UPDATED

SUSTAINABILITY COMMITTEE

March 28, 2022
1:00 P.M.

To slow the spread of COVID-19, in lieu of a public gathering, the meeting will be accessible via Zoom to all members of the public as permitted by Government Code section 54953(e).

Supervisor Federal D. Glover, Chair
Supervisor John Gioia, Vice Chair

Agenda Items:	Items may be taken out of order based on the business of the day and preference of the Committee Board of Supervisors Committee: **Please click the link below to join the webinar:** **https://cccounty-us.zoom.us/j/88064903408** **Or Telephone, Dial:** **USA 214 765 0478 US Toll** **USA 888 278 0254 US Toll-free** **Conference code: 841892**

1. Introductions

2. Public comment on any item under the jurisdiction of the Committee and not on this agenda (speakers may be limited to three minutes).

3. **APPROVE Record of Action from November 22, 2021, Meeting of the Sustainability Committee.** (Jody London, Department of Conservation and Development)

4. **RECEIVE UPDATE and PROVIDE GUIDANCE on the proposed draft strategies and recommended targets for the 2022 update to the Climate Action Plan, including direction on opportunities to achieve further GHG emission reductions should the Sustainability Committee suggest targets that exceed State guidance**(Jody London, Department of Conservation and Development - Sustainability) ***UPDATED**
Attachment 5: Proposed Draft CAP Strategies-Rec Targets*

5. **RECEIVE REPORT from Sustainability Commission Chair, or Designee.** (Mike Moore, Sustainability Commission Chair)

6. **RECEIVE REPORT from Sustainability Coordinator.** (Jody London, Department of Conservation and Development - Sustainability)

7. The next meeting is currently scheduled for May 23, 2022.

8. Adjourn

The Sustainability Committee will provide reasonable accommodations for persons with disabilities planning to attend Sustainability Committee meetings. Contact the staff person listed below at least 72 hours before the meeting.

Any disclosable public records related to an open session item on a regular meeting agenda and distributed by the County to a majority of members of the Sustainability Committee less than 96 hours prior to that meeting are available for public inspection at 30 Muir Road, Martinez, on the 1st floor during normal business hours.

Public comment may be submitted via electronic mail on agenda items at least one full work day prior to the published meeting time.

For Additional Information Contact:
Jody London, Sustainability Coordinator
Phone: (925) 655-2815
Jody.London@dcd.cccounty.us

Contra Costa County Board of Supervisors

Subcommittee Report

SUSTAINABILITY COMMITTEE

Meeting Date: 03/28/2022

Subject: APPROVE Record of Action from November 22, 2021, Meeting of the Sustainability Committee.

Submitted For: Jody London, Sustainability Coordinator

Department: Conservation & Development

Referral No.: N/A

Referral Name: APPROVE Record of Action from November 22, 2021, Meeting of the Sustainability Committee.

Presenter: Jody London, DCD **Contact:** Jody London (925)655-2815

Referral History:

This is an ongoing item of the Committee.

Referral Update:

Recommendation(s)/Next Step(s):

Fiscal Impact (if any):

N/A

Attachments

11-22-21 Mtg Minutes

SUSTAINABILITY COMMITTEE

RECORD OF ACTION FOR
November 22, 2021

Supervisor Federal D. Glover, Chair
Supervisor John Gioia, Vice Chair

Present: Federal D. Glover, Chair
John Gioia, Vice Chair

1. Introductions

2. Public comment on any item under the jurisdiction of the Committee and not on this agenda (speakers may be limited to three minutes).

   Marti Roach stated that she recently sent input to Jody London on the Climate Action Plan and encouraged the Department of Conservation and Development and Supervisors to reach out to Marti for contact with 350 Contra Costa. Public comment also included the County's strategy for emissions reduction work. There are formal plans to align cities via economies of scale, such as EV charging. Supervisor Gioia reiterated that the infusion of new funds via the Sustainability Fund will allow Public Works to carry out this plan. Lastly, there was a comment made about Measure X funding concerns related to the security of the community. Public commenter was assured this is not a measure related to de-funding the police .

3. APPROVE Record of Action from September 27, 2021, Meeting of the Sustainability Committee.

   AYE: Chair Federal D. Glover
   Vice Chair John Gioia

4. RECEIVE UPDATE on BayREN marketing and outreach strategy, and PROVIDE DIRECTION.

5. CONSIDER REFERRAL from Board of Supervisors regarding letter from Sustainability Commission recommending actions to reduce greenhouse gas emissions from buildings.

   The Committee considered a referral from the Board of Supervisors from the Sustainability Commission. The Sustainability Commission sent a letter with recommendations on strategies to reduce greenhouse gas emissions in County buildings. Jody London, DCD, in conjunction with Steve Kowalewski, Public Works, provided an update on each item of this referral.

   In terms of the new electric requirement for new buildings, the County's building electrification ordinance is set to appear for a public hearing on approval during the first quarter of 2022.

   As far as green procurement goes, a goal in the Interim CAP Work Plan is to update the County's Environmentally Preferable Purchasing policy by the end of 2022. The purpose is to

consider greenhouse gas emissions during the procurement process. In addition, AB 1383, which creates a new organics collection requirement, is on track for adoption by the County. County staff are reviewing documentation, attending trainings and webinars pertaining to waste.

The current County design construction process doesn't include Buy Clean California Act specifications, but there is agreement with the Commission that these should be in County contracts. This is too early to implement, as it is only for State projects right now. However, the County will push to include these environmental product definitions, as well as document the lifecycle of some of these products (flat glass, mineral board insulation, structural steel, reinforcing steel). CalTrans hopes to include other materials in the future such as asphalt, concrete, and aggregates. This is expected to happen in 2022. The County is currently waiting for CalTrans to update guidance on this so it can follow suit.

In terms of resilience hubs, staff agrees that the adaptability and repurposing of County buildings for resilience hubs/community centers would require further collaboration. The plan is to use Measure X funding to bring on another staff member to help work on this

The Committee observed that it would require higher filtration in new buildings to allow for resilience hubs, which can become a zoning issue. A clean air center is inherently a public building. Brian Balbas, Public Works Director, confirmed that any retrofit of County buildings will be standardized to MERV 13. This allows for filtration for COVID as well. The Committee asked for a report back on this from Public Works.

Public Comment included concerns about building material safety, and overseas manufacturing.

6. RECEIVE REPORT from Sustainability Commission Chair, or Designee.

Wes Sullens, Sustainability Commission Chair, provided an overview of the Commission meeting last month, where the focus was on reviewing draft goals and strategies for the Climate Action Plan (CAP). In terms of the big picture, the Commission's focus is on the goals and strategies being aggressive enough, the implementation actions clear, and the strategies equitable for all. The Sustainability Commission used an online Jamboard to incorporate Commission members' feedback for each strategy, where they made comments, as well suggestions for improvement. Sullens stated that the main areas of concern for the Commission were wildfire danger, stronger language, the labor it will take to make these transitions good green jobs, data transparency and visualization, tracking mechanisms, and industrial use. During public comment, other suggestions were that there be clear and measurable goals, as well as a higher authority for these actions. While the Jamboard strategies were helpful, Commissioners also expressed interest in the in-person aspect as well. This will be revisited as COVID subsides.

County staff and the consultant will take these comments into consideration in the next draft. The December 2021 Sustainability Commission meeting will include a discussion about sea level rise.

7. RECEIVE report from Sustainability Coordinator.

Jody London reported that staff is working to organize the Interdepartmental Climate Action Task Force, where the primary focus is to identify champions within each department to support the adoption of Green Business Program best practices. Staff is also working on the Climate Action Plan, the implementation of SB1383, the Asthma Initiative, building electrification reach code. London noted that the County could join Drive Electric Bay Area, a program that would allow County employees to receive rebates and incentives for electric

vehicles.

During public comment, community members expressed a concern regarding electric cars and county employees, particularly that for mechanics, servicing electric cars can be extremely dangerous and should be considered by the County.

8. The next meeting is tentatively scheduled for January 24, 2022.

9. Adjourn

For Additional Information Contact:

Jody London, Sustainability Coordinatorf
Phone (925) 655-2815
Jody.London@dcd.cccounty.us

Contra Costa County Board of Supervisors

Subcommittee Report

SUSTAINABILITY COMMITTEE

Meeting Date: 03/28/2022

Subject: RECEIVE UPDATE and PROVIDE GUIDANCE on the Proposed Draft Strategies and Recommended Targets for the 2022 Update to the Climate Action Plan.

Submitted For: Jody London, Sustainability Coordinator

Department: Conservation & Development

Referral No.: N/A

Referral Name: RECEIVE UPDATE and PROVIDE GUIDANCE on the Proposed Draft Strategies and Recommended Targets for the 2022 Update to the Climate Action Plan.

Presenter: Jody London, DCD **Contact:** Jody London (925)655-2815

Referral History:

Since 2018, the Department of Conservation and Development (DCD) has been working on Envision Contra Costa 2040, the update to the County General Plan, Zoning Code, and 2022 Climate Action Plan (CAP). The General Plan will provide the County's long-term sustainability and resiliency vision and framework of goals, policies, and actions to achieve the 2040 vision. The 2022 CAP will provide the County's strategic plan of specific County-led and supported strategies and actions to reduce greenhouse gas (GHG) emissions in support of the State's emission reduction targets for 2030 and beyond, and to support climate adaptation and increased resilience to climate hazards and their impacts.

Referral Update:

This report provides information on greenhouse gas (GHG) emissions in the unincorporated areas of Contra Costa County and provides recommendations on targets for reducing GHG emissions. There are several attachments to this report that provide more detail on current and forecast emissions, as well as draft goals and strategies for reducing them.

- Attachment 1: Community-Wide GHG Inventories - Summary of Results
- Attachment 2: Greenhouse Gas Forecast, Existing Reductions, and Target Setting
- Attachment 3: Strategy Matrix and Implementation Details
- Attachment 4: Quantification Results and Assumptions

Staff recommends that the 2022 CAP include GHG emission reduction targets that are consistent with State guidance and for which there are demonstrable paths to achieving the necessary reductions. These recommended targets should be no greater than 6.0 metric tons of carbon dioxide equivalent (MTCO2e, a common unit for measuring GHGs that addresses the different warming potentials of different gases, equal to 1,000 kilograms or approximately 2,205 pounds) per-capita by 2030, 4.0 MTCO2e per-capita by 2040, and 2.0 MTCO2e per-capita by 2050. Staff additionally recommends that the 2022 CAP include an aspirational target of achieving net carbon neutrality by 2040 or 2045, consistent with the State's aspirational target.

About the 2022 CAP

The 2022 CAP will address climate mitigation and adaption. It will include an assessment of the County's current and projected future GHG emissions, targets to reduce the County's GHG emissions in accordance with State and regional guidance, and a set of strategies to achieve these reductions. The CAP also includes strategies to improve community resilience to climate change-related hazards, consistent with the findings of the County's Vulnerability Assessment and the in-progress Health and Safety Element of the General Plan.

The 2022 CAP will meet the requirements laid out for a Qualified GHG Reduction Strategy for the purposes of the California Environmental Quality Act (CEQA) as written in the California Code of Regulations Section 15183.5(b). This will allow future project applicants to use the 2022 CAP and the Envision 2040 EIR to streamline environmental review related to climate change and GHG emissions if those projects are consistent with Envision 2040 and the CAP's GHG reduction targets and

strategies. These requirements are:

- Quantify GHG emissions, both existing and projected over a specified period, from activities within a defined geographic area. (This work is complete and summarized in Attachment 1)
- Establish a level, based on substantial evidence, below which the contribution to GHG emissions from activities covered by the plan would not be cumulatively considerable. (This work is in progress. Attachment 2 provides more details)
- Identify and analyze the GHG emissions from the specific actions or categories of actions anticipated within the geographic area. (This work is in progress. Attachment 2 provides more details)
- Specify measures or a group of measures, including performance standards that substantial evidence demonstrates would collectively achieve the specified emissions level if implemented on a project-by-project basis. (This work is in progress. Attachments 3 and 4 provide more details)
- Establish a mechanism to monitor the plan's progress toward achieving the level and to require amendment if the plan is not achieving specified levels. (This work is in progress)
- Be adopted in a public process following environmental review. (This work is forthcoming)

Current and Historic GHG Emissions

The Board of Supervisors adopted the County's current CAP in 2015. As part of preparation of the 2022 CAP, County staff have revised the 2005 and 2013 GHG inventories included in the 2015 CAP, updating them to be consistent with current guidance and best practices. County staff have also prepared two additional inventories, for the calendar years 2017 and 2019. These inventories identify the sources and volumes of GHG emissions attributed to the unincorporated areas of Contra Costa County.

In 2005, the baseline year for the County's GHG analyses, GHG emissions for the unincorporated areas of Contra Costa County totaled 1,291,580 metric tons of carbon dioxide equivalent (MTCO2e). By 2019, these emissions fell to 1,010,590 MTCO2e, a decline of 22 percent. This puts the County on track to exceed its goal to reduce emissions 15 percent below 2005 levels by 2020.

The County also translated these GHG emissions to a per-resident value, known as a per-capita level. In 2005 the per-capita emissions for the unincorporated areas of Contra Costa County were 8.37 MTCO2e per-capita, falling to 5.80 MTCO2e per capita by 2019, a decline of 31 percent.

Although the inventories assessed GHG emissions for 11 different sources, or sectors, approximately half of all GHG emissions came from gasoline and diesel use in cars, trucks, and other on-road vehicles. Approximately 30 percent of emissions came from energy use in homes and nonresidential buildings (electricity, natural gas, and other home heating fuels), while approximately 20 percent of emissions were associated with solid waste generation. The remaining sources comprised approximately 10 percent of GHG emissions in the unincorporated area. Attachment 1 provides additional details on the inventories' methods and results.

Future GHG Emissions

County staff projected GHG emissions for future years using expected demographic growth in the unincorporated area, consistent with the demographic projections for Envision Contra Costa and the Association of Bay Area Governments/Metropolitan Transportation Commission. This forecast assumes that 2019 activities and resulting GHG emissions remain mostly constant per-person, and so changes in activities and emissions are driven by changes in demographics. If no new actions beyond those in place in 2019 are taken to reduce GHG emissions in the unincorporated area, emissions are projected to increase to 1,552,910 MTCO2e by 2050, an increase of 54 percent above 2019 levels. At a per-capita level, the demographic growth in the unincorporated area causes GHG emissions to fall to 5.29 MTCO2e per-capita, a decline of 9 percent below 2019 levels.

However, State and regional agencies are already taking regulatory actions and establishing new programs to reduce future GHG emissions, which will help to reduce emissions in the unincorporated areas of Contra Costa County. These actions include increasing supplies of renewable electricity, requiring higher energy efficiency performance and less natural gas use in new developments, and greater fuel efficiency and zero emission vehicle adoption for new vehicles. When these existing and planned efforts are factored in, GHG emissions in unincorporated Contra Costa County are expected to increase to 1,115,090 MTCO2e by 2050 (10 percent above 2019 levels), or to fall to 3.80 MTCO2e per-capita (35 percent below 2019 levels). Attachment 2 provides further details on the results and methods of future GHG emission projections.

Reduction Targets

The 2022 CAP will include GHG emission reduction targets for the unincorporated areas of Contra Costa County. The County has flexibility to adopt targets that best meet its needs. For the 2022 CAP to be considered a Qualified GHG Reduction

Strategy and to provide the most benefits to the community, it should at a minimum include targets that are consistent with (i.e., meet or exceed) the targets that the State has adopted, known as regulatory targets. The County may also adopt targets that meet or exceed targets that the State aims to achieve but are not enforced by adopted regulation. We refer to these as aspirational targets.

The Legislature adopted two regulatory targets:

- Reduce emissions to 1990 levels (15 percent below 2005 levels) by 2020.
- Reduce emissions 40 percent below 1990 levels by 2030 (or for local governments, reduce emissions to 6.0 MTCO2e per-capita).

In addition, State agencies work toward aspirational goals established through executive orders:

- Achieve net carbon neutral GHG emissions by 2045, as set forth in Executive Order B-55-18.
- Reduce emissions 80 percent below 1990 levels by 2050 (or for local governments, reduce emissions to 2.0 MTCO2e per-capita), as set forth in Executive Order S-03-05.

The State's guidance for local governments, per the 2017 Climate Change Scoping Plan, supports local agencies' use of per-capita targets of 6.0 MTCO2e per-capita by 2030 and 2.0 MTCO2e per-capita by 2050 for community-wide plans. These are the equivalent of the state-level targets of 40 percent below 1990 levels by 2030 and 80 percent below 1990 levels by 2050.

The Bay Area Air Quality Management District (BAAQMD) is in the process of developing guidelines for determining the significance of GHG emissions from a plan or project. BAAQMD released draft guidelines in February 2022. Under these guidelines, a Qualified GHG Reduction Strategy must either:

- Reduce emissions to 40 percent below 1990 levels by 2030 and achieve net carbon neutrality by 2045; or
- Be consistent with the requirement in the California Code of Regulations Section 15183.5(b), mentioned above, stating that targets must reduce emissions below a level that would not be considered cumulatively significant.

As currently written, these draft guidelines do not provide any increased clarity or actionable guidance on appropriate targets for the 2022 CAP. The State is currently developing an update to the Climate Change Scoping Plan, which may provide greater certainty on the State's GHG reduction targets and the details of the State's pathway to achieve carbon neutrality. The State expects to release a draft version of the updated Climate Change Scoping Plan in May 2022 and adopt it before the end of the year.

In addition to including targets for 2030 and 2045 or 2050, the 2022 CAP will include an interim target for 2040 to support consistency with the horizon year of Envision Contra Costa. This interim target would be an interpolation between the 2030 and 2050 targets.

Goals and Strategy Development Process

County staff have prepared a set of draft GHG emission reduction strategies that provide a pathway for the County to achieve the targets that it selects. These draft goals and strategies are based on several sources. The County Sustainability Commission spent a significant amount of time in 2019 developing recommendations for CAP goals and strategies. These goals and strategies were discussed with community members in a series of four workshops held at different locations across the County in September and October 2019. Sustainability staff also relied on strategies in the 2015 CAP, consulted and collaborated with other key County staff, and considered new and emerging opportunities and regional best practices. The Sustainability Commission reviewed the draft goals and strategies again in October 2021.

- Clean and Efficient Built Environment
- No Waste Contra Costa
- Reduce Water Use and Increase Drought Resilience
- Clean Transportation Network
- Resilient Communities and Natural Infrastructure
- Climate Equity
- Leadership
- Implementation Strategies.

Of the 28 draft strategies, ten have quantifiable GHG emission reductions. The remaining draft strategies support climate and sustainability actions but do not directly reduce GHG emissions, or there is not a feasible method for assessing the GHG emission reduction potential. Attachment 3 shows specific language and implementation details of the draft strategies.

