers on the west side.
  - c. Eaton Ave/H-99 intersection is being modifies with a round-about. Did this roadway improvement include bike and peds? Currently there isn’t a safe way over H-99 at Eaton.
  - d. East Ave under H-99 is too narrow for bike paths and should be widened to allow a bike lane and sidewalks.
  - e. Only one bike path runs under H-99 at Little Chico Creek, others should be developed along H-99.
  - f. 20<sup>th</sup> St and Park Ave overpasses are not bike friendly.
  - g. Vallombrosa Ave under H-99 is not bike friendly (nor is Vallombrosa Ave the entire length) or pedestrian friendly (the sidewalk is only present under the freeway and ends at the property to the east).



**Action T-1-6 Identify and partner with stakeholders to conduct outreach, promotion, and education**

*Leverage partnerships with stakeholders to conduct ongoing outreach, promotion, and education around active transportation in Chico. This could include:*

- *Establishing City-wide events or programs that promote active transportation in the community*
- *Regularly updating the City's Bicycle and Pedestrian Network Map and sharing through City and stakeholder partnership platforms*
- *Supporting Chico Velo in hosting workshops and classes on bike riding, safety, and maintenance by certified instructors*
- *Instituting car-free days downtown, potentially coupled with Farmer's Market or other large and regular events*
- *Consolidating a list of local employer-provided bicycle parking, lockers, showers, and incentives as a demonstration tool for other interested employers*

**Comments:**

1. Identify and partner with stakeholders to conduct outreach, promotion, and education on what? This action item doesn't say.
2. Which stakeholders? The CAP needs to task "partners" to actively conduct outreach, promote alternate transportation, and educate their constituents on the benefits of alternate transportation and even support their use of alternate transportation by incentivizing their constituents (employees, students, and customers).
3. How will this support Chico Velo? Provide city funded grants to do this? Or just put on the CAP website that Chico Velo is available to do this? Fund it!
4. You might not want to institute car-free days for activities like Farmer's Markets because people who purchase things might not want to haul them on their bikes because they may not have bike racks with bags to hold stuff. However, activities and events like concerts or public programs would be great for that.
5. How about recognizing employers who provide bike and alternate transportation facilities to encouraging other to do similar things?

**Action T-1-7 Create a Bike/Ped/Parking Coordinator Position**

*Create a Bike/Ped/Parking Coordinator Position for the City to ensure implementation of active and shared mobility measures.*

**Comments:**

1. There's that word again, "active", and now you've added "shared". I guess I missed the discussion on "shared mobility". Keeping up with the jargon in this document requires an active college degree.
2. Good idea. Since the City doesn't like to create positions unless they are managerial this could also be a contracted activity to a group like Chico Velo or other community-based non-profit with a handle on alternative transportation.

**Measure T-2 Improve EV Infrastructure to Achieve Greater Than 23% EV Share of Car Registrations by 2030, and 90% by 2045**

**Action T-2-1 Increase privately owned EV charging infrastructure**

*If not already required by the State's Building Energy Efficiency Standards, consistent with the Final Butte PEV Readiness Plan, amend the City's Building Code by 2023 to require the following::*

- *EV capable private garages for new single-family and duplex residential development*
- *20% EV charging capable spaces and panel capacity for new multi-family residential development*
- *20% EV charging capable spaces for new commercial development*
- *At least 1% working EV charging spaces for all new development and major retrofits*

**Comments:**

1. The 2017 Butte PEV Readiness Plan is based on an assumption that there will be 1 million EV in the State by 2020 and 1.5 million by 2025. Given the exponential growth of EVs in California and nationally the 1.5 million estimate will be surpassed way before that. The major automotive manufactures are already ramping production with estimated that their entire lines will be EV's by 2025 and definitely by 2030.
2. Where's the reference for the Butte PEV Readiness Plan? It would be nice to be able to link to all your referenced documents.
3. These numbers for EV charging stations are too low.
4. What about e-bikes, e-scooters, e-vehicles? They need charging too.
5. Why only SFUs and duplexes? Why not tri- and four-plexes? How many charging stations per unit? Individual attached garages should have at least a 220/240 V outlet available for the number of vehicles per garage. Detached garages and car ports should also be retrofitted with 220/240 v outlets.
6. "At least 1% working EV charging spaces for all new development and major retrofits" What is this referring to? All new developments and major retrofits? What developments? Residential, commercial, industrial? Major retrofits of what residences, offices, any building? Retrofitting older homes will be costly because the electric service panel will need to be upgraded to at least 200-amps from the typical 100-amp panel to accommodate the electrical appliances required by a retrofit electrification ordinance and EV charging capability. This could add a couple thousand