GHG Reductions from Draft Strategies

Staff calculated the GHG emission reduction potential of the ten quantifiable draft strategies using state-recommended methods and other transparent and accessible approaches. Each of these draft strategies assumes a particular level of community participation in one or more key performance metrics, such as number of water-efficiency retrofits, number of homes retrofitted to be all-electric, or acres of land used for carbon farming. In general, the higher level of participation in these metrics, the higher the GHG emission reduction of the draft strategy. Staff have selected a level of participation that seem reasonable and feasible given anticipated staffing and resource availability and needs.

As currently quantified, these draft GHG emission reduction strategies reduce emissions by 187,720 MTCO2e in 2030, 330,480 MTCO2e in 2040, and 574,970 MTCO2e in 2050. When translated to per-capita levels, these GHG emission reduction strategies reduce emissions by 0.94 MTCO2e per-capita in 2030, 1.37 MTCO2e per-capita in 2040, and 1.96 MTCO2e per-capita in 2050. The table below shows the level of GHG emission reductions achieved by the GHG emission reduction strategies relative to the recommended targets.

	2030	2040 *	2050
Absolute emissions			
Minimum regulatory target	40% below 1990 levels	60% below 1990 levels	80% below 1990 levels
	658,700	439,140	219,570
Emissions with existing/ planned reductions and draft CAP strategies	26% below 1990 levels	44% below 1990 levels	51% below 1990 levels
	809,450	725,340	540,120
Gap to target	150,750	286,200	320,550
Per-capita emissions			
Minimum regulatory target	6.00	4.00	2.00
Emissions with existing/ planned reductions and draft CAP strategies	4.06	3.00	1.84
Gap to target	--	--	--

* The 2040 targets are a linear interpolation between the State guidance for 2030 and 2050 targets.
Due to rounding, totals may not equal the sum of the individual values.

As currently quantified, the draft GHG emission reduction strategies achieve the state-recommended per-capita target for 2030 and 2050, as well as the interim 2040 level. The GHG emission reduction strategies do not meet the absolute emission targets that the State has adopted and proposed for itself. Achieving those targets will require increased levels of participation for some or all the strategies and/or development of additional draft strategies. Attachment 3 summarizes the GHG emission reduction potential from the draft strategies, while Attachment 4 provides greater detail about these potential GHG emission reductions and the level of community participation necessary to achieve them.

Requested Action

Staff recommends that the 2022 CAP include GHG emission reduction targets that are consistent with State guidance and for which there are demonstrable paths to achieving the necessary reductions. These recommended targets should be no greater than 6.0 MTCO2e per-capita by 2030, 4.0 MTCO2e per-capita by 2040, and 2.0 MTCO2e per-capita by 2050. Staff additionally recommends that the 2022 CAP include an aspirational target of achieving net carbon neutrality by 2040 or 2045, consistent with the State's aspirational target.

Recommendation(s)/Next Step(s):

RECEIVE UPDATE and PROVIDE GUIDANCE on the proposed draft strategies and levels of participation and recommended targets, including direction on opportunities to achieve further GHG emission reductions should the Sustainability Committee suggest targets that exceed State guidance.

Fiscal Impact (if any):

The fiscal impact of the Climate Action Plan will be evaluated as this project proceeds. While there are costs associated with the different goals and actions outlined in the draft goals and strategies, there are benefits as well. Some of these benefits are less easily quantified, for example, improved public health, better air quality.

Attachments

Attachment 1: Community-Wide GHG Inventories - Summary of Results

Attachment 2: Greenhouse Gas Forecast, Existing Reductions, and Target Setting

Attachment 3: Strategy Matrix and Implementation Details

Attachment 4: Quantification Results and Assumptions

Attachment 5: Proposed Draft CAP Strategies-Rec Targets

MEMORANDUM

DATE March 11, 2022

TO Jody London, Sustainability Coordinator, Contra Costa County Department of Conservation and Development
Demian Hardman, Senior Planner, Contra Costa County Department of Conservation and Development

FROM Tammy L. Seale, PlaceWorks, Climate Action and Resilience Principal
Eli Krispi, PlaceWorks, Climate Action and Resilience Senior Associate
Jessica Robbins, PlaceWorks, Climate Action and Resilience Planner

SUBJECT Attachment 1: Community-Wide GHG Inventories – Summary of Results

Introduction 1

Methods 2

Community-Wide GHG Inventory 5

Next Steps 19

Introduction

PlaceWorks is working with Contra Costa County (the County) to prepare an update to the County's 2015 Climate Action Plan (CAP). The CAP is a plan to reduce greenhouse gas (GHG) emissions and improve community resilience to hazardous conditions associated with climate change. It is part of the overarching Envision Contra Costa 2040 project, the County's ongoing General Plan update. Envision Contra Costa 2040 is the County's document to guide future growth and development in the unincorporated area, as well as County operations and decisions through 2040. As part of this work, PlaceWorks has been preparing a set of new and revised GHG inventories, which are technical analyses to assess the total annual GHG emissions attributed to the unincorporated areas of Contra Costa County from various activities.

A GHG inventory is the first step in creating a strategy to reduce Contra Costa County's annual emissions. Determining the annual level of GHG emissions will aid the County in establishing an attainable goal for continually reducing emissions. Furthermore, knowing which activities release GHG emissions allows the County to develop policies and programs that facilitate a decrease in emissions for each activity.

GHG emissions are generated by various activities that are largely commonplace in daily life. Some daily activities release GHG emissions in the location of the activity, such as gases released anytime an internal combustion engine is operated. Other activities cause GHG emissions to be released elsewhere, such as using non-renewable or non-carbon-free electricity to power a home, which generates GHG emissions in the location of the power plant that supplies the power, and not in the home itself. Therefore, Contra

Costa County must consider the GHG emissions caused by activities attributed to the unincorporated community, including GHG emissions generated both inside and outside the County's jurisdictional boundaries.

The County has two types of GHG inventories: (1) community-wide inventories and (2) County operations inventories.

- A community-wide GHG inventory identifies GHG emissions that result from activities of unincorporated Contra Costa County residents, employees, visitors, and other community members. Examples include residents driving cars, homes using water, and businesses using electricity.
- A County operations GHG inventory summarizes emissions that are a direct result of Contra Costa County's government operations. Examples include electricity and water used in County buildings or the fuel used for County vehicles.

As part of the preparation of the 2015 CAP, Contra Costa County and its regional partners and technical consultants prepared community-wide and County operations GHG inventories for the calendar years 2005 and 2013. The 2015 CAP identified the year 2005 as the baseline year for emission reductions, as this was considered a year with good data availability at the time, consistent with State guidance, and without any unusual factors that might affect GHG emissions.

As part of the CAP update process, the project teams prepared inventories of community-wide emissions for the years 2017 and 2019 and of County operations for the 2019 calendar year. County staff made some updates to the 2005 and 2013 community-wide inventories in the 2015 CAP to ensure a consistent method and approach across all inventory years. County staff also prepared a 2017 County operations GHG emissions inventory, which staff have summarized in a separate memo available at https://envisioncontracosta2040.org/wp-content/uploads/2020/08/2006_2017-County-GHG-Emissions-Summary.pdf. This memo presents the results of the updated and new Contra Costa County community-wide GHG inventories and is the most up-to-date summary of Contra Costa County's community-wide GHG emissions.

This memo contains a discussion of the methods used to prepare and update the GHG inventories (Section 2), selected results from the community-wide GHG inventory (Section 3), and next steps (Section 4). The new and revised draft inventory results show that between 2005 and 2019, unincorporated Contra Costa County saw an approximately 22-percent decline in total GHG emissions. The residential energy and transportation sources of GHG emissions are primarily responsible for this decrease.

Methods

PROTOCOLS

A series of guidance documents, called protocols, provide recommendations on how to adequately assess GHG emissions. The project team prepared the new GHG inventories and updates to past GHG inventories consistent with the guidance in widely adopted, standard protocol documents. These protocols provide guidance on what activities should be evaluated in the GHG inventories and how

emissions from those activities should be assessed. Using standard methods also allows for an easy comparison of GHG emission levels across multiple years and communities.

- The County operations GHG inventory relies on the Local Government Operations Protocol (LGOP), which was first developed in 2008 and was updated in 2010. The LGOP is a tool for accounting and reporting GHG emissions of local government (municipal) operations and is used throughout California and the United States. The LGOP includes guidance from several existing programs as well as the state's mandatory GHG reporting regulations.
- The community-wide GHG inventory uses the United States Community Protocol for Accounting and Reporting of Greenhouse Gas Emissions (U.S. Community Protocol), which was first developed in 2012 and updated most recently in 2019. The California Governor's Office of Planning and Research encourages cities and counties in California to follow the U.S. Community Protocol for community-wide GHG emissions.
- A third protocol, the Global Protocol for Community-Scale Greenhouse Gas Inventories (Global Protocol) was first developed in 2014 and is intended for use in preparing international community-scale GHG inventories. It is largely consistent with the U.S. Community Protocol, although it contains additional guidance and resources to support a wider range of activities that may be found in other countries. The project team has used the Global Protocol to assess GHG emissions from sources that are not covered in the U.S. Community Protocol.

GHG inventories are estimates of GHG emissions based on these standard methods and verified datasets. While they are not direct measurements of GHG emissions, the use of the standard methods identified in the protocols, in combination with accurate data from appropriate sources, allows GHG inventories to provide reliable estimates of local emission levels. Due to potential data limitations, some inconsistencies in methods may remain. Any concerns about inconsistent methods are noted in the appropriate sector discussion.

UNITS OF MEASUREMENT

GHG inventories assess emissions in a unit called carbon dioxide equivalent (CO_2e), which is a combined unit of all GHGs analyzed in the inventory. As different GHGs have different effects on the processes that drive climate change, CO_2e is a weighted unit that reflects the relative potency of the different GHGs. These inventories report amounts of GHGs in metric tons of CO_2e ($MTCO_2e$), equal to 1,000 kilograms or approximately 2,205 pounds.

EMISSION FACTORS

An emissions factor describes how many $MTCO_2e$ are released per unit of an activity. For instance, an emissions factor for electricity describes the $MTCO_2e$ produced per kilowatt hours (kWh) of electricity used, or an emission factor for on-road transportation describes the $MTCO_2e$ produced per mile of driving. The project team calculated most of the GHG emissions using data on GHG-generating activities in combination with emission factors. Some sources of GHG emissions (known as sectors), including agriculture and off-road emissions, are calculated using formulae or models and do not have specific emission factors. Table 1 shows the emissions factors for the inventory years for the unincorporated area.

Table 1: Inventory Emissions Factors, 2005 to 2019

SECTOR	2005	2013	2017	2019	PERCENTAGE CHANGE	SOURCE
PG&E electricity ($MTCO_2e$/kWh)	0.000226	0.000195	0.000096	0.000108	-52%	PG&E
Direct access electricity ($MTCO_2e$/ kWh)	0.000388	0.000309	0.000208	0.000187	-52%	California Energy Commission
MCE electricity ($MTCO_2e$/ kWh)	N/A	N/A	0.000059	0.000045	-24% *	MCE
Natural gas ($MTCO_2e$/therm)	0.005311	0.005311	0.005311	0.005311	0%	US Community Protocol
Propane ($MTCO_2e$/gallon)	0.005844	0.005844	0.005844	0.005844	0%	US Community Protocol
Kerosene ($MTCO_2e$/gallon)	0.010569	0.010569	0.010569	0.010569	0%	US Community Protocol
Wood ($MTCO_2e$/MMBTU)	0.095624	0.095624	0.095624	0.095624	0%	US Community Protocol
On-road vehicles ($MTCO_2e$/VMT)	0.000486	0.000483	0.000421	0.000408	-16%	California Air Resources Board
BART ($MTCO_2e$/ passenger mile)	0.000093	0.000093	0.000093	0.000013	-86%	BART
Municipal solid waste ($MTCO_2e$/ton)	0.293179	0.293184	0.286047	0.261659	-11%	CalRecycle
Alternative daily cover ($MTCO_2e$/ton)	0.191850	0.245890	0.245694	0.245693	28%	CalRecycle

* MCE's percentage change is from 2017 to 2019.

Community-Wide GHG Inventory

SECTORS

The community-wide GHG inventory assessed GHG emissions from the following 11 categories of activities, known as sectors.

- Transportation includes GHG emissions created by driving on-road vehicles in the unincorporated county, including passenger and freight vehicles.
- Residential energy includes GHG emissions attributed to the use of electricity, natural gas, and other home heating fuels in residential buildings.
- Solid waste includes the GHG emissions released from trash collected in the unincorporated areas of Contra Costa County, as well as collective annual emissions from waste already in place at the Acme, Keller Canyon, and West Contra Costa Landfills.
- Nonresidential energy includes GHG emissions attributed to the use of electricity and natural gas in nonresidential buildings.
- Agriculture includes GHG emissions from various agricultural activities in the unincorporated county, including agricultural equipment, crop cultivation and harvesting, and livestock operations.
- Off-road equipment includes GHG emissions from equipment that does not provide on-road transportation (excluding agricultural equipment), such as tractors for construction or equipment used for landscape maintenance.
- Water and wastewater accounts for the electricity used to transport every gallon of water or wastewater to unincorporated county residents and businesses, as well as direct emissions resulting from the processing of waste material.
- Bay Area Rapid Transit (BART) includes GHG emissions associated with the operation of BART for unincorporated county residents.
- Land Use and sequestration includes GHG emissions absorbed and stored in trees and soils on locally controlled lands as part of healthy ecosystems and released into the atmosphere from development of previously undeveloped land.
- Stationary sources are emissions from fuel use at major industrial facilities, permitted by state and regional air quality authorities. These emissions are informational and are not counted as part of the community total.
- Wildfire includes emissions released as a result of wildfires. These emissions are informational and are not counted as part of the community total.

INVENTORY RESULTS

Table 2 and Figure 1 show the overall amount of community-wide GHG emissions for the unincorporated area associated with each sector for the four inventory years. Total community-wide emissions declined 22 percent from 2005 to 2019. Table 3 shows the proportion of GHG emissions from each sector for the unincorporated area for the four inventory years.

Table 2: Absolute Annual GHG Emissions, 2005 to 2019

SECTOR	2005	2013	2017	2019	PERCENTAGE CHANGE, 2005 - 2019
Transportation	628,200	651,130	571,650	464,040	-26%
Residential energy	294,930	280,870	212,420	191,780	-35%
Nonresidential energy	118,740	125,350	48,700	109,370	-8%
Solid waste	243,940	224,570	223,100	220,760	-10%
Agriculture	33,350	39,300	44,880	36,130	8%
Off-road equipment	34,160	36,290	42,840	54,010	58%
Water and wastewater	8,080	7,400	4,400	4,870	-40%
BART	1,040	1,320	1,440	190	-82%
Land use and sequestration	-70,860	-70,860	-70,860	-70,860	0%
Total Annual $MTCO_2e$	**1,291,580**	**1,295,370**	**1,078,570**	**1,010,590**	**-22%**
Informational Items					
Stationary sources	13,983,030	11,956,000	11,232,290	10,867,670	-22%
Wildfire	14,270	66,080	0	10,100	N/A

All numbers are rounded to the nearest 10. Totals may not equal the sum of individual rows.

Figure 1: Absolute Annual GHG Emissions by Sector, 2005 to 2019

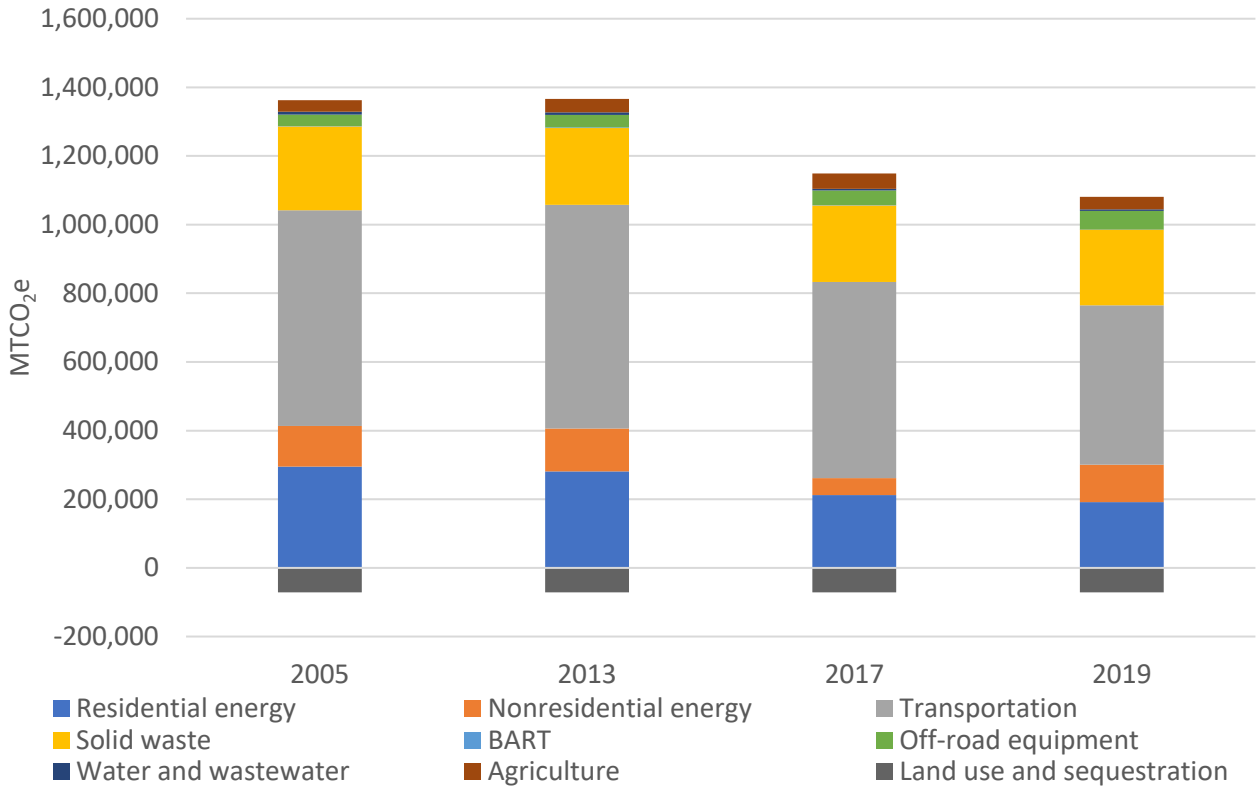


Table 3: Proportion of GHG Emissions, 2005 to 2019

SECTOR	2005	2013	2017	2019
Transportation	49%	50%	53%	46%
Residential energy	23%	22%	20%	19%
Solid waste	19%	17%	21%	22%
Nonresidential energy	9%	10%	5%	11%
Agriculture	3%	3%	4%	4%
Off-road equipment	3%	3%	4%	5%
Water and wastewater	1%	1%	Less than 1%	Less than 1%
BART	Less than 1%	Less than 1%	Less than 1%	Less than 1%
Land use and sequestration	-5%	-5%	-7%	-7%
Total Annual $MTCO_2e$	**100%**	**100%**	**100%**	**100%**

Totals may not equal the sum of individual rows.

In all years, the transportation sector has remained the largest source of GHG emissions in unincorporated Contra Costa County, accounting for between 46 and 53 percent of total community-wide GHG emissions (excluding informational items). Residential energy and solid waste are the next-largest sources of GHG emissions, followed by nonresidential energy. Agriculture GHG emissions account for between 3 and 4 percent, while off-road equipment accounts for between 3 and 5 percent. GHG emissions from water and wastewater and BART are both 1 percent or less.

The sectors that experienced the largest decrease in annual GHG emissions between 2005 and 2019 were BART (82 percent decline), water and wastewater (40 percent decline), residential energy (35 percent), and transportation (26 percent). Emissions reductions also occurred in the solid waste sector (10 percent) and the nonresidential energy sector (8 percent). The reasons for these changes in emissions are discussed in more detail in the sector-specific sections below, but they are primarily due to an increase in renewable and carbon-free electricity and greater resource efficiency practices by community members. Two sectors, off-road equipment and agriculture, saw an increase in their emissions from 2005 to 2019.

SECTOR DETAILS

Transportation

Unincorporated Contra Costa County community members drove approximately 1.3 billion vehicle miles in 2005, decreasing 12 percent to approximately 1.1 billion vehicle miles in 2019. The VMT in 2005 resulted in GHG emissions of approximately 628,200 $MTCO_2e$, which dropped to approximately 464,040 in 2019, a 26-percent decrease. GHG emissions decreased due to this reduction in VMT, increasingly fuel-efficient vehicles, and a wider adoption of electric vehicles. The average vehicle on the road in unincorporated Contra Costa County generated 16 percent fewer GHG emissions in 2019 than in 2005, as reported by Caltrans and as shown in Table 1. Table 4 provides a breakdown of the activity data and emissions for on-road transportation for the unincorporated area by each individual year included in the updated community inventory.

Table 4: Transportation Activity Data and GHG Emissions, 2005 to 2019

SECTOR	2005	2013	2017	2019	PERCENTAGE CHANGE, 2005 - 2019
Activity Data (VMT)					
On-road transportation	1,291,819,230	1,349,279,980	1,357,121,160	1,136,911,090	-16%
Emissions ($MTCO_2e$)					
On-road transportation	628,200	651,130	571,650	464,040	-19%

All numbers are rounded to the nearest 10. Totals may not equal the sum of individual rows.

Residential Energy

Contra Costa County's GHG emissions from residential energy totaled approximately 191,780 $MTCO_2e$ in 2019, compared to 294,930 $MTCO_2e$ in 2005, a decline of 35 percent. Residential electricity GHG emissions decreased due to a decrease in overall use and usage of cleaner sources of electricity. Residential electricity use fell 40 percent from 2005 to 2019, from 488,236,740 kWh to 293,561,300 kWh. Over this period, as seen in **Table 1**, electricity supplied by PG&E emitted 52 percent less GHGs in 2019 than in 2005. Electricity from MCE, which supplied electricity to community residents in 2017 and 2019, generated even fewer GHG emissions than PG&E-supplied electricity, which has also contributed to the decline in this sector. Natural gas use and GHG emissions saw a small decrease from 2005 to 2019 of 3 percent despite a growing population. Propane and wood use also declined, although GHG emissions from these fuels are only a small proportion of those from the residential energy sector. **Table 5** provides a breakdown of the activity data and GHG emissions for residential energy for the unincorporated area.

Table 5: Residential Energy Activity Data and GHG Emissions by Subsector, 2005 to 2019

SECTOR	2005	2013	2017	2019	PERCENTAGE CHANGE, 2005 - 2019
Activity Data					
Residential PG&E electricity (kWh)	488,236,740	478,219,710	461,970,670	46,158,330	-91%
Residential MCE electricity (kWh)	-	-	307,820	247,402,970	80,273%*
Residential natural gas (therms)	30,919,160	31,007,110	28,634,420	30,100,640	-3%
Residential propane (gallons)	1,525,330	1,106,900	1,043,270	1,021,340	-33%
Residential kerosene (gallons)	13,160	10,960	8,030	16,320	24%
Residential wood (MMBTU)	117,000	165,830	100,960	101,710	-13%
Emissions ($MTCO_2e$)					
Residential PG&E electricity	110,120	93,380	44,510	5,000	-95%
Residential MCE electricity	0	0	20	11,060	55,200%*
Residential natural gas	164,570	165,040	152,060	159,850	-3%
Residential propane	8,910	6,470	6,100	5,970	-33%
Residential kerosene	140	120	80	170	21%
Residential wood	11,190	15,860	9,650	9,730	-13%
Total Annual $MTCO_2e$	**294,930**	**280,870**	**212,420**	**191,780**	**-10%**

* MCE did not operate in the unincorporated County until 2017, and 2017 operations were very limited. MCE percentage changes are for changes from 2017 to 2019.

All numbers are rounded to the nearest 10. Totals may not equal the sum of individual rows.

Solid Waste

Contra Costa County's community-wide GHG emissions associated with solid waste includes four subsectors.

- Municipal solid waste (MSW) is the material that is discarded by community members and reflects the actual waste generated by the community.
- Alternative daily cover (ADC) is organic material applied at landfills by the landfill operator as a means of controlling debris and pests.
- Waste in place is the solid waste and associated GHG emissions deposited in the County's landfills in previous years.
- The flaring subsector accounts for GHG emissions from the combustion of gases generated by the decomposing waste.

Between 2005 and 2019, emissions decreased by 10 percent due to decreases in solid waste generated and ADC applied, likely as a result of increased community awareness about recycling and composting and the availability of curbside recycling programs. Although annual waste generation decreased, waste in place at the landfills increased as waste is added to the landfills each year. Table 6 presents solid waste emissions data for each year for the unincorporated area.

Table 6: Solid Waste Activity Data and GHG Emissions by Subsector, 2005 to 2019

SECTOR	2005	2013	2017	2019	PERCENTAGE CHANGE, 2005 – 2019
Activity Data (Tons)					
Solid waste	154,820	78,790	79,520	79,340	-49%
ADC	15,950	13,990	11,470	7,580	-52%
Waste in place	34,455,010	41,785,650	45,776,140	47,618,290	38%
Landfill flaring	5,270	5,260	5,250	5,270	Less than 1%
Emissions ($MTCO_2e$)					
Solid waste	45,390	23,100	22,750	20,760	-54%
ADC	3,060	3,440	2,820	1,860	-39%
Waste in place	193,950	196,500	196,000	196,610	1%
Landfill flaring	1,540	1,530	13,550	13,590	-1%
Total Annual $MTCO_2e$	**243,940**	**224,570**	**235,120**	**232,820**	**-10%**

All numbers are rounded to the nearest 10. Totals may not equal the sum of individual rows.

Nonresidential Energy

Contra Costa County's GHG emissions from nonresidential energy totaled approximately 109,370 $MTCO_2e$ in 2019, compared to 118,740 $MTCO_2e$ in 2005, a decline of 8 percent. Electricity emissions from retail electricity suppliers (PG&E and MCE) have fallen significantly, driven by a small decrease in electricity use

and a large increase in the amount of electricity for renewable and carbon-free sources (see **Table 1**). Between 2005 and 2019, nonresidential electricity obtained from PG&E decreased by 90 percent and nonresidential electricity obtained from MCE increased from virtually nothing in 2017 to approximately 200 million kWh in 2019. Natural gas use and associated emissions have also reportedly declined, although this is less likely to be due to an actual decline and more likely the result of data being omitted by PG&E as a way of complying with state privacy regulations. Similarly, direct access electricity (electricity purchased from third parties instead of PG&E or MCE, usually by large customers such as major industrial facilities) was only reported for 2019, although this electricity use likely occurred in previous years but was not reported due to privacy regulations. **Table 7** provides a breakdown of the activity data and GHG emissions for nonresidential energy for the unincorporated area.

Table 7: Nonresidential Energy Activity Data and GHG Emissions by Subsector, 2005 to 2019

SECTOR	2005	2013	2017	2019	PERCENTAGE CHANGE, 2005 – 2019
Activity Data					
Nonresidential PG&E Electricity (kWh) [1]	284,558,070	266,216,660	266,216,660	29,062,250	-90%
Nonresidential MCE electricity (kWh) [2]	0	0	28,730	200,181,720	696,669%
Nonresidential Direct Access electricity (kWh) [3]	0	0	0	396,805,940	N/A
Nonresidential natural gas (therms) [4]	10,251,360	13,784,410	4,340,910	4,340,910	-58%
Emissions ($MTCO_2e$)					
Nonresidential PG&E electricity [1]	64,180	51,980	25,650	3,150	-95%
Nonresidential MCE electricity [2]	0	0	Less than 10	9,040	451,900%
Nonresidential Direct Access electricity [3]	0	0	0	74,130	N/A
Nonresidential natural gas [4]	54,560	73,370	23,050	23,050	-58%
Total Annual $MTCO_2e$	**118,740**	**125,350**	**48,710**	**109,370**	**-8%**

1: Due to omissions in data reported by PG&E for the calendar year 2017, the project team assumed that electricity use remained constant from 2013 levels.

2: MCE did not operate in the unincorporated County until 2017, and 2017 operations were very limited. MCE percentage changes are for changes from 2017 to 2019.

3: Direct access electricity was only reported for 2019. As PG&E also reports MCE-supplied electricity as Direct Access, the numbers given in this table are the electricity use after MCE data are removed.

4: Due to omissions in data reported by PG&E for the calendar year 2019, the project team assumed that natural gas use remained constant from 2017 levels.

All numbers are rounded to the nearest 10. Totals may not equal the sum of individual rows.

Agriculture

GHG emissions associated with the agriculture sector for the unincorporated area increased by approximately 8 percent between 2005 and 2019 (see **Table 8**). This increase is due primarily to a minor increase (5 percent) in the amount of cattle in the county. Although crop acreages declined from 2005 to 2019, more fertilizer was applied in 2019 than in 2005 due to a shift in the types of crops being grown that required slightly more fertilizer.

Table 8: Agriculture Activity Data and GHG Emissions by Subsector, 2005 to 2019

SECTOR	2005	2013	2017	2019	PERCENTAGE CHANGE, 2005 - 2019
Activity Data					
Crops (acreage)	200,980	204,031	197,360	183,730	-9%
Nitrogen applied (pounds)	3,261,620	3,560,480	3,698,500	3,608,340	11%
Livestock (effective annual population)	16,500	19,110	22,060	17,340	5%
Emissions ($MTCO_2e$)					
Crops	3,920	4,280	4,450	4,340	11%
Enteric fermentation	28,510	33,920	39,160	30,790	-8%
Manure management	920	1,100	1,270	1,000	9%
Total Annual $MTCO_2e$	**33,350**	**39,300**	**44,880**	**36,130**	**8%**

All numbers are rounded to the nearest 10. Totals may not equal the sum of individual rows.

Off-Road Equipment

According to data shown in **Table 9**, emissions from off-road equipment in unincorporated Contra Costa County increased approximately 73 percent between 2005 and 2019, although the sector overall remains a small proportion of the total community-wide emissions. This increase is primarily the result of a significant rise in diesel tractor and other agricultural equipment use over this period, along with increases in commercial and industrial/warehouse equipment use. Since this is modeling directly reported by State agencies, it is possible that changes in modeling methods may be affecting the results. Note that the State provides these GHG emission levels directly, so there is no activity data to display.

Table 9: Off-Road Equipment GHG Emissions by Subsector, 2005 to 2019

SECTOR	2005	2013	2017	2019	PERCENTAGE CHANGE, 2005 - 2019
Total Annual $MTCO_2e$					
Agricultural equipment	1,200	1,190	1,180	10,170	748%
Cargo handling equipment	900	380	330	310	-66%
Commercial harbor equipment *	0	0	0	2,600	N/A
Construction and mining equipment	6,780	7,170	8,880	7,200	6%
Industrial equipment	8,320	8,840	9,470	9,780	18%
Lawn and garden equipment	3,580	3,280	3,760	3,880	8%
Light commercial equipment	2,230	2,780	3,060	3,270	47%
Locomotives	3,170	3,260	3,540	3,620	14%
Oil drilling equipment	20	20	20	20	0%
Pleasure craft	1,890	1,810	1,800	1,830	-3%
Portable equipment	4,830	6,240	6,700	6,970	44%
Recreational equipment	650	670	610	630	-3%
Transport Refrigeration Units	590	650	3,490	3,730	532%
Total Annual $MTCO_2e$	**34,160**	**36,290**	**42,840**	**54,010**	**58%**

* State modeling only provided emissions for commercial harbor equipment for 2019.
All numbers are rounded to the nearest 10. Totals may not equal the sum of individual rows.

According to records maintained by the California Department of Conservation's Geologic Energy Management Division, there are no active oil or gas extraction wells in the unincorporated area. There are 16 natural gas storage wells in the hills between Clyde and Bay Point, along with an observation well. As these sites are not being used for active extraction, there are no further emissions associated with fossil fuel production at well sites in this inventory.

Water and Wastewater

Emissions associated with the water and wastewater sector are counted as indirect or direct emissions. Indirect water emissions refer to emissions created by the electricity required to treat and move water to where it is used. Indirect wastewater emissions refer to electricity needed to move wastewater to water treatment facilities, and to process and discharge it. Direct wastewater emissions refer to emissions produced directly by decomposing materials in wastewater.

GHG emissions from Contra Costa County's water and wastewater consumption decreased 40 percent between 2005 and 2019. Indirect water GHG emissions declined by 62 percent between 2005 and 2019 while indirect wastewater GHG emissions decreased by 66 percent. Community members used substantially less water (31 percent less) and generated less wastewater (30 percent less) in 2019 than in

2005 despite population growth. This is likely a result of increased water efficiency by community residents and businesses. Additionally, the electricity used in water and wastewater pumping and treatment has been increasingly supplied by renewable and carbon-free sources, decreasing GHG emissions. Direct wastewater emissions did rise by approximately 199 percent from 2005 to 2019, but given that the amount of wastewater generated declined by this period, this is likely due to changes in modeling approaches and available data. The emissions data for the unincorporated area in Table 10 shows that overall emissions increased slightly within the water and wastewater sector.

Table 10: Water and Wastewater Activity Data and GHG Emissions by Subsector, 2005 to 2019

Sector	2005	2013	2017	2019	Percentage Change, 2005 - 2019
Activity Data					
Water use (million gallons)	11,530	11,650	7,380	8,010	-31%
Water electricity use (kWh)	26,443,770	28,004,290	19,137,620	20,783,930	-21%
Wastewater generation (million gallons)	4,560	4,610	3,150	3,170	-30%
Wastewater electricity use (kWh)	6,199,120	6,198,590	4,268,050	4,295,780	-31%
Emissions ($MTCO_2e$)					
Indirect water	5,960	5,470	1,840	2,250	-62%
Indirect wastewater	1,400	1,210	410	470	-66%
Direct wastewater	720	720	2,150	2,150	199%
Total Annual $MTCO_2e$	**8,080**	**7,400**	**4,400**	**4,870**	**-40%**

All numbers are rounded to the nearest 10. Totals may not equal the sum of individual rows.

BART

Emissions associated with BART ridership decreased 82 percent between 2005 and 2019. This decline is attributable to changes in BART's electricity portfolio, which in recent years have shifted to favor more renewable and carbon-free sources of energy. BART ridership from community members in unincorporated Contra Costa County increased 29 percent between 2005 and 2019, as shown in Table 11. Ridership at all stations serving the unincorporated area increased by 10 to 35 percent over this period except for Pittsburg/Bay Point, which saw some of its ridership shift to Pittsburg Center and Antioch with the opening of the BART to Antioch extension in 2018.

Table 11: BART Activity Data and GHG Emissions, 2005 to 2019

Sector	2005	2013	2017	2019	Percentage Change, 2005 – 2019
Activity Data					
BART Ridership (passenger miles)	11,231,870	14,228,420	15,528,840	14,444,740	29%
Emissions ($MTCO_2e$)					
Total Annual $MTCO_2e$	**1,040**	**1,320**	**1,440**	**190**	**-82%**

All numbers are rounded to the nearest 10. Totals may not equal the sum of individual rows.

Land Use and Sequestration

GHG emissions from land use and sequestration can be either positive (a source of emissions) or negative (removing emissions from the atmosphere, creating what is known as an emissions "sink"). Natural lands and street trees absorb carbon, storing it in wood, plants, and soil. As a result, when natural land is preserved or when more street trees are planted, emissions from this sector are negative because GHGs are being removed from the atmosphere. However, developing natural lands or converting them to a different form (for example, replacing forests with crop land) or removing street trees causes carbon to be released, creating GHG emissions.

This sector includes emission sources and sinks from three types of activities: sequestration of GHG emissions in locally controlled forested lands, sequestration of GHG emissions in street trees in urbanized unincorporated areas, and emissions caused by permanently removing vegetation from natural lands or farmlands as a part of development.

Emissions and sequestered amounts remained constant in both years for all three activities. Locally-controlled forests and street trees have not had their sequestration capabilities changed by human activities during the inventory period. While there was some development activity that caused a loss of sequestered GHG emissions, records of when the development specifically occurred are not available, and so the GHG emissions have been assigned equally to both inventory years, hence the lack of changes. Forests sequestered 58,110 $MTCO_2e$ annually, while street trees sequestered 12,750 $MTCO_2e$, for a total carbon sink of 70,860 $MTCO_2e$ for the unincorporated area, as shown in **Table 12**.

Table 12: Land Use and Sequestration Activity Data and GHG Emissions, 2005 to 2019

Sector	2005	2013	2017	2019	Percentage Change, 2005 - 2019
Activity Data					
Acres of forested land	60,050	60,050	60,050	60,050	0%
Acres of urban trees	32,780	32,780	32,780	32,780	0%
Acres of land use changes	0	0	0	0	0%
Emissions ($MTCO_2e$)					
Forest sequestration	-58,110	-58,110	-58,110	-58,110	0%
Street tree sequestration	-12,750	-12,750	-12,750	-12,750	0%
Land use changes	0	0	0	0	0%
Total Annual $MTCO_2e$	**-70,860**	**-70,860**	**-70,860**	**-70,860**	0%

All numbers are rounded to the nearest 10. Totals may not equal the sum of individual rows.

Wildfire

Wildfires create GHG emissions by burning organic materials such as trees and plants, releasing the carbon sequestered in these materials. Larger fires and those that burn through forested areas, as opposed to less densely vegetated ecosystems, release more GHG emissions. The County reported wildfires in 2005, 2013, and 2019, but not in 2017. The acreages and emissions of these fires for the unincorporated area are reported in **Table 13.** Although wildfire emissions and acreages were lower in 2019 than in 2005, wildfire activity varies widely from year to year, and is generally expected to increase in future years due to climate change. Wildfire emissions are not calculated in the totals presented in this memorandum and are for informational purposes only.