dollars to the remodel and also PG&E would like have to upgrade the transformer for the new amperage.

7. All new homes are typically outfitted with a 220/240 V outlets for the dryer (typically in the garage), electric range (even if gas is present), and air conditioner. The CAP requires new homes to be electrified and solar ready which means that at least a 200-amp electric panel with capacity for multiple 220/240 V appliances will have to be installed. There is very little cost associated with installing one or more 220/240 V outlets in a garage, a breaker, wire, and an outlet (less than \$100). There doesn't have to be a dedicated charging station installed unless the customer wants one and they can pay for it. There are devices available that plug into any 220/240 V outlet which will allow a dryer plug in and an EV plug in at the same time. Since both devices don't have to be used at the same time they share the outlet. Save installation costs on existing homes with a 220/240 V outlet in the garage.

### **Action T-2-2 Increase publicly accessible EV charging infrastructure**

*Work with public and private partners to ensure there are at least 942 publicly accessible DCFC and Level 2 EV chargers with the City's Sphere of Influence, with a focus on providing access to low-income households and affordable housing by 2030. Prioritize locations based on analysis in the Final Butte PEV Readiness Plan.*

#### **Comments:**

1. How many charging stations are the City's public partners and the City going to install?
2. Providing charging stations to low-income households will require the City to assist organizations like the Community Action Agency of Butte County, or the City's home retrofit program, to secure grant funding to upgrade low-income households for electrification which will require electrical upgrades to provide an EV charging outlet as well as electrical appliances. It is likely that the new infrastructure bill will have funds the CAA of Butte County could apply for to do this work throughout Butte County.
3. In affordable housing it just becomes standard equipment by Title 24 or City Housing Code during the build, very little added cost so that not a barrier. Purchasing an EV will be the biggest barrier to low-income households.
4. The Butte PEV Readiness Plan focus in on the Highway 99 electric vehicle corridor and while that is good the plan is already outdated and the CAP should identify priority locations for the City to install EV charging stations.
5. This will also be vendor driven activity. Charging for charging should also drive the installation and location of charging stations around the city.

### **Action T-2-3 Increase City-owned EV charging infrastructure**

*Install new publicly accessible EV chargers at City-owned facilities. Develop and implement a fee for use of City-owned chargers to encourage efficient use and turnover, especially for those without home*

*charging capability. Allocate parking fee revenue towards projects that support EV infrastructure, alternative fuel projects, and active transportation projects.*

**Comments:**

1. Absolutely.
2. City-owned charging stations should be a pay-for-play system. When you plug in you pay to charge your vehicle with a credit card. The payment should be based on a per kWh basis with surcharges for the cost to develop the charging facilities as well as the hourly parking fee.
3. If the City wants to encourage EV usage, especially in the downtown corridor, providing free charging would do that with the cost for the electricity paid for from parking fee revenue or with the City's Utility User's Tax.
4. There will likely be State and Federal funding available to develop these parking lots for EV charging.
5. Cover City parking lots with PV panels to provide electricity for charging stations and shade for our every warming climate. It will also reduce the heat island effect that parking lots generate.
6. The CAP needs to address e-Bike and e-Scooter charging stations too. This can be done with the proposed shaded bike parking that should be shaded with PV panels and contain storage batteries for e-Bike charging stations and LED night lighting. There are bike-lock stands that have chargers in them that can be accessed by plugging in the e-Bike to charge it up.