Table 13: Wildfire Activity Data and GHG Emissions, 2005 to 2019

Sector	2005	2013	2017	2019	Percentage Change, 2005 - 2019
Activity Data					
Acres burned	2,070	6,320	0	1,830	-31%
Emissions ($MTCO_2e$)					
Total Annual $MTCO_2e$	**14,270**	**66,080**	**0**	**10,100**	**-29%**

2005 wildfires: Bragdon Fire, BNSF Fire, Byron Fire, Vasco Airport Fire, and an unnamed fire south of Antioch.
2013 wildfires: Kirker Fire and Morgan Fire.
2019 wildfires: Marsh 3 Fire, Marsh 5 Fire, Marsh 6 Fire.
All numbers are rounded to the nearest 10. Totals may not equal the sum of individual rows.

Stationary Sources

Stationary source emissions result from fuel use, such as natural gas or propane, at large industrial facilities. These facilities include refineries, power plants, factors, and similar installations. Natural gas use at these facilities may be included as part of the nonresidential natural gas use reported by PG&E. **Table 14** shows the emissions from stationary sources for the unincorporated area. This information is directly reported by the California Air Resources Board as total emissions. The Board does not report activity data for stationary sources, which would include amounts of fuel burned at these facilities. These emissions are not included in the totals presented in this memorandum and are for informational purposes only.

Table 14: Stationary Source GHG Emissions, 2005 to 2019

SECTOR	2005	2013	2017	2019	PERCENTAGE CHANGE, 2005 - 2019
Emissions ($MTCO_2e$)					
Total Annual $MTCO_2e$	13,983,030	11,956,000	11,232,290	10,867,670	**-22%**

All numbers are rounded to the nearest 10. Totals may not equal the sum of individual rows.

PER-CAPITA EMISSIONS

Along with the "absolute" GHG emission levels discussed previously, the project team also assessed the per-capita, or per-person, GHG emissions from the unincorporated area of Contra Costa County. The team calculates the per-capita GHG emissions by taking the absolute GHG emissions presented in **Table 2** and dividing these GHG emissions by the number of residents in the unincorporated county for that inventory year. **Table 15** and **Figure 2** show the per-capita emissions for the inventory years for the unincorporated area.

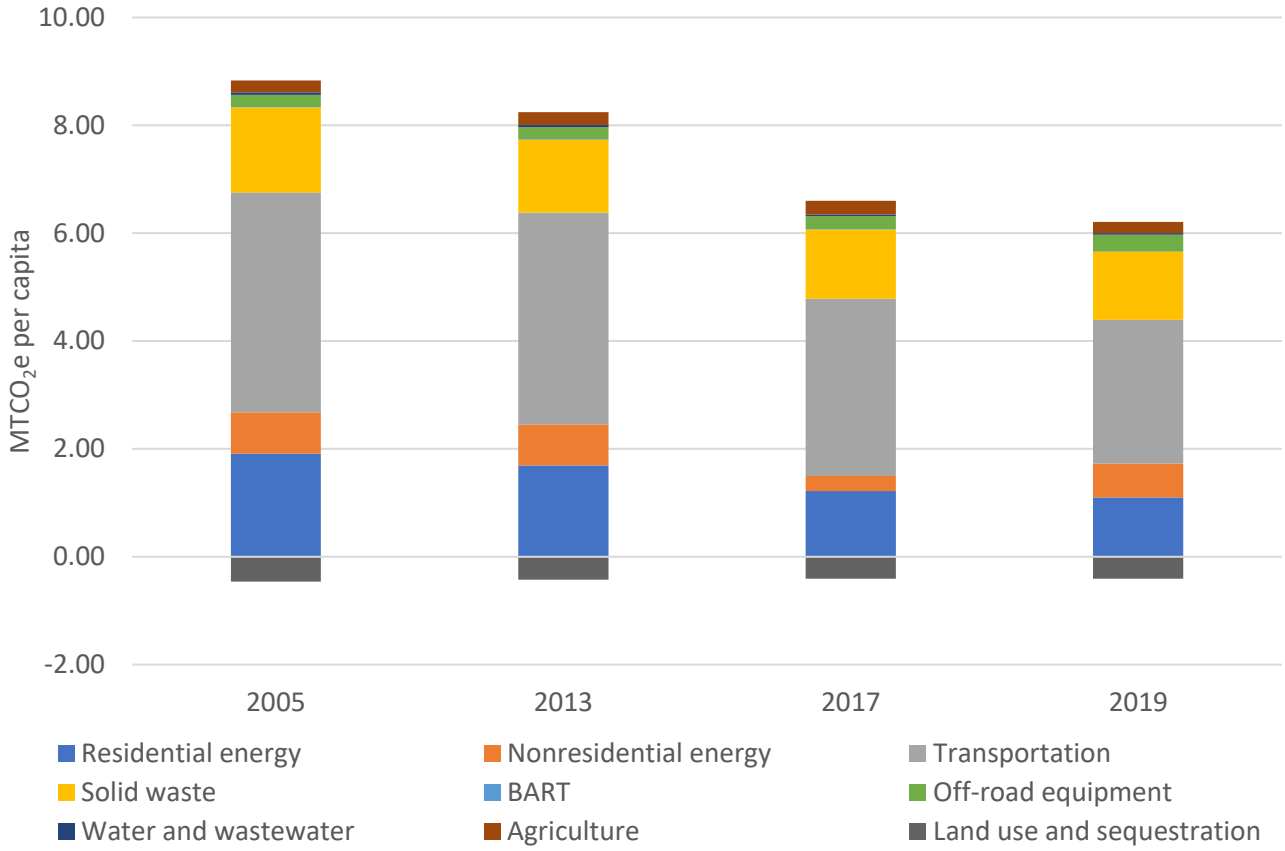
Overall, per-capita emissions declined 31 percent from 2005 to 2019. Because the population of unincorporated Contra Costa County grew during this time, most sectors saw their per-capita emissions decline. Even for sectors that saw increases in their absolute emissions, such as agriculture, the population growth resulted in a decline in per-capita emissions. The one sector that saw an increase in per-capita emissions was off-road equipment, although the per-capita emissions grew by 53 percent from 2005 to 2019 compared to a 73-percent increase when measured at the absolute level.

Table 15: Per-Capita Emissions, 2005 to 2019

SECTOR	2005	2013	2017	2019	PERCENTAGE CHANGE, 2005 - 2019
Population					
Residents	154,270	165,700	174,110	174,150	13%
Emissions ($MTCO_2e$ per-capita)					
Transportation	4.07	3.93	3.28	2.66	-35%
Residential energy	1.91	1.70	1.22	1.10	-42%
Solid waste	1.58	1.36	1.28	1.27	-20%
Nonresidential energy	0.77	0.76	0.28	0.63	-18%
Agriculture	0.22	0.24	0.26	0.21	-4%
Off-road equipment	0.22	0.22	0.25	0.31	53%
Water and wastewater	0.05	0.04	0.03	0.03	-47%
BART	0.01	0.01	0.01	Less than 0.01	-84%
Land use and sequestration	-0.46	-0.43	-0.41	-0.41	-11%
Total Annual Per-Capita $MTCO_2e$	**8.37**	**7.82**	**6.19**	**5.80**	**-31%**
Informational Items					
Stationary sources	90.64	72.15	64.51	62.40	-31%
Wildfire	0.09	0.40	0.00	0.06	-37%

All numbers are rounded to the nearest 10. Totals may not equal the sum of individual rows.

Figure 2: Per-Capita Annual GHG Emissions by Sector, 2005 to 2019



Next Steps

PlaceWorks will prepare 2030, 2040, and 2050 forecasts of community-wide and County operations GHG emissions and will assess the GHG reduction benefits from existing and planned state, regional, and local activities GHG emissions. The results of the GHG inventory, forecast, and benefits of existing and planned activities will help inform new policies to reduce both community-wide and County operations GHG emissions.

MEMORANDUM

DATE March 11, 2022

TO Jody London, Sustainability Coordinator, Contra Costa County Department of Conservation and Development
Demian Hardman, Senior Planner, Contra Costa County Department of Conservation and Development

FROM Tammy L. Seale, PlaceWorks, Climate Action and Resilience Principal
Eli Krispi, PlaceWorks, Climate Action and Resilience Senior Associate
Jessica Robbins, PlaceWorks, Climate Action and Resilience Planner

SUBJECT Attachment 2: Climate Action Plan Update – Draft Greenhouse Gas Forecast, Existing Reductions, and Target Setting

Introduction 1

Community-Wide GHG Emissions Forecast 2

State and Regional GHG Emission Reductions 6

Emission Reduction Targets 11

GHG Reduction Potential of 2022 CAP Strategies 16

Next Steps 20

Introduction

PlaceWorks is working with Contra Costa County (the County) to prepare the County's 2022 Climate Action Plan (2022 CAP) for the unincorporated county. The 2022 CAP is a plan to reduce greenhouse gas (GHG) emissions and improve community resilience to hazardous conditions associated with climate change. The 2022 CAP is an update to the County 2015 CAP, and it is part of the overarching Envision Contra Costa 2040 project, which is the County's General Plan update. Envision Contra Costa 2040 is the County's document to guide future growth and development in the unincorporated area, as well as County operations and decisions through 2040. As part of this work, PlaceWorks has been preparing an updated forecast of future GHG emissions, an assessment of existing and planned GHG reduction programs, and an analysis of potential GHG reduction targets for the unincorporated area. The GHG reduction strategies in the CAP will build on this projection of future emissions and reductions achieved by existing and planned programs, demonstrating a viable path for the County to achieve its GHG emission reduction targets. The proposed GHG emission reduction targets in this memo are recommendations, not final determinations. Staff will ask the Sustainability Committee of the Contra Costa County Board of Supervisors to consider and provide guidance on these recommended targets, including direction on opportunities to achieve further GHG emission reductions should the Sustainability Committee suggest targets that exceed State guidance.

Community-Wide GHG Emissions Forecast

The draft forecast of community-wide GHG emissions for the unincorporated area is based on the results of the 2019 community GHG emissions inventory. The project team combined these emissions with unincorporated Contra Costa County's 2019 demographics and projections of future demographics, developed as part of the Envision Contra Costa 2040 buildout calculations, to identify the expected future GHG emissions for the community. The project team forecasted GHG emissions for the calendar years 2030, 2040, and 2050 looking both at absolute (total) and per-capita (per-person) emissions for these years.

For many sectors, the draft GHG forecast assumes that each person in the unincorporated area will continue to contribute the same amount of GHG emissions as they did in 2019, so that the amount of GHG emissions increases proportionally to demographic growth. There are some sectors that are not projected this way:

- Transportation, which is projected using a regional traffic demand model based partially on demographics and partially on the location of various land uses.
- Agriculture, which is forecast using future land use projections for the amount of agricultural land in the unincorporated area.
- Land use and sequestration, which is forecast using future land use projections for developed land, forested land, and any agricultural and open space land that is developed.
- Within the off-road equipment sector, emissions from construction and mining equipment are projected using the rate of population and job growth, emissions from industrial equipment are projected using future land use projections for industrial land, and emissions from Transportation Refrigeration Units are projected using the proportion of county-wide road miles in the unincorporated area.

The forecast does not project any change in activity or GHG emissions for alternative home heating fuels (propane, kerosene, and wood), direct access electricity, cargo-handling equipment, or oil drilling equipment. Additionally, emissions for the two informational sectors (stationary sources and wildfires) are not forecasted, owing to their informational and substantial uncertainty in projecting future activities for these sectors. These GHG emissions do not have a demographic indicator that staff can use to reasonably project the volume of these emissions in the future, particularly given that they are informational items and not included in the total community-wide emissions. Table 1 shows the demographic projections and their sources for the unincorporated area.

Table 1: Demographic Projections, 2019 – 2050

Demographic	2019	2030	2040	2050	Percentage Change, 2019-2050	Source
Population	174,150	199,600	242,070	293,570	69%	ABAG/MTC, Envision Contra Costa 2040
Households	60,320	70,040	83,080	98,560	63%	ABAG/MTC, Envision Contra Costa 2040
Jobs	38,760	45,690	50,600	56,040	45%	US Census Bureau, Envision Contra Costa 2040
Service population *	212,910	245,290	292,670	349,610	64%	ABAG/MTC, US Census Bureau, Envision Contra Costa 2040

* Service population is the sum of population and jobs

All numbers are rounded to the nearest 10.

ABSOLUTE GHG EMISSIONS FORECAST

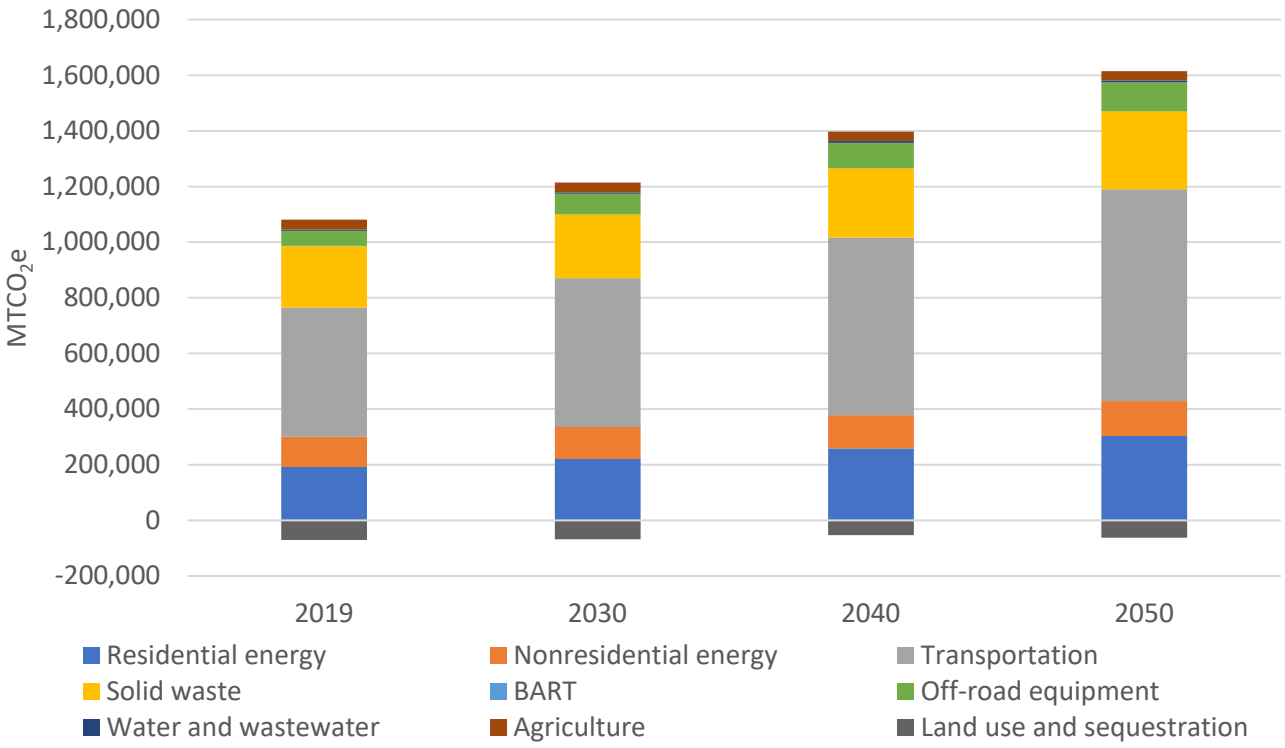
Table 2 and Figure 1 show unincorporated Contra Costa County's projected future GHG emissions relative to the 2019 inventory. Most sectors show an increase in GHG emissions due to the growing population. Agricultural emissions decrease because the amount of land use for agricultural purposes is projected to decline. Although the land use and sequestration sector is expected to remain a net carbon sink (negative emissions), the amount of emissions sequestered (removed from the atmosphere) by the activities in this sector are projected to decline. This is due to anticipated development of currently undeveloped land, removing the potential for this land to sequester carbon. Sequestration in forested and urbanized areas is projected to increase slightly.

Table 2: Absolute GHG Emissions Forecast, 2019 – 2050

Sector	2019	2030	2040	2050	Percentage Change, 2019-2050
Transportation	464,040	534,610	637,880	761,980	64%
Residential energy	191,780	220,130	258,150	303,300	58%
Nonresidential energy	109,370	115,670	120,130	125,080	14%
Solid waste	220,760	229,820	249,820	280,640	27%
Agriculture	36,130	34,770	33,410	33,410	-8%
Off-road equipment	54,010	73,260	90,420	102,530	90%
Water and wastewater	4,870	5,610	6,700	7,990	64%
BART	190	220	260	310	63%
Land use and sequestration	-70,860	-67,580	-52,970	-62,330	-12%
Total Annual $MTCO_2e$	**1,010,290**	**1,146,510**	**1,343,800**	**1,552,910**	**54%**

All numbers are rounded to the nearest 10. Due to rounding, totals may not equal the sum of the individual values.

Figure 1: Absolute GHG Emissions Forecast, 2019 – 2050



PER-CAPITA GHG EMISSIONS FORECAST

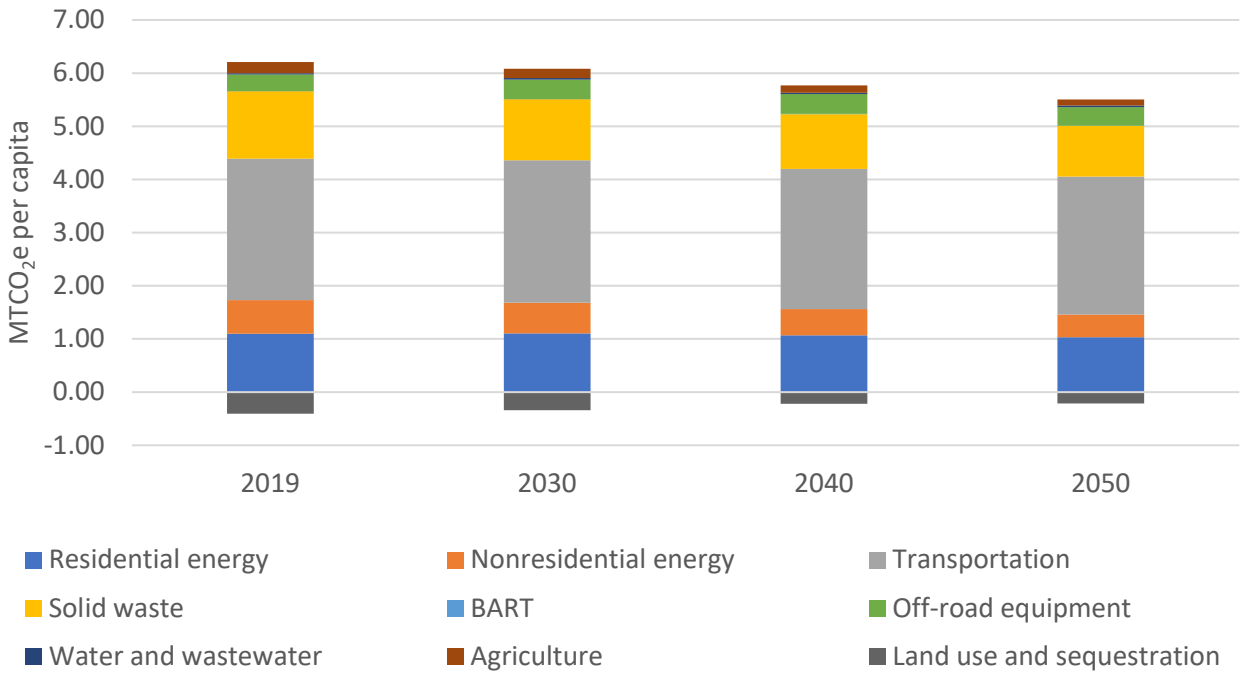
In addition to the absolute emissions discussed in the previous section, the forecast also assessed per-capita (per-person) emissions. These emissions are per-resident population, as projected by Envision Contra Costa 2040, as shown in **Table 1**. **Table 3** and **Figure 2** show projected per-capita GHG emissions for unincorporated Contra Costa County.

Table 3: Per-Capita GHG Emissions Forecast, 2019 – 2050

Sector	2019	2030	2040	2050	Percentage Change, 2019-2050
Transportation	2.66	2.68	2.64	2.60	-3%
Residential energy	1.10	1.10	1.07	1.03	-6%
Nonresidential energy	0.63	0.58	0.50	0.43	-32%
Solid waste	1.27	1.15	1.03	0.96	-25%
Agriculture	0.21	0.17	0.14	0.11	-45%
Off-road equipment	0.31	0.37	0.37	0.35	13%
Water and wastewater	0.03	0.03	0.03	0.03	-3%
BART	Less than 0.01	Less than 0.01	Less than 0.01	Less than 0.01	-3%
Land use and sequestration	-0.41	-0.34	-0.22	-0.21	-48%
Total Annual Per-Capita $MTCO_2e$	**5.80**	**5.74**	**5.55**	**5.29**	**-9%**

Due to rounding, totals may not equal the sum of the individual values.

Figure 2: Per-Capita GHG Emissions Forecast, 2019 – 2050



Although overall emissions are expected to increase, per-capita emissions are expected to decline slightly from 2019 to 2050. This is because the number of residents is expected to increase faster than other demographic metrics used in the forecast (households, jobs, and service population). Additionally, since some sectors and subsectors assume no change in emissions or only minor changes based on land use patterns, this translates to a decrease in per-capita emissions for those sectors.

State and Regional GHG Emission Reductions

California has adopted and committed to implementing policies to decrease GHG emission levels statewide, including from several of the major GHG emission sources present in the unincorporated areas of Contra Costa County. Many of these policies are identified in California's Climate Change Scoping Plan (Scoping Plan), which was originally adopted in 2008 in response to the California Global Warming Solutions Act (Assembly Bill, or AB, 32). The Scoping Plan outlines several regulations and market-based solutions to achieving California's GHG emission reduction goals. Successive updates to the Scoping Plan in 2014 and 2017 revised these state-level actions and identified additional opportunities for GHG emission reductions, as applicable. [1]

While the Scoping Plan and related documents lay out several state-led policies to reduce GHG emissions, the 2022 CAP will include those policies that have a direct and apparent GHG emission reduction benefit to unincorporated Contra Costa County. The project team has assessed community-wide GHG emission reduction benefits from four state-level efforts:

1. The Renewables Portfolio Standard (RPS) requires increases in renewable and carbon-free electricity supplies.
2. The Clean Car Standards require increased fuel efficiency of on-road vehicles and decreased carbon intensity of vehicle fuels.
3. The updated Title 24 building energy efficiency standards require new buildings to achieve increased energy-efficiency targets. The latest version of these standards is set to go into effect January 1, 2023.
4. The Low Carbon Fuel Standard (LCFS) mandates reduced carbon intensity of fuels used in off-road equipment.

In addition to the state actions, the County's default electricity provider, MCE, has also taken action to reduce the GHG emissions from the electricity it supplies to Contra Costa community members, beyond the minimum required by RPS. In 2019, MCE electricity was approximately 60-percent renewable and 90-percent carbon-free. In future years, MCE is working toward sourcing 95 percent of their electricity from carbon-free sources.

Table 4 shows the GHG reduction potential from the four state-level efforts and MCE's energy procurement plans. Table 5 and Figure 3 show future GHG emissions in unincorporated Contra Costa County with these efforts in place.

[1] At time of writing, the California Air Resources Board is working on a third update to the Scoping Plan, in response to the adoption of Senate Bill 32 in 2016 and the Governor's 2018 goal of achieving statewide carbon neutrality by 2045. The updated Scoping Plan is set to be adopted sometime in late 2022.

Table 4: Absolute GHG Emission Reductions from Existing and Planned State and Regional Actions, 2019 – 2050

	2019	2030	2040	2050	Percentage Change, 2019-2050
Forecasted emissions without state and regional actions	**1,010,290**	**1,146,510**	**1,343,800**	**1,552,910**	**54%**
Reductions from RPS	-	-24,730	-55,990	-122,760	-
Reductions from Clean Car standards	-	-108,740	-194,500	-251,160	-
Reductions from Title 24	-	-11,020	-37,170	-70,170	-
Reductions from LCFS (off-road only) *	-	-3,590	680	6,270	-
Reductions from MCE clean energy procurement	-	-1,270	-990	-	-
Reductions from all 5 actions	**-**	**-149,350**	**-287,970**	**-437,820**	**-**
Emissions with state and regional actions	**1,010,290**	**997,170**	**1,055,820**	**1,115,090**	**10%**

* Due to the methods used in the forecast and assessment of state GHG reduction potential, future projections for off-road equipment GHG emissions are higher than forecasted above.

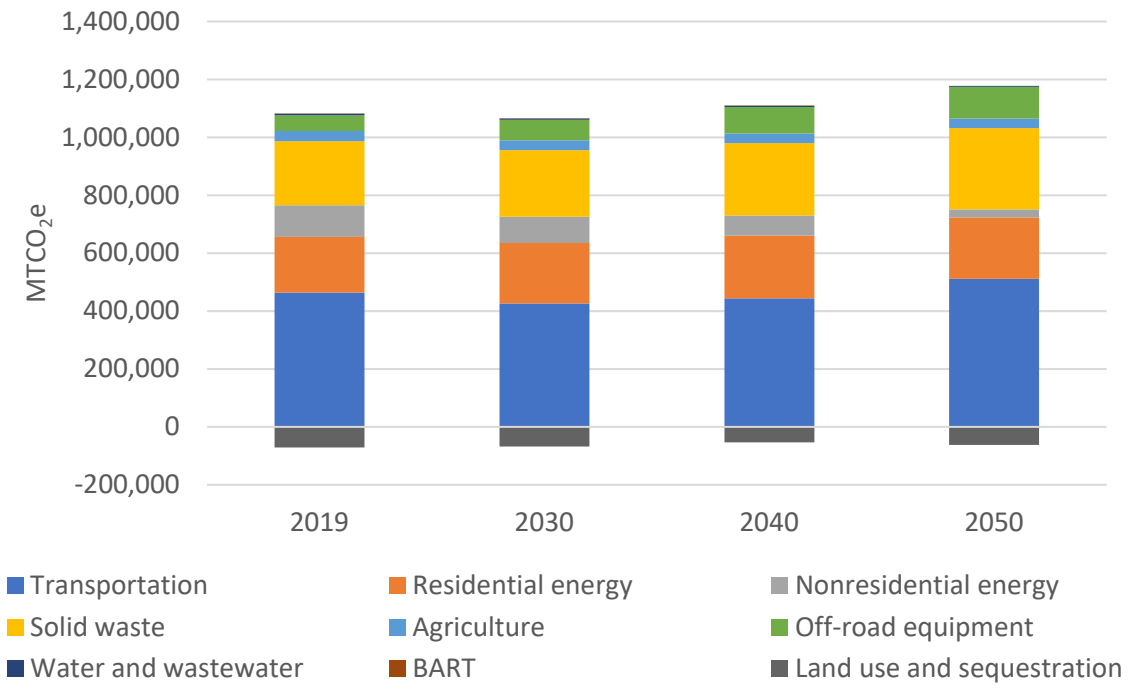
All numbers are rounded to the nearest 10. Due to rounding, totals may not equal the sum of the individual values.

Table 5: Absolute GHG Emissions with Existing and Planned State and Regional Actions, 2019 – 2050

Sector	2019	2030	2040	2050	Percentage Change, 2019-2050
Transportation	464,040	425,870	443,380	510,820	10%
Residential energy	191,780	208,720	217,410	212,560	11%
Nonresidential energy	109,370	91,120	69,040	27,660	-75%
Solid waste	220,760	229,820	249,820	280,640	27%
Agriculture	36,130	34,770	33,410	33,410	-8%
Off-road equipment	54,010	69,670	91,100	108,800	101%
Water and wastewater	4,870	4,640	4,550	3,530	-28%
BART	190	140	80	0	-100%
Land use and sequestration	-70,860	-67,580	-52,970	-62,330	-12%
Total Annual $MTCO_2e$	**1,010,290**	**997,170**	**1,055,820**	**1,115,090**	**10%**

All numbers are rounded to the nearest 10. Due to rounding, totals may not equal the sum of the individual values.

Figure 3: Absolute GHG Emissions with Existing and Planned Actions, 2019 – 2050



With state and regional existing and planned actions factored in, most GHG sources are expected to either see a decrease in emissions or a much smaller increase in emissions than the level forecasted in Table 2. Emissions from solid waste, agriculture, and land use and sequestration remain unchanged, as no existing or planned state or regional policies are expected to influence these emissions. Emissions from off-road equipment are expected to rise slightly compared to the forecast, but this is an artificial rise caused by the emissions in the forecast being less than those assumed by state modeling efforts.

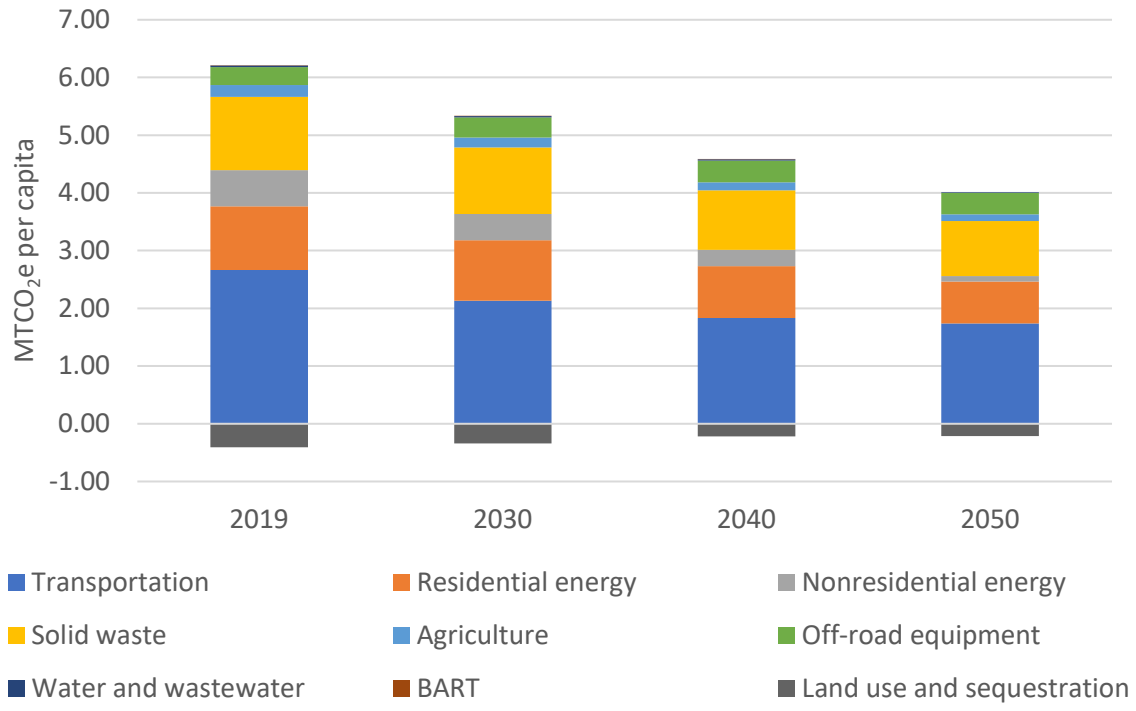
Table 6 and Figure 4 show the per-capita GHG emissions with existing and planned actions for unincorporated Contra Costa County. With existing and planned actions factored in, per-capita GHG emissions decrease in almost all sectors, with overall per-capita GHG emissions falling 35 percent from 2019 to 2050. The one sector with an increase in per-capita emissions is off-road equipment, as the growth in unincorporated Contra Costa County's population is not large enough to overcome the substantial increase in total off-road equipment GHG emissions.

Table 6: Per-Capita GHG Emissions with Existing and Planned Actions, 2019 – 2050

Sector	2019	2030	2040	2050	Percentage Change, 2019-2050
Transportation	2.66	2.13	1.83	1.74	-35%
Residential energy	1.10	1.05	0.90	0.72	-34%
Nonresidential energy	0.63	0.46	0.29	0.09	-85%
Solid waste	1.27	1.15	1.03	0.96	-25%
Agriculture	0.21	0.17	0.14	0.11	-45%
Off-road equipment	0.31	0.35	0.38	0.37	19%
Water and wastewater	0.03	0.02	0.02	0.01	-57%
BART	Less than 0.01	Less than 0.01	Less than 0.01	0.00	-100%
Land use and sequestration	-0.41	-0.34	-0.22	-0.21	-48%
Total Annual Per-Capita $MTCO_2e$	**5.80**	**5.00**	**4.36**	**3.80**	**-35%**

Due to rounding, totals may not equal the sum of the individual values.

Figure 4: Per-Capita GHG Emissions with Existing and Planned Actions, 2019 – 2050



Emission Reduction Targets

A key part of any CAP is one or more targets, which are the levels to which the community agrees to reduce GHG emissions. The 2022 CAP for unincorporated Contra Costa County will include GHG emission reduction targets for 2030, 2040, and 2050. Targets may be "firm" levels of GHG emission reductions supported by State regulations and local commitments (also called regulatory targets), or aspirational targets that go beyond adopted minimums and represent a higher level of GHG emission reductions that the community can strive toward (also called goals).

TYPES OF TARGETS

There are usually three types of targets: absolute targets, per-capita targets, and carbon-neutral targets. The County may choose to adopt GHG reduction targets of any and all types.

Absolute targets

An absolute target is a specific, fixed level of GHG emissions that the community intends to reduce GHG emissions to (or below) by a given milestone year. Such targets may be expressed as a specific amount of GHG emissions (e.g., 750,000 metric tons of carbon dioxide equivalent [$MTCO_2e$]), but more often are expressed as reducing GHG emissions to a percent below a particular baseline (e.g., 15 percent below 2005 GHG emission levels by 2020).

Per-capita targets

A per-capita target is a level of GHG emissions per person that the community plans to reduce GHG emission to or below by a specified year, such as 4 $MTCO_2e$ per person by 2030. Per-capita targets are usually per-resident population, consistent with State guidance in the Scoping Plan, but they may also be expressed as per-service population (residents plus jobs). Unlike absolute targets, the total level of GHG emission reductions specified by per-capita targets is dependent on changes to community growth, so a higher-than-expected population growth would allow for higher absolute GHG emissions even if the per-capita GHG emission levels are unchanged.

Carbon-neutral targets

A carbon-neutral target is a commitment that the community's net GHG emissions will be zero. Although in theory a carbon-neutral target could mean that the community eliminates all GHG emissions, in practice this is extremely difficult to do at the local level. More commonly, these targets call for communities to substantially reduce GHG emissions and then balance out the remaining GHG emissions through carbon sequestration, offsets, or similar carbon removal practices, so the community commits to net carbon neutrality. Such targets should be combined with an absolute or per-capita target, specifying that the community must reduce GHG emissions to a set level and then offset the remainder.

STATE GHG-REDUCTION TARGETS

California has committed to GHG emission reduction targets through legislative actions and executive orders. Legislative actions are binding targets that are codified in State law and may be thought of as "firm" or regulatory targets. Executive orders do not have the force of law, but they provide an indication of the State's goals and intentions and may be thought of as aspirational targets. Table 7 shows the State's GHG emission reduction targets.

Table 7: State GHG Emission reduction Targets

TARGET YEAR	TARGET	TYPE	ESTABLISHING ACT
2020	Reduce emissions to 1990 levels.	Regulatory target	Assembly Bill (AB) 32 (2006)
2030	Reduce emissions 40 percent below 1990 levels.	Regulatory target	Senate Bill (SB) 32 (2016)
2045	Carbon-neutral emissions.	Aspirational target	Executive Order (EO) B-55-18 (2018)
2050	Reduce emissions 80 percent below 1990 levels.	Aspirational target	Executive Order (EO) S-03-05 (2015)

GUIDANCE FOR LOCAL GOVERNMENTS

State Climate Change Scoping Plan

AB 32 codified into law California's target of reducing GHG emissions to 1990 levels by 2020. The law directed the California Air Resources Board (CARB) to oversee and plan the state's GHG reduction efforts. CARB released the first Climate Change Scoping Plan in 2008, laying out a framework for achieving California's GHG emission reduction targets. CARB has prepared updates to the Scoping Plan in 2014 and 2017.

The most recent version of the Scoping Plan from 2017 provides detailed options for local targets, including those for plan-level efforts, such as the 2022 CAP. The Scoping Plan indicates that per-capita targets of 6.0 $MTCO_2e$ per person by 2030 and 2.0 $MTCO_2e$ per person by 2050 are consistent with California's adopted regulatory target of reducing GHG emissions to 40 percent below 1990 levels by 2030 and the aspirational target of 80 percent below 1990 levels by 2050. At the time that staff prepared the 2015 CAP, State guidance did not propose per-capita targets, which is why the 2015 CAP does not consider or establish them.

California Environmental Quality Act Guidance

Under the California Environmental Quality Act (CEQA) Guidelines,[2] CAPs and other GHG-reduction plans can help to streamline the environmental review process for any development effort defined as a project under CEQA. Plans that can be used this way are called Qualified GHG Reduction Strategies and must satisfy six criteria, one of which is that they "establish a level, based on substantial evidence, below which the contribution to greenhouse gas emissions covered by the plan would not be cumulatively considerable." If the plan meets these criteria, as determined by the community, any project consistent with the plan's GHG emission reduction strategies can be determined to have a less-than-significant impact on GHG emissions, reducing the need for additional analyses and mitigation measures. Additionally, the plan must identify measures and performance standards that can be clearly shown to achieve this determination. As a result, a plan seeking to be a Qualified GHG Reduction Strategy must have a GHG emission reduction target or targets that not only substantially reduce GHG emissions, but that can also be feasibly achieved.