**Action T-2-4 Identify and partner with stakeholders to develop ZEV-related rebates**

*Investigate partnerships with public and private stakeholders to develop rebates on at-home electric circuits, panel upgrades, and Level 2 chargers.*

**Comments:**

1. Now you are using ZEV for EV. Consistency is important with readers, this is the first time you used ZEV in the body of the CAP while it is in the appendices a few times. What does it stand for your readers might ask? Zero Emission Vehicle is different than an EV, an EV is a subset of ZEVs.
2. Level 2 chargers should be purchased by the user along with their car.
3. Identify stakeholders who would become partners by giving away money for nothing so people can upgrade their homes to electrify them. Sounds like a full-time job for someone.
4. Whomever is managing this program should be accessing funding sources like the new infrastructure bill to identify and apply for funds to do this.
5. Develop a local investment fund that locals can invest in to support the programs in the CAP like this one.

**Action T-2-5 Encourage EV adoption and infrastructure improvements**

*Conduct outreach, promotion, and education to encourage EV adoption and infrastructure improvements. This could include the following:*

- *Providing education and outreach to the community on the benefits of ZEVs, availability of public charging, and relevant rebates and incentives available for businesses and residents*
- *Working with major employers (e.g., CSUC, Fifth Sun, Build.com, Enloe) to provide EV charging for employees and encourage EV adoption among employees*

**Comments:**

1. Instead of encouraging adoption of EV by employers someone should develop partners in the effort to provide EV charging. If a couple partners do it and they are recognized in a public way others will sign up to do it too.
2. Assist with the development of a local business to provide EV and e-Bike charging stations for public and private parking lots.
3. Assist with the development of a local investment fund to provide the financing for these improvements.
4. EVs will need to be repaired and maintained. Since it is a new technology mechanics will be needed who can repairing EVs. Butte Community College should develop a EV vehicle repair program in their automotive mechanics program if they haven't already done so.
5. Batteries don't last forever. A battery recycling and disposal program should be established up front before it becomes a problem.

**Action T-2-6 Establish universal EV signage**

*Establish universal signage and marking requirements for EV parking spaces*

**Comments:**

1. I'm pretty sure universal signage and parking space markings have been developed for EVs.
2. If Chico develops and establishes universal signage and marking requirements for EV parking spaces will the universe adopt them?
3. First thing that should be developed is EV parking policies. Policies may require specific signage requirements over and above universal EV charging and parking markings.
  - a. Should EV parking and charging be free to encourage EV use?
  - b. Should EV's pay the full cost to develop and provide charging or should it be subsidized?
  - c. Should local EV owners have a reduced cost to charge and park to encourage local EV use?
  - d. Should EV parking in City lots be limited to the time necessary to charge the vehicle or less while there are few lots?

**Action T-2-7 Streamline the EVSE permitting and inspection processes**

*Streamline both the EVSE permitting and inspection processes, which may include:*

- *Prioritizing EVSE permitting for faster turnaround times*
- *Establishing flat fees for standard installations*
- *Enabling homeowners and licensed contractors to submit EVSE permit applications online*
- *Allowing EVSE across different zoning classifications*
- *Considering simple EVSE installations as exempt from CEQA on a case-by-case basis*
- *Allowing installation of EVSE as a mitigation measure for large projects*
- *Condensing inspections for more complex installations that do not include panel upgrades or underground conduit*
- *Establishing a 24-hour flexible inspection request program online*
- *Providing shorter inspection windows*
- *Removing requirement for electrician to be present during inspection to decrease consumer costs*

**Comments:**

1. More acronyms without explanation. Define EVSE. This is the first time it is used in the CAP and there is no explanation. This reviewer knows what it stands for, but no lay person is going to figure it out by reading this document.
2. Aren't flat fees standard for basic installation permits already?
3. What does EV Service Equipment have to do with zoning? Or for that matter what do charging stations have to do with zoning? Does it have to be listed as an allowable activity in each zone?
4. Why would EV equipment be regulated under CEQA? A permitted item is exempt from CEQA.
5. What does this action item, "streamline...process" have to do with "allowing installation of EVSE as a mitigation measure for large projects"? That is a function of the planning department not the building department. What is it supposed to be mitigating?
6. Shortening inspection windows and flexible inspection request makes it seem like there is a rush to install EVSE, I mean charging stations. Does the demand for these permits and inspections rise to the level indicated here?

**Action T-3-1 Partner with BCAG to improve and expand transit withing the City****Comments:**

1. Additional and improve transit opportunities are critical to reduce personal vehicle trips. There is almost nothing about the current B-Line facilities are appealing. The current routes have been

developed by BCAG's consultant and are probable adequate for current levels of ridership but additional routes need to be developed.

2. I love this use of jargon. "Increase active transportation access to transit stops". I conducted a quick survey of a number of B-Line routes in Chico and this is what I found:
  - a. Many stops had shelters, but a few are damaged and in need of repair.
  - b. Some of the stops were just a sign indicating a B-line stop.
  - c. None of the shelters are lit at night and some are in a deteriorated condition.
  - d. B-Line busses can carry bikes which helps the multi-modal active transportation thing.
  - e. Bike parking is inadequate at stops. There weren't many bike racks and the bike racks consisted of 5 lollipop racks that could hold 10 bikes. The transit center in downtown had only a couple bike racks. Riders would have to use the CSUC bike racks a block away. This is especially important for Butte College's bus program.
  - f. Want to increase ridership you need to make multi-modal transit, ok active transportation, seamless and provide protection for riders and their transit methods (bikes and e-Bikes).
3. A transit service from downtown through Lower Bidwell Park all the way up to Horseshoe Lake and back to downtown would really benefit locals and tourists. In the summer this should run everyday, and the rest of the year on weekends.

### **Action T-3-2 Prepare for shared bike programs**

*Conduct an active transportation share (e.g., bike-share, scooter-share) feasibility study. Update municipal ordinances to prepare the City for shared mobility programs in accordance with the Bicycle Master Plan and the Downtown Access Plan. Consider starting a bike share pilot program in Downtown, ideally with docked e-bikes.*

#### **Comments:**

1. Why does a feasibility study have to be conducted? To employ consultants? Bike share programs, unless instituted and managed by the city, should be encouraged and possibly even solicited to entrepreneurs and existing companies that provide these services. They will conduct their own feasibility studies and if it is feasible they will set up a bike-share, or e-Bike shares, or e-Scooter sharing service. Let them determine if it is feasible for them to do it.
2. Update city policies and ordinances to facilitate one or more companies providing these services.

### **Action T-3-7 Encourage use of local transit**

*Promote use of B-Line for Downtown transit especially. This could include bus open houses and promotion of DoubleMap app.*

**Comments:**

1. Bus open houses? I think most people know what a bus looks like.
2. Bus apps should be promoted by BCAG for their B-Line
3. If you want to encourage local transit offer it free to everyone in town and subsidize it through TOT or gas tax revenues.

**Action T-3-8 Invest in TDM strategies**

*In accordance with the Downtown Access Plan, designate and use a portion of paid parking revenue to invest in TDM strategies including Actions T-3-1 to T-3-7 that will ensure cost-effective Downtown access by improving transit, bicycle facilities, and create incentives for people to avoid driving.*

**Comments:**

1. Once again you don't explain acronyms – TDM.

**Measure T-4 Implement Parking and Curb Management Procedures that Support the Mode Shift Goals of the Overall Transportation Strategy**

**Action T-4-1 Utilize dynamic parking pricing Downtown**

*In accordance with the Downtown Access Plan, utilize dynamic pricing for Downtown area parking, increasing costs of parking during times of high usage and special events.*

**Comments:**

1. Explain how dynamic pricing works.
2. If you make parking downtown harder and more expensive it needs to be offset by making alternate transport easier, less expensive, and attractive to users.

**Action T-4-3 Encourage parklets Downtown**

*Identify opportunities for development of parklets throughout the City's Downtown, to replace parking spaces with bike parking or outdoor restaurant seating.*

**Comments:**

1. Explain parklets. It may be a feature of the Downtown Access Plan but that doesn't help anyone who hasn't read it.
2. What about removing one lane on Main and Broadway, widening the sidewalks, limiting deliveries to early morning hours, and closing down downtown streets on weekends.