[2] The 2022 CEQA Guidelines are available at https://califaep.org/statute_and_guidelines.php

In February 2022, the Bay Area Air Quality Management District (BAAQMD) released a draft document titled "CEQA Thresholds for Evaluating the Significance of Climate Impacts From Land Use Projects and Plans." This document provides guidance to Bay Area communities, including Contra Costa County, for determining whether a proposed project will have a significant impact on climate change. In the document, BAAQMD recommends that to meet the criteria for a Qualified GHG Reduction Strategy, a local plan must meet one of two targets:

- Reduce emissions to 40 percent below 1990 levels by 2030 and achieve net carbon neutrality by 2045.
- Be consistent with the State guidance calling for targets to be "a level, based on substantial evidence, below which the contribution to greenhouse gas emissions covered by the plan would not be cumulatively considerable."

Note that this guidance is draft and may change in its final form.

TARGET OPTIONS FOR CONTRA COSTA COUNTY

Local governments have the flexibility to select their own GHG emission reduction targets that are different from the ones recommended by guidance documents. For a document that serves as a Qualified GHG Reduction Strategy, these targets should be consistent with or go beyond the recommendations in guidance documents, achieving a comparable or greater level of GHG emission reductions. PlaceWorks recommends that the 2022 CAP for Contra Costa County include GHG emission reduction targets that are, at minimum, consistent with the state's regulatory targets. Additionally, PlaceWorks recommends that the County adopt a net carbon neutral goal as an aspirational target.

Regulatory Targets

The County's GHG emission regulatory targets may be either absolute or per-capita. **Table 8** shows what these targets would be for unincorporated Contra Costa County as necessary to meet the State's guidance, although the County may choose to adopt regulatory targets that call for a greater level of reductions.

Table 8: Minimum Recommended Regulatory Targets

Target Year	Absolute Targets		Per-Capita Targets
	$MTCO_2E$	Description	$MTCO_2E$ per capita
2030	658,700	40% below 1990 levels	6.0
2040 *	439,140	60% below 1990 levels	4.0
2050	219,570	80% below 1990 levels	2.0

* State guidance does not establish 2040 targets. These targets are interpolations between the 2030 and 2050 targets. PlaceWorks recommends a 2040 target, in addition to 2030 and 2050 targets, for consistency with the horizon year of Envision Contra Costa 2040.

Note: Consistent with State guidance, 1990 GHG emission levels for unincorporated Contra Costa County is equal to 15 percent below 2005 levels. Unincorporated Contra Costa County GHG emissions in 2005 were 1,291,580 $MTCO_2e$, translating to a 1990 GHG emissions level of 1,097,840 $MTCO_2e$.

Absolute targets are rounded to the nearest tens.

Table 9, **Figure 5**, and **Figure 6** show these potential regulatory GHG emission targets relative to unincorporated Contra Costa County's GHG emissions after considering the effects of existing and planned efforts.

Table 9: GHG Emission Reduction Levels

	2030	2040	2050
Absolute emissions			
Emissions with existing and planned state and regional actions ($MTCO_2e$)	997,170	1,055,820	1,115,090
Target emissions	658,700	439,140	219,570
Gap to target	338,470	616,680	895,520
Per-capita emissions			
Emissions with existing and planned state and regional actions ($MTCO_2e$)	5.00 $MTCO_2e$ per person	4.36 $MTCO_2e$ per person	3.80 $MTCO_2e$ per person
Target emissions *	6.0 $MTCO_2e$ per person (1,197,600 $MTCO_2e$)	4.0 $MTCO_2e$ per person (968,280 $MTCO_2e$)	2.0 $MTCO_2e$ per person (587,140 $MTCO_2e$)
Gap to target *	-1.00 $MTCO_2e$ per person (-200,430 $MTCO_2e$) †	0.36 $MTCO_2e$ per person (87,540 $MTCO_2e$)	1.80 $MTCO_2e$ per person (527,950 $MTCO_2e$)

* Although these proposed targets and gaps are for per-capita emissions, they are also shown as absolute targets for a point of comparison.

† Negative values mean that actions with existing and planned efforts exceed the proposed target.

Due to rounding, totals may not equal the sum of the individual values.

Figure 5: Absolute GHG Emission Levels and Reduction Targets

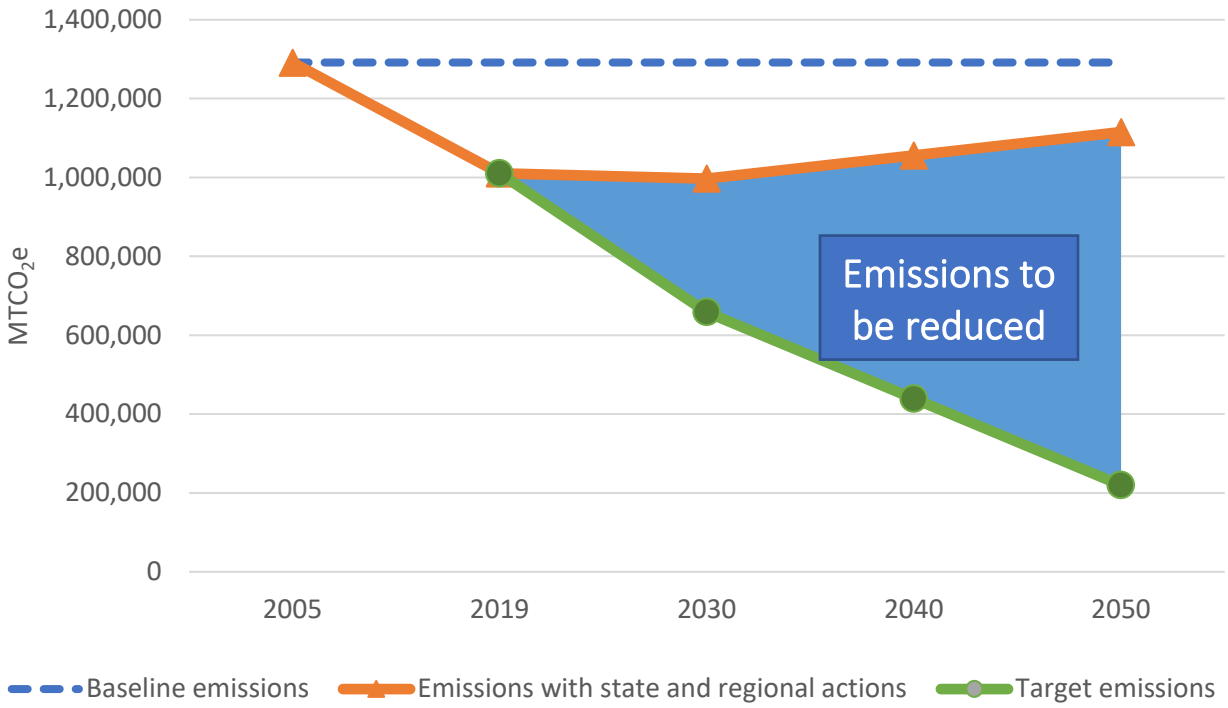
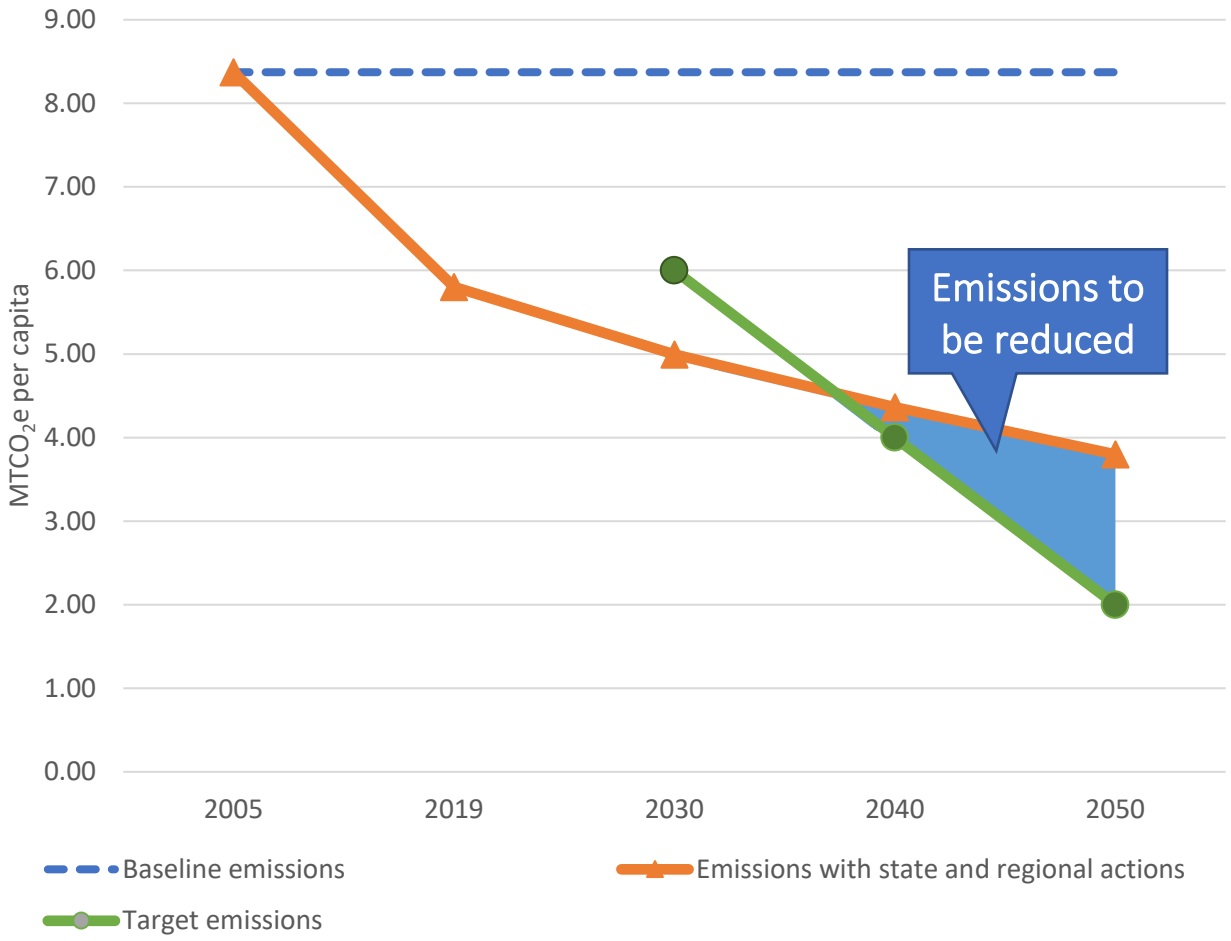


Figure 6: Per-Capita GHG Emission Levels and Reduction Targets



PlaceWorks recommends that the net carbon neutral target apply for either 2040 to match the horizon year of Envision Contra Costa 2040, or for 2045 to match the goal put forward in EO S-03-05. To be consistent with the recommended regulatory targets, if the County chooses 2045 for the net carbon neutral goal, PlaceWorks recommends an additional regulatory target of at least 70 percent below 1990 levels or 3.0 $MTCO_2e$ per person by 2045.

GHG Reduction Potential of 2022 CAP Strategies

PlaceWorks has worked with County staff to develop a set of GHG emission reduction strategies and to assess the GHG emission reduction potential of these strategies, given the project team's reasonable understanding of available resources and what seemed appropriate for the unincorporated area. Attachment 4 provides detailed information about the GHG emission reduction potential of these strategies.

These GHG emission reduction potentials are intended to be a starting point. They are based on best available information and known resources and capabilities. It is possible to achieve greater reductions if there is increased confidence in higher levels of participation or development of additional programs. Through

discussions with County staff and members of the Board of Supervisors, PlaceWorks anticipates that these reductions will be revised to better reflect County and community priorities and to achieve the County's preferred targets. Table 10 shows the absolute expected GHG emission levels with these strategies enacted, while Table 11 shows these reductions from a per-capita perspective.

Table 10: Absolute GHG Emissions with 2022 CAP Reduction Strategies

Sector	2019	2030	2040	2050	Percentage Change, 2019-2050
Transportation	464,040	315,100	246,450	127,280	-73%
Residential energy	191,780	153,210	116,900	58,790	-69%
Nonresidential energy	109,370	79,860	52,490	13,500	-88%
Solid waste	220,760	226,570	243,650	270,670	23%
Agriculture	36,130	34,770	33,410	33,410	-8%
Off-road equipment	54,010	69,670	91,100	108,800	101%
Water and wastewater	4,870	3,670	3,240	2,050	-58%
BART	190	150	90	0	-100%
Land use and sequestration	-70,860	-73,530	-61,970	-74,370	5%
Total Annual $MTCO_2e$	**1,010,290**	**809,450**	**725,340**	**540,120**	**-47%**

All numbers are rounded to the nearest 10. Due to rounding, totals may not equal the sum of the individual values.

Table 11: Per-Capita GHG Emissions with 2022 CAP Reduction Strategies

Sector	2019	2030	2040	2050	Percentage Change, 2019-2050
Transportation	2.66	1.58	1.02	0.43	-84%
Residential energy	1.10	0.77	0.48	0.20	-82%
Nonresidential energy	0.63	0.40	0.22	0.05	-93%
Solid waste	1.27	1.14	1.01	0.92	-27%
Agriculture	0.21	0.17	0.14	0.11	-45%
Off-road equipment	0.31	0.35	0.38	0.37	19%
Water and wastewater	0.03	0.02	0.01	0.01	-75%
BART	Less than 0.01	Less than 0.01	Less than 0.010	0.00	-100%
Land use and sequestration	-0.41	-0.37	-0.26	-0.25	-38%
Total Annual Per-Capita $MTCO_2e$	**5.80**	**4.06**	**3.00**	**1.84**	**-68%**

Due to rounding, totals may not equal the sum of the individual values.

With the reductions currently projected from the 2022 CAP strategies, GHG emissions for the unincorporated Contra Costa County are expected to fall 47 percent relative to 2019 levels by 2050, or for per-capita emissions to decrease by 68 percent. These reductions occur in most GHG emission sectors. As noted previously, there is the potential for these strategies to yield additional GHG emission-reduction potentials through discussions with County staff and decision makers.

With these reductions as currently assessed, unincorporated Contra Costa County achieves the proposed per-capita targets for all years, and in 2030 and 2040 substantially exceeds, although it does not achieve the proposed absolute targets. Table 12, Figure 7, and Figure 8 show these reductions relative potential regulatory GHG emission-reduction targets.

Table 12: 2022 CAP GHG Emission Reductions and Proposed Regulatory Targets

	2030	2040	2050
Absolute emissions			
Regulatory target	658,700	439,140	219,570
Emissions with strategies	809,450	725,340	540,120
Gap to target *	150,750	286,200	320,550
Per-capita emissions			
Regulatory target	6.00	4.00	2.00
Emissions with strategies	4.06	3.00	1.84
Gap to target *	-1.94	-1.00	-0.16

* Negative values mean that the GHG emission levels with the strategies as currently assessed exceed the proposed target.
Due to rounding, totals may not equal the sum of the individual values.

Figure 7: Absolute GHG Emission Levels and Reduction Targets with 2022 CAP

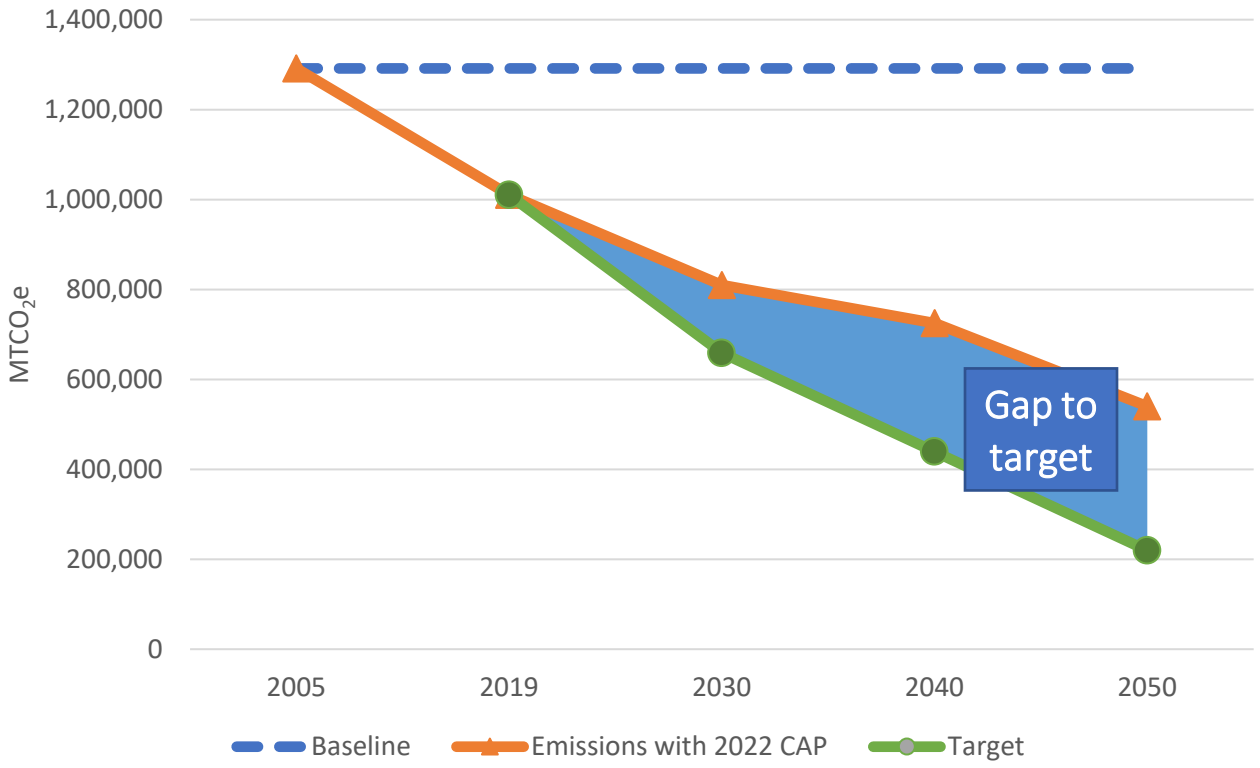
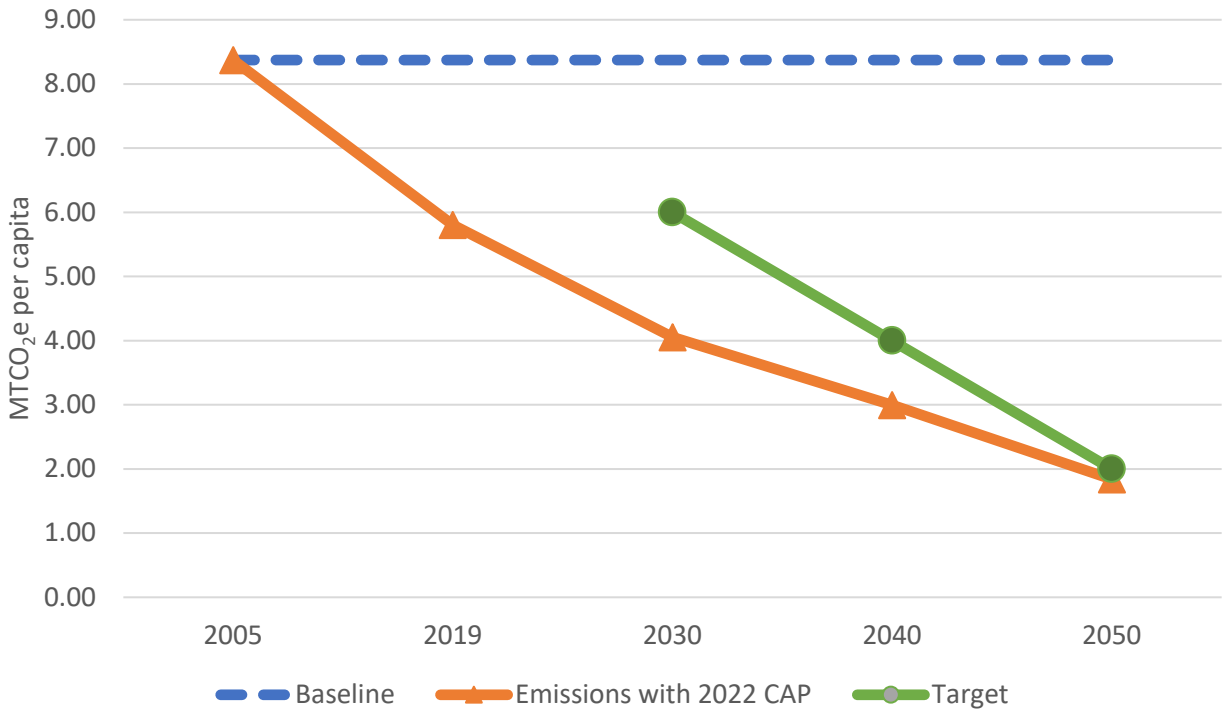


Figure 8: Per-Capita Emission Levels and Reduction Targets with 2022 CAP



Next Steps

If the County has any revisions to the forecast and existing and planned actions discussions of this memo, PlaceWorks will work with County staff to make these changes. PlaceWorks will discuss these potential GHG-reduction targets and the reductions achieved by the GHG-reduction strategies with County staff and decision makers. We will then work to revise the assumptions underlying these GHG emission reductions to adjust the level of reduction potential so it is consistent with County expectations and community values.

Goal	No	CAP Strategy	Strategy Description	Implementation actions	Lead Department	Applicability	Potential Partners	Potential Measure(s) of Effectiveness	Co-Benefits
Clean and Efficient Built Environment: *Homes, workplaces, and businesses in unincorporated Contra Costa County run efficiently on clean energy.*									
Clean and Efficient Built Environment *Homes, workplaces, and businesses in unincorporated Contra Costa County run efficiently on clean energy.*	1.1	Require new buildings or additions built in unincorporated Contra Costa County, on or after January 1, 2023, to be low-carbon or carbon neutral.	There are more new carbon-neutral and low-carbon buildings in Contra Costa County. Efforts to achieve this include electrification, energy efficiency and weatherization, and carbon-neutral/low-carbon County buildings.	– Establish, publicize, and enforce a County building code requiring new single-family, multifamily, affordable housing, hotels, offices, retail, and County facilities to be all-electric, along with other building types as appropriate. – Partner with community groups and MCE to establish an induction cooktop loaner program for county residents as a way to build familiarity with the technology. – Explore establishing a low-carbon concrete requirement for all new construction and retrofit activities and consider additional strategies to reduce embedded carbon in construction materials. This requirement shall support or exceed State requirements for net-zero emissions for cement use by 2045. – Encourage project applicants to incorporate passive solar design features into new developments and significant reconstructions. – Promote additional sustainable building strategies and designs, including small and "tiny homes", to project applicants as site-appropriate. Consider requiring additional sustainable features as a condition of approval, including reuse of materials to minimize embedded carbon.	– Conservation and Development – Public Works	– County operations – New development – Residents in unincorporated areas	– BayREN – Local contractors, developers, architects, and Contra Costa County Building Trades Council – MCE – PG&E – Building Industry Association – BAAQMD	– Implement ordinance requiring new buildings to be all electric. – Participation in energy efficiency and weatherization programs by residential and commercial buildings (including County facilities), with attention to participation in Impacted Communities. – Number of buildings with energy storage systems, including County facilities. – Energy efficient lighting and other appliances and mechanical systems in County buildings. – Number of public and private buildings that achieve green building certifications. – Completed report on requirements for low-carbon concrete in new construction.	– Cost savings – Improved air quality – Improved community equity – Improved public health – Increased economic opportunities – Increased resilience to pests – Reduced resource use

Goal	No	CAP Strategy	Strategy Description	Implementation actions	Lead Department	Applicability	Potential Partners	Potential Measure(s) of Effectiveness	Co-Benefits
Clean and Efficient Built Environment cont'd	1.2	Retrofit existing buildings and facilities in unincorporated county, and County infrastructure, to reduce energy use and convert to low-carbon or carbon-neutral fuels.	The existing built environment in Contra Costa County includes more carbon-neutral and low-carbon buildings through electrification, energy efficiency and weatherization retrofits, and upgrades to existing buildings, including County-owned and operated buildings and facilities.	– Create and implement a County policy or program, with building code revisions as needed to support implementation, to ensure existing residential and non-residential buildings are efficient and powered by carbon free energy. – Ensure all County-led and supported energy efficiency and weatherization, renewable energy, and electrification programs incentivize and prioritize conversion of buildings built before 1980 and are targeted to owners of properties that are home to very low-, low-, and moderate- income residents and/or located in Impacted Communities. – Require replacement water heaters and heat pumps to be electric if the building electric panel has sufficient capacity. – Evaluate options to require additions and alterations to existing buildings to be all-electric, including upgrades to the building electric panel. – Require homes and businesses to enact energy-efficient retrofits and electric appliance conversions at time of sale, lease. or retrofits requiring a building permit if retrofits or replacements have not occurred for at least 10 years. – Create a detailed roadmap for electrification of existing homes and businesses by 2024 that includes equitable requirements for electrification, financial incentives for community members with additional compensation for Impacted Communities, and allows for a methodical conversion that does not create a risk of displacement or significant disruptions. – Create and implement a program to provide reduced-cost or free retrofits to local small business and households earning less than the area median income, in support of the Contra Costa County Asthma Initiative and other non-profit partners, as well as other health equity efforts for Impacted Communities. Support the use of low-emitting materials, including paints and carpeting, in retrofits to improve indoor air quality. – In partnership with MCE and BayREN, continue to support voluntary home and business energy efficiency retrofits, including electrification measures. – Facilitate participation by homes and businesses to participate in demand response programs. – Continue to conduct energy and water tracking, audits, and upgrades of County facilities, including conversion of all feasible County facilities to all-electric space and water heating. – Advocate for modifications to the federal Weatherization Assistance Program that expands eligible measures to include whole building clean energy improvements, such as wall insulation, duct sealing, electric panel upgrades, electric heat pumps, and related measures. Advocate for an increase to the income eligibility limits for the Weatherization Assistance Program. – Establish requirements for cool roofs and light-colored, permeable paving materials as part of retrofit, repair, and replacement activities, using recycled materials or other materials with low embedded carbon as feasible.	– Conservation and Development – Public Works	– County operations – Existing development – Residents in unincorporated areas – Businesses in unincorporated areas	– BayREN – Local contractors, architects, and Contra Costa County Trades Council – MCE – Neighborhood Preservation Program – Contra Costa County Asthma Initiative	– Participation in energy efficiency and weatherization programs, including retrofits and site rehabilitation, by residential and commercial buildings (including County facilities), with attention to participation in Impacted Communities. – Number of buildings with energy storage systems, including County facilities. – Energy efficient lighting and other appliances and mechanical systems. – Creation of low-cost retrofit and weatherization programs for County residents	– Cost savings – Improved air quality – Improved community equity – Improved public health – Increased economic opportunities – Reduced resource use

Goal	No	CAP Strategy	Strategy Description	Implementation actions	Lead Department	Applicability	Potential Partners	Potential Measure(s) of Effectiveness	Co-Benefits
Clean and Efficient Built Environment cont'd	1.3	Increase the amount of electricity used and generated from renewable sources in the county.	Electricity from fossil fuels is replaced with electricity from renewable and other carbon-free sources, including through increased local renewable energy generation, support for MCE clean energy programs, including Deep Green and Local Sol tiers, and improved energy independence and resilience through battery storage systems for renewable electricity.	– Require all new parking lots developed as part of projects with at least 5,000 square feet of conditioned space to include shade structures with solar panels. – Encourage property owners to pursue financial incentives for solar installations and energy storage on new and existing buildings. – Work with MCE to increase enrollment, especially in 100% renewable energy tiers. – Continue to enroll all eligible County facility electricity accounts in MCE territory in the Deep Green tier. – Work with the Contra Costa County Fire Protection District and other organizations that provide fire protection services to promote the Self-Generation Incentive Program and related efforts to provide education and incentives for battery storage programs. – Provide information about battery storage systems to all applications for new home construction and solar panel installations. – Implement recommendations of the 2018 Renewable Resource Potential Study.	– Conservation and Development – Public Works	– County operations – Existing development – New development – Residents in unincorporated areas – Businesses in unincorporated areas	– BayREN – Contra Costa County Fire Protection District – Kensington Fire Protection District – Moraga-Orinda Fire District – Rodeo-Hercules Fire Protection District San Ramon Valley Fire Protection District – – Local contractors, architects, and Contra Costa County Building Trades Council – MCE – PG&E – BAAQMD	– Number and percent of County and community accounts enrolled in MCE Deep Green – Megawatts rooftop and parking lot solar installed in unincorporated county, including County facilities and Impacted Communities. – Megawatts wind installed in unincorporated county. – Total megawatts of installed renewable energy capacity in the unincorporated county. – Megawatt-hours of installed battery storage capacity at public and private buildings. – Percent of electricity supplied by PG&E and MCE from renewable sources.	– Greater energy independence – Improved air quality – Improved community equity – Improved public health – Increased economic opportunities
No Waste Contra Costa: *Contra Costa County generates no more solid waste than 2.25 pounds per person per day (PPD)*									
No Waste Contra Costa *Contra Costa County generates no more solid waste than 2.25 pounds per person per day (PPD)*	2.1	Increase composting of organic waste.	Organic waste is diverted from landfills to composting or other opportunities for reuse in accordance with SB 1383 and other applicable requirements. This includes establishment of composting collection programs for all franchise waste customers, encouraging and supporting wastewater agencies to accept food waste or other acceptable organic materials for processing in on-site anaerobic digesters, and allowing for creative opportunities to reuse or reprocess organic waste material.	– Establish a source-separated organics collection service for all residential and commercial customers in County-controlled franchise areas. – Use franchise negotiations to encourage organics collection service providers to use composting systems that capture most methane produced, as feasible. – Work with wastewater providers to explore the use of organic waste as feedstock for anaerobic digesters to produce electricity or fuel. – Support the siting of composting facilities in the county as appropriate with community characteristics. – Encourage local restaurants, grocery stores, and other entities that process large quantities of food to partner with food rescue organizations to divert food that would be otherwise thrown away to non-profit organizations for distribution to those in need. – Leverage Food recovery programs and the Community Wellness & Prevent Program nutrition program to decrease food waste and address hunger.	– Conservation and Development – Health Services Department: Environmental Health – Public Works	– – Residents in unincorporated areas – Businesses in unincorporated areas	– Environmental justice organizations – Food rescue organizations – Major generators of organic waste (schools, restaurants, event spaces, grocery stores, etc.) – Waste haulers – Wastewater service providers – Health Services, Environmental Health, CWPP – Jail meal service – Schools – Hospitals	– Percent of County controlled Franchise areas with source separated organics collection for residential customers. – Number of county facilities with 3-stream recycling – Tonnage of compost collected. – Number of commercial edible food generators participating in edible food recovery program. – Number of projects complying with the Model Water Efficient Landscaping Ordinance (MWELO) required to use compost.	– Increased economic opportunities – Increased resilience to pests – Reduced resource use – Reduced landfill waste

Goal	No	CAP Strategy	Strategy Description	Implementation actions	Lead Department	Applicability	Potential Partners	Potential Measure(s) of Effectiveness	Co-Benefits
No-Waste Contra Costa cont'd	2.2	Reduce waste from County operations.	Waste from County government operations, including from contracts for services and products, is reduced. Efforts to achieve this include updating and implementing the County's environmentally preferable purchasing policy, ensuring all County facilities have and use composting and recycling options, and specifying the use of low-carbon content building and paving materials for all County projects as feasible.	– Establish a source-separated organics collection service at all County facilities. – Implement 3-stream recycling (trash, recycling, and compost) at all County facilities. – Conduct regular waste audits of County facilities, including assessing the volume and composition of all waste streams, to identify challenges with waste activities and develop educational or operational changes to address issues and reduce waste generation. – Source material for capital projects from local and low-carbon sources to the greatest extent feasible, including allocating additional funds to allow for such materials, and integrate appropriate standards into the County's Environmentally Preferred Purchasing (EPP) program. – Require vendors to comply with updated Environmentally Preferable Purchasing Program (EPP program) and associated recovery organic material requirements, including requirements under SB 1383. – Continue to reduce paper use in County operations. – Encourage medical facilities and medical waste recycling companies to enhance their ability to increase the amount of medical waste recycled or reprocessed. – Enact Bay-friendly landscaping practices at County facilities. – Explore opportunities to reuse wood from County tree maintenance activities as an alternative to chipping.	– Conservation and Development – Public Works – Health Services	– County operations	– Waste haulers	– Recycled content of County purchases consistent with applicable requirements of SB 1383. – Enforcement of requirements for County vendors and contractors to adopt and implement environmentally preferable purchasing policies. – Food waste, recycling, composting at County facilities – Number of County facilities with Bay-friendly landscaping practices. – Tonnage of recycled and composted materials, by type, collected at County facilities	– Increased economic opportunities – Increased resilience to pests – Reduced resource use
No-Waste Contra Costa cont'd	2.3	Increase community-wide recycling and waste minimization programs.	The amount of waste sent to landfills from community members is reduced through extensive diversion and waste minimization programs. The County explores and implements all feasible opportunities to minimize landfill waste, including through recycling of additional materials, prohibitions or limitations on materials that cannot be recycled/composted, education around conscious consumption, and opportunities to divert waste materials for reuse.	– Create a source-reduction program in partnership with regional agencies to promote the rethinking, refusing, reducing, reusing, regenerating, recycling, and recovering of materials. – Improve educational efforts to promote better waste sorting among community members. – Work with waste haulers to expand the types of materials accepted by recycling programs as economic conditions allow. – Work with waste haulers to expand availability of curbside pickup recycling services. – Ban single-use plastics and encourage the use of reusable items over disposable materials.	– Conservation and Development	– New development – Residents in unincorporated areas – Businesses in unincorporated areas	– Major waste generators – Waste haulers – Recycling centers	– Volume of waste generated. – Proportion of recyclable waste that is successfully recycled. – Number of households and businesses participating in recycling programs. – Actual disposed pounds per person per day (PPD) numbers year over year.	– Increased economic opportunities – Increased resilience to pests – Reduced resource use

Goal	No	CAP Strategy	Strategy Description	Implementation actions	Lead Department	Applicability	Potential Partners	Potential Measure(s) of Effectiveness	Co-Benefits
Reduce Water Use and Increase Drought Resilience: *Contra Costa County uses less water and communities are prepared for drought*									
Reduce Water Use and Increase Drought Resilience *Contra Costa County uses less water and communities are prepared for drought*	3.1	Reduce indoor and outdoor water use.	Water use in the community and in County facilities is reduced. This includes efforts to promote water conservation, increase the acreage of drought tolerant landscaping including at County facilities, encouraging greywater/rainwater catchment systems and supportive infrastructure (including at County facilities), and providing incentives to reduce water use as appropriate.	– Offer BayREN water bill savings programs through community water providers. – Encourage the installation of greywater and rainwater catchment systems, particularly for new construction, as feasible for wastewater infrastructure. Reduce regulatory barriers for these systems and explore creating incentives to install these systems in new and existing buildings. – Continue to enforce the Water Efficient Landscaping Ordinance and encourage the use of drought-tolerant landscaping for exempt residential and commercial landscapes through partnership with EBMUD and other organizations. – Require homes and businesses to install water-efficient fixtures at time of retrofit activities. – Update the Model Water Efficient Landscaping Ordinance (MWELO) to be specific to Contra Costa County. – Identify opportunities for greywater use in public spaces and implement as feasible – Promote the installation of composting toilets at appropriate County facilities in locations without wastewater service.	– Conservation and Development – Public Works	– County operations – Existing development – New development	– Central Contra Costa Sanitary District – Contra Costa Water District – East Bay Municipal Utility District – West County Wastewater District – Other water and wastewater service providers – Health Services – UC Master Gardeners – Nurseries – Property managers	– Water use, specifically reduction in overall water use in the unincorporated county as reported by water companies. – Water use, specifically reduction in water use at County facilities. – Square footage of drought tolerant projects at County facilities. – Number of participants in Contra Costa Water District Lawn to Garden program. – Number water districts participating in BayREN water savings program. – Number of customers participating in program, as reported by water companies.	– Cost savings- – Increased resilience to pests – Reduced resource use

Goal	No	CAP Strategy	Strategy Description	Implementation actions	Lead Department	Applicability	Potential Partners	Potential Measure(s) of Effectiveness	Co-Benefits
Reduce Water Use and Increase Drought Resilience cont'd	3.2	Ensure sustainable and diverse water supplies.	Contra Costa County's water supplies draw on diverse sources at a sustainable rate to ensure supplies are viable for the long-term.	– Work with groundwater sustainability agencies to ensure that new and existing wells pump water at or below sustainable levels. – Discourage new development that may reasonably lead to groundwater overdraft, subsidence, or other negative impacts, or which may reasonably depend on the import of unsustainable quantities of water from location outside the county. – Require the use of permeable surfaces for new or reconstructed hardscaped areas. – In coordination with Groundwater Sustainability Agencies, expand opportunities for groundwater recharge. – Work with water suppliers to expand recycled water systems as feasible, including considering additional treatment to allow for additional recycled water uses.	Conservation and Development Public Works	– Existing development – New development – Residents in unincorporated areas – Businesses in unincorporated areas	– Central Contra Costa Sanitary District – Contra Costa Water District – East Bay Municipal Utility District – Groundwater Sustainability Agencies (GSAs): – City of Antioch GSA – City of Brentwood GSA – Byron-Bethany Irrigation District GSA – Contra Costa County GSA – Diablo Water District GSA – Discovery Bay GSA – East Contra Costa Irrigation District GSA – EBMUD GSA – Zone 7 GSA – West County Wastewater District – Other water and wastewater service providers – Integrated Pest Management Program	– Groundwater sustainability indicators: Chronic lowering of groundwater levels; Reduction in storage; Seawater intrusion; Degraded quality; Land subsidence; Surface water depletion. – Amount of recycled water used.	– Greater community resilience – Reduced resource use –

Goal	No	CAP Strategy	Strategy Description	Implementation actions	Lead Department	Applicability	Potential Partners	Potential Measure(s) of Effectiveness	Co-Benefits
Clean Transportation Network: *Contra Costa County's transportation network provides safe and accessible options for walking, biking, and transit. If residents and workers are driving, they are in zero-emission vehicles*									
Clean Transportation Network *Contra Costa County's transportation network provides safe and accessible options for walking, biking, and transit. If residents and workers are driving, they are in zero-emission vehicles.*	4.1	Improve the viability of walking, biking, zero carbon commuting, and using public transit for travel within, to, and from the county.	Vehicle miles traveled in Contra Costa County is reduced by increasing the viability for people to bike, walk, and take public transit. The County implements Complete Streets and Vision Zero policies, sites new development to minimize car dependency, Support legislation that enhances accessibility to quality transit and protects vulnerable road users, increases transit service and ensures transit is safe and affordable, and identifies strategies and funding to implement recommendations in 2019 Employee Commute Survey for County employees.	– Continue to implement strategies to support Complete Streets, Vision Zero commitments, and the Active Transportation Plan. – Work with CCTA to establish and expand a countywide bicycle network connecting incorporated and unincorporated communities, including providing access for Impacted Communities. – Explore establishing or joining a bikeshare program that provides access to both conventional bikes and e-bikes. – Support efforts to expand the service area and frequency of regional transit agencies, including AC Transit, BART, County Connection, Tri Delta Transit, the San Francisco Bay Ferry, and WestCAT. – Maximize development of jobs and housing, supportive of achieving a jobs-housing balance, near high-quality transit service. – Require large nonresidential and mixed-use developments to participate in Transportation Demand Management strategies, including providing shuttle services between employment centers and key transit centers, offering telecommuting, and encouraging use of pre-tax commute benefits. – Explore adopting a Vulnerable Road User Law. – Develop and adopt through the Capital Road Improvement and Preservation Plan (CRIPP) process an updated list of transportation projects that reduce vehicle miles traveled. – Secure additional funding for the maintenance and expansion of bicycle, pedestrian, and public transit infrastructure. – Improve safety and comfort of bicycle, pedestrian, and public transit facilities. – Work with local and regional transit agencies to provide “last mile” transportation connections and options. – Encourage and support increased regional integration of transit systems to promote more equitable fare structures, easier transfers, and improved information sharing.	– County Administrator's Office – Conservation and Development – Employment and Human Services – Human Resources – Public Works	– County operations – Existing development – New development – Residents in unincorporated areas – Businesses in unincorporated areas	– 511 Contra Costa – BAAQMD – Contra Costa Transportation Authority – Environmental justice groups – MTC/ABAG – Transit providers – Local communities – California State Association of Counties – MTC – Advocacy organizations – East Bay Leadership Council	– Identify percentage complete of countywide bike network. – Measure progress on Active Transportation Plan. – Miles of bike lane installed annually in unincorporated county, for all Classes and by Class. – Number of new units (residential and commercial) located in transit priority areas. – Ridership on shuttles, other forms of public transit from BART to County offices and other large employment centers. – Transit ridership in County service areas. – <u>For County Operations</u>: – Number of employees participating in the County remote work policy. – Number and percentage of County employees using pretax commute benefit. – Administrative Bulletin supporting videoconference and conference calls, where appropriate. – Ridership on County-sponsored employee shuttles. – Updated CRIPP Project list – Grant awards (number and amount).	– Cost savings – Enhanced mobility – Greater community resilience – Improved air quality – Improved community equity – Improved public health – Reduced resource use

Goal	No	CAP Strategy	Strategy Description	Implementation actions	Lead Department	Applicability	Potential Partners	Potential Measure(s) of Effectiveness	Co-Benefits
Clean Transportation Network cont'd	4.2	Increase the use of zero-emissions vehicles. Transition to a zero-emission County fleet by 2030 and a community fleet that is at least 50% zero-emission by 2030.	Zero-emission vehicles are a much greater share of vehicles on the road. The County encourages zero-emission vehicle adoption by County residents and businesses (including heavy-duty vehicle operators), enforces County vehicle purchasing policy, and ensures adequate electric vehicle charging infrastructure in new and existing development.	– Require new County vehicles to be zero-emission to the extent a viable vehicle is available on the market, with a goal of all County vehicles to be zero-emission by 2030. – Provide incentives for zero-emission vehicles, in partnership with MCE, BAAQMD, and other agencies. – Work with property owners to install electric vehicle charging stations in and near multifamily dwelling units. – Increase installation of electric vehicle charging stations at public facilities, emphasizing increased installation in Impacted Communities. – In partnership with regional agencies, explore providing subsidies for households making below the area median income to purchase or lease zero-emission vehicles. – Pursue fees and regulatory efforts to convert TNC, taxi, and similar car-hire services to zero-emission vehicles. – Work with the BAAQMD and other regional agencies to convert off-road equipment to zero-emission clean fuels. – Work with contractors, fleet operations, logistics companies, and other operators of heavy-duty vehicles to accelerate the transition to zero-emission heavy-duty vehicles. – Continue to require all new and significantly retrofitted logistics facilities to install charging stations for heavy-duty electric vehicles at loading docks and staging areas. – Work with Public Works to use renewable natural gas (sourced from recovered organic waste) for transportation fuel, electricity, or heating applications in cases where battery-electric, hybrid-electric, and sustainably sourced hydrogen fuel-cell sources are not available. – Encourage efforts to maximize EV charging during solar peak hours.	– Conservation and Development – Public Works	– County operations – Existing development – New development – Residents in unincorporated areas – Businesses in unincorporated areas	– BAAQMD – Contra Costa Transit Authority – Environmental justice groups – MCE – Multifamily and rental property owners – TNC and taxi providers – BART – Caltrans – East Bay Leadership Council	– Number of zero-emission registered in unincorporated county. – Number of zero-emission purchased annually for County fleet. – Percentage of County fleet that is zero-emission. – Number of EV chargers installed at County facilities, both for County fleet and public use. – Number of public EV chargers installed throughout the unincorporated county. – Number of zero-emission vehicles purchased for personal, government, and business/construction use.	– Cost savings – Improved air quality – Improved community equity – Improved public health – Reduced resource use
Resilient Communities and Natural Infrastructure: *Contra Costa County will increase resilience to climate hazards and foster community health*									
Resilient Communities and Natural Infrastructure *Contra Costa County will increase resilience to climate hazards and foster community health*	5.1	Protect against and adapt to changes in sea levels and other shoreline flooding conditions.	The community is protected against permanent and temporary inundation from rising sea levels and shoreline flooding through green infrastructure, effective building siting and retrofits, and informed land use decisions.	– Establish requirements for new development to locate habitable areas of buildings above the highest water level expected for the lifetime of the project, or to construct a levee to provide adequate protection during the lifetime of the project. – Support the use of natural infrastructure, including ecosystem restoration, to protect against sea level rise and associated shoreline flooding. – Coordinate with state and regional agencies, neighboring jurisdictions, property owners, utilities, and others to prepare a Sea Level Rise Adaptation Plan and fund and implement wetland restoration and other sea level rise adaptation efforts. – Convene a working group of local shoreline communities and community-based organizations to collaborate on shoreline flooding. – Consider employing land banks as buffers against rising sea levels.	– Conservation and Development – Public Works	– Existing development – New development	– Bay Area Conservation and Development Commission – Delta Stewardship Council – Shoreline communities – Irrigation districts – Community-based organizations – Land trusts	– Whether a shoreline flooding working group has been established. – Value of grant funding received to address shoreline flooding issues. – Additional effective tracking metrics to be developed.	– Greater community resilience – Reduced disaster impacts –

Goal	No	CAP Strategy	Strategy Description	Implementation actions	Lead Department	Applicability	Potential Partners	Potential Measure(s) of Effectiveness	Co-Benefits
Resilient Communities and Natural Infrastructure cont'd	5.2	Protect against and adapt to increases in the frequency and intensity of wildfire events.	The community is more resilient to the direct and indirect effects of wildfires, both locally and regionally. Public and private property is designed and maintained to minimize the risk of damage from wildfires, infrastructure systems are redundant and hardened, and emergency management plans and practices for wildfires are responsive to the needs of Impacted Communities.	– Prohibit new residential subdivisions in Very High Fire Hazard Zones and limit development in High Fire Hazard Severity Zones. – Require any new development in a Very High Fire Hazard Severity Zone, Wildland-Urban Interface, or State Responsibility Area to include fire-safe designs and materials, and to prepare, maintain, and regularly implement a fire protection plan. Such development shall meet or exceed State requirements for developments in fire-prone areas, including for ingress and egress, water supply, and firefighting equipment access. – In coordination with property owners, establish and maintain fire breaks and defensible space, fuel-clearing activities, and firefighting infrastructure. – Support undergrounding of utility lines, especially in the Wildland-Urban interface and fire hazard severity zones. – Work with community organizations to ensure Impacted Communities have access to financing and other resources to reduce the fire risk on their property, prepare for wildfire events, and allow for a safe and speedy recovery.	– Conservation and Development – Public Works	– Residents in unincorporated areas – Businesses in unincorporated areas – County operations – Existing development – New development –	– Community-based organizations – Contra Costa County Fire Protection District – Facility operators (school districts, libraries, community centers, etc.) – Kensington Fire Protection District – Rodeo-Hercules Fire Protection District – Moraga-Orinda Fire District – San Ramon Valley Fire Protection District – Medical service providers – 211 – Red Cross	– Number of properties conducting brush clearing activities – Amount of funds distributed for wildfire mitigation efforts. – Number of developments with fire protection plans. – Miles of power lines undergrounded.	– Greater community resilience – Improved community equity – Improved public health – Reduced disaster impacts

Goal	No	CAP Strategy	Strategy Description	Implementation actions	Lead Department	Applicability	Potential Partners	Potential Measure(s) of Effectiveness	Co-Benefits
Resilient Communities and Natural Infrastructure cont'd	5.3	Establish and maintain community resilience hubs.	Establish and maintain community resilience hubs with microgrids, education, and training opportunities. The County develops feasibility analysis and implementation plan for siting community resilience hubs across the County, with attention to Impacted Communities, and identifies opportunities for battery storage projects at County facilities. County emergency planners ensure emergency response plans include climate change disasters such as wildfires, sea level rise/flooding, extreme heat, and drought. These efforts emphasize equitable recovery for Impacted Communities and those affected by environmental justice issues.	– Identify existing community facilities that can serve as resilience hubs and support affected populations during hazard events. Such facilities shall be distributed equitably throughout the county, with an emphasis on easy access for Impacted Communities. Where appropriate existing facilities are not present, develop plans for construction of new resilience hubs. – Retrofit selected facilities to act as resilience hubs, including adding solar panels, battery backup systems, water resources, and supplies to meet basic community and emergency medical needs. – Create a virtual resilience hub that connects County resources to the community through virtual community networks to provide detailed, up-to-date information about preparing for natural disasters, notifications and alerts related to public safety, space for virtual gathering and information-sharing, and other appropriate uses. Materials shall be accessible in multiple languages. – Coordinate resilience hub activities with PSPS and wildfire smoke resiliency planning efforts.	– Conservation and Development – Office of the Sheriff – Public Works – Health – Health, Housing, and Homeless Services – Employment and Human Services Department	– County operations – Residents in unincorporated areas	– Community-based organizations – Contra Costa County Fire Protection District – Employment and Human Services – Environmental justice organizations – Facility operators (school districts, libraries, community centers, etc.) – Kensington Fire Protection District – Rodeo-Hercules Fire Protection District – Moraga-Orinda Fire District – San Ramon Valley Fire Protection District – Homeless Providers – Medical service providers – 211 – County Office of Education – Local school districts – Red Cross	– Adopted plan for community resilience hubs – Number of community resilience hubs – Number of permits issued for battery storage projects – Number of battery storage projects at County facilities – Updated emergency response plans	– Greater community resilience – Improved community equity – Increased resilience to pests

Goal	No	CAP Strategy	Strategy Description	Implementation actions	Lead Department	Applicability	Potential Partners	Potential Measure(s) of Effectiveness	Co-Benefits
Resilient Communities and Natural Infrastructure cont'd	5.4	Sequester carbon on natural and working lands in Contra Costa County.	There are increased opportunities to store carbon on local natural and working lands through carbon sequestration on public and private lands, increased tree planting by County and public and private partners, installation of green infrastructure, and increased use of pervious paving.	– Implement recommendations from ongoing carbon sequestration feasibility study, *Healthy Lands, Healthy People.* – Establish pilot programs for carbon sequestration on agricultural land. – Explore ways to increase carbon sequestration on County-owned facilities. – Partner with regional landowners and agencies to establish carbon sequestration programs and incentives. – Use offset protocols and guidance to promote sequestration on natural and developed lands. – Require any carbon sequestration program that the County provide benefits to communities that face environmental justice issues and actively and meaningfully engages with Impacted communities. – Explore the potential for citizen scientists to support tree inventories, tree planting, and maintenance of existing trees. – Establish a fund to support expanded tree planting and maintenance activities. – Continue to ensure that natural lands and other open space, including wetlands, native grasslands, and riparian areas, remain protected and are restored as needed. – Explore opportunities to integrate traditional fire management practices into forest management policies and programs. – Coordinate with farming groups, ranchers, and the University of California Cooperative Extension to identify and promote varieties of feedstock, livestock, and crops that are resilient to rising temperatures and changing precipitation patterns and increase carbon sequestration.	– Agriculture – Conservation and Development – CC Health (IPM) – Public Works	– County operations – Natural and working lands – Residents in unincorporated areas – Businesses in unincorporated areas	– Agricultural groups Community gardening groups – Community-based organizations – Contra Costa Resource Conservation District – East Bay Regional Park District – Environmental justice organizations – Organizations that support regenerative landscaping and agriculture – Regional landowners – UC Cooperative Extension – Safe Routes to Schools programs	– Completed feasibility study for carbon sequestration in Contra Costa County – Number of completed pilot carbon faming project(s) – Number of trees planted on County property – Progress report on implementation of County's green infrastructure plan for County facilities – Installation of green infrastructure on private property – Quantity of SB1383-compliant compost procured and utilized by the County directly or on the County's behalf	– Enhanced recreation opportunities – Improved air quality – Increased economic opportunities – Increased resilience to pests –
Resilient Communities and Natural Infrastructure cont'd	5.5	Minimize heat island effects through the use of cool roofs and green infrastructure	Impacts of heat islands are addressed and minimized through construction practices for buildings and structures, including through ample shading opportunity and other green infrastructure improvements.	– Require new and retrofitted large hardscaped areas to include mature trees, swales, native and drought-tolerant landscaping, and other green infrastructure features consistent with current and future climate conditions and other guidelines. – Increase tree planting in urbanized areas and open spaces, emphasizing areas with limited existing tree cover and using low-maintenance native tree species. – Prepare and implement a Tree Master Plan for the unincorporated county. – Provide shade trees or shade structures at parks, transit stops, plazas, and other outdoor spaces. – Support efforts to develop incentive programs for home and business owners, school districts, and other local and regional property owners to increase the adoption of cool roofs and green infrastructure on private property.	– Conservation and Development – Public Works	– County operations – Existing development – New development – Residents in unincorporated areas – Businesses in unincorporated areas	– Community-based organizations – Community gardening group – Environmental justice organizations – Organizations that support regenerative landscaping and agriculture – Water and wastewater service providers – Health Services and related partners. – East Bay Regional Park District	– Number of permits for cool roofs, both private and County facilities Adoption of a Tree Master Plan Percent of heat-vulnerable communities with tree cover / number of new tree plantings – Number of ER visits, deaths and associated clinical care related to extreme heat events – Equity measure rankings on the Healthy Places Index.	– Improved air quality – Improved community equity – Improved public health – Reduced disaster impacts – Reduced resource use – Increased economic opportunities

Goal	No	CAP Strategy	Strategy Description	Implementation actions	Lead Department	Applicability	Potential Partners	Potential Measure(s) of Effectiveness	Co-Benefits
Resilient Communities and Natural Infrastructure cont'd	5.6	Protect the community against additional hazards created or exacerbated by climate change	Impacts from other climate-related hazards, including drought, flooding, landslides, and severe weather, are reduced. Development projects are located and designed to reduce exposure to hazardous conditions and community members receive the support and assistance needed to prepare for and recover from natural disasters.	– Require all new below market-rate housing to be located outside of mapped hazardous areas to the great extent possible, and require all development located in hazard zones that is not otherwise prohibited to be sited and designed to remain safe and habitable immediately following a natural disaster. – Treat susceptibility to hazards and threats to human health and life as primary considerations when reviewing all development proposals and changes to land uses. – Partner with community-based organizations to provide information to community members about how to prepare for projected climate change hazards. – Promote, and as necessary develop, available funding sources to incentivize residents and business to prepare for natural disasters, particularly members of Impacted Communities. – Consider projected impacts of climate change when siting, designing, and identifying the construction and maintenance costs of capital investment projects. – Actively promote and grow participation in Community Emergency Response Team (CERT) programs throughout the county.	– Conservation and Development – Public Works	– County operations – Existing development – New development – Residents in unincorporated areas – Businesses in unincorporated areas	– Community-based organizations – Contra Costa County Fire Protection District – Facility operators (school districts, libraries, community centers, etc.) – Kensington Fire Protection District – Rodeo-Hercules Fire Protection District – Moraga-Orinda Fire District – San Ramon Valley Fire Protection District – Medical service providers – Health Services and related partners. – 211 – Red Cross – Contra Costa County Sheriff	– New residential units and square footage of nonresidential developments in hazard-prone areas. – Amount of funding distributed for resilience. – Number of active Community Emergency Response Team (CERT) volunteers	– Cost savings – Greater community resilience – Greater energy independence – Improved community equity – Improved public health – Increased resilience to pests – Reduced disaster impacts
Climate Equity: *The Climate Action Plan will mitigate environmental factors leading to health disparities, promote safe and livable communities, and promote investments that improve neighborhood accessibility.*									
Climate Equity *The Climate Action Plan will mitigate environmental factors leading to health disparities, promote safe and livable communities, and promote investments that improve neighborhood accessibility.*	6.1	Provide access to affordable, clean, safe, and healthy housing and jobs.	All residents live in clean, healthy homes and neighborhoods, have access to parks, open space, and fresh food, and have easy access to safe and affordable mobility options. The County evaluates CAP strategies for equitable benefits for Impacted Communities, ensures every County department is integrating climate issues and climate-related effects in services to residents, and meaningfully and continuously engages communities most affected by climate change in developing and implementing appropriate solutions.	– In partnership with community-based organizations, work to reverse community deterioration and blight, and improve person and property safety, in neighborhoods throughout Contra Costa County. – Require that new housing for households making less than Area Median Income or other impacted Communities be located outside of hazard-prone areas, including wildfires, landslides, floods, and sea-level level rise. – Establish