**Action T-4-4 Establish carpool/vanpool/shuttle parking minimums**

*Update the Municipal Code to establish minimums for carpool/vanpool/shuttle parking requirements in new non-residential development.*

**Comments:**

1. What are the current “minimums” and what do you propose they should be?
2. What new non-residential developments would it apply to?
3. Why not apply it to current non-residential developments?

**Measure T-5 Support Implementation of the City’s General Plan that Promotes Sustainable Infill Development and Mixed-Use Development in New Growth Areas to Reduce Vehicle Miles Traveled (VMT)**

**Action T-5-1 Support infill growth**

*Continue to support infill growth and thoughtful mixed-use development in new growth areas consistent with the Chico 2030 General Plan and the regional Sustainable Communities Strategy.*

**Comments:**

1. I’ve never seen a measure explained in a title of a measure.
2. Support? Why not implement the City’s General Plan instead of playing lip service to this measure?
3. What happened to the “Mixed-Use Development in New Growth Areas” component of this action?

**WASTE**

**Measure W-1 Update Waste Hauler Franchise Agreements to Implement Requirements of SB 1383 and Achieve 75% Reduction Below 2014 Levels in Organic Waste to 0.4 Tons of Waste/Person by 2025 and Maintain Through 2045**

**Action W-1-1 Require residential and commercial organic waste collection through updated waste hauler contracts**

*Update waste hauler contracts to include expanded organic waste collection. Pass an ordinance by 2022 requiring residential and commercial organics generators to subscribe to organics collection programs or alternatively report organics self-hauling and/or backhauling. Allow limited waivers and exemptions to*

*generators for de minimis volumes and physical space constraints and maintain records for waivers/exemptions.*

**Comments:**

1. Isn't this required by the state?
2. Currently we only one waste hauler, is the City planning on soliciting additional waste haulers to increase the competition?
3. Will the City also license or allow entrepreneurs to develop food waste services?

**Action W-1-2 Require edible food recovery**

*Adopt an edible food recovery ordinance or similarly enforceable mechanism to ensure edible food generators, food recovery services, and food recovery organizations comply with State requirements to increase recovery rates.*

**Comments:**

1. Who is going to be the enforcement body for this ordinance or enforceable mechanism?
2. What about a PR campaign to encourage edible food recovery.
3. Will the City limit who can conduct edible food recovery and what they do with it?

**Action W-1-3 Partner with North State Rendering to expand use of the digester**

*Work with North State Rendering to expand use of organics in the digester. Conduct a pilot to demonstrate effectiveness and identify funding sources for a larger expansion.*

**Comments:**

1. Is North State Rendering the sole proprietor for this effort? What if someone else wants to develop a digester and it appears the City has partnered with North State? You can't specify a sole vendor for a measure.
2. Will the City encourage business development of organic waste processing by local entrepreneurs?

**Action W-1-4 Conduct capacity planning for organic waste collection**

*Engage in organic waste collection capacity planning by executing the following:*

**Comments:**

1. This action is listed twice

2. Shouldn't this be done before you require it?

**Action W-1-5 Conduct capacity planning for edible food recovery**

**Comments:**

1. Shouldn't this be done before you require it?

**Sequestration**

**MEASURE S-1 Increase Carbon Sequestration by Increasing Urban Canopy Cover at Least 10% by 2030 Through New Greenscaping Programs**

**Action S-1-3 Improve greenspace management to maximize carbon sequestration**

*Improve management of public open space and park lands, including use of compost, to maximize carbon sequestration. Through permit review, evaluate and ensure that landscaping plans utilize native species identified in the Urban Forest Management Plan where feasible.*

**Comments:**

1. Public open spaces and park lands are under the auspices of the Bidwell Park and Playground Commission. There are no permits required for plantings by the city in public spaces. The BPPC has a list of native species recommended for planting in Chico but the Public Works Department does not follow those Commission policies with regards to native species.
2. Watering is another critical component that needs to be addressed in any additional greening of the community. Plants and plantings need to be minimal water users.
3. Developers need to comply with plant recommendations in areas that will become public spaces and greenways.

**Action S-1-4 Require shade trees in new major developments**

**Comments:**

1. Developers are already required to plant street trees in all developments, you weren't told? What is needed is a QA program that ensures that they are planted right and will survive.
2. What is needed are shade trees in existing areas without trees like parking lots.
3. Does the City have solar shading ordinances in place to restrict the planting of trees that would shade solar systems?
4. How about an ordinance that would require trees to be trimmed to keep from shading a solar system even if it was installed after the tree shaded the surfaces intended for solar panels and systems.

5. Can shade trees be planted in areas if they shade solar systems?

### Page 99 Developers

*COST: Building all-electric generally costs less for the developer and for the residents of the building. Especially high savings, between \$85,000 to \$100,000 are associated with avoiding the cost to run natural gas to the building. Additional cost savings are associated with avoiding the need to locate gas meters, lower Title 24 requirements, and expedited timelines from avoiding installing natural gas infrastructure. Cost increases from building all-electric may result from buying heat pump water heaters, which cost about \$800 more than their natural gas counterparts.*

1. Where do these “facts” come from? Are you saying it costs a developer \$85,000 to \$100,000 to lay a gas line through a development and to plumb each home with 30 – 50 feet of ¾ inch black pipe and fittings? So, one fourth the price of a home is for the gas line? You expect me to believe this stat?
2. Avoiding the need to locate a gas meter – there’s a huge savings for that? The meter belongs to PG&E and is paid for in the cost of the gas.
3. “Lower Title 24 requirements”? Really, you still have to do all the same calculations, heat loss and gain has nothing to do with what kind of heating system you install. You still have to do calcs to size any HVAC system. A ducted heat pump HVAC system (whether a ducted mini-split or a standard heat pump HVAC unit) still requires the duct system to be tested and the air flow calculated. Ductless mini-splits can see a cost savings because ducting doesn’t have to be installed.
4. Heat pump water heaters can be purchased for less than \$1,000 when bought in bulk but most of them are being priced around \$1,500 - \$3,500 depending on the type of system and size. At this time there are rebates (PG&E \$300 for specific heat pump water heaters) and federal tax credits (\$300 at least until the end of 2021).
5. How much does an all-electric home cost over a mixed fuel house? Developer costs will likely break even however, adding a solar PV system will add \$20 - \$60,000 to the price of a home:
  - a. Heat Pump HVAC system ducted around \$2,000 less than a gas-fired package unit.
  - b. A mini-split heat pump with multiple heads, two systems per house, \$8 – 10,000 similar to a standard HVAC system.
  - c. Water heater \$600 for electric, \$2,000 for heat pump water heater (less if mass purchase).
  - d. Solar PV \$20,000 – \$30,000 or more depending on the load on the home.
  - e. Batter back-up \$15,000 - \$30,000 depending on capacity needed.
  - f. Car charging system - \$500 - \$5,000
6. Homeowner Costs
  - a. Induction or electric stove

- b. Electric oven/range
- c. Heat pump clothes dryer or electric dryer

### **Appendix D CAP Finance Map**

Not sure what the purpose of these graphs are other than a wish list. There are no actual recommendations on what to pursue to implement this program.

All funding sources show:

- Fees and surcharges
- On-Bill financing
- Grants

ESCOs (energy service companies) are not funding sources they are implementers who use funds from sources to install equipment.

It doesn't identify any City funding sources:

- Utility Users Tax
- City bonds

Where is the explanation of these graphs?

What is PPP?

### **Miscellaneous Writing Comments**

1. Edit, proofread, edit, and proofread again.
2. I couldn't find your list of acronyms, abbreviations, and/or definitions. This is kind of critical in a jargon-filled document like this one.
3. Many of the claims in this document are not referenced. Are they made up or are there sources?
4. Style geek comment: Shrunken and White's "The Elements of Style" states that sentences should be followed by a period even when in a bulleted list. This is also standard business writing style too. None of your bulleted lists that contain complete sentences have periods at the end of each sentence.
5. The list of Appendices isn't referenced by appendix number or title. Kind of helps to know what is contained in each Appendix. It also helps linking the table of contents to the contents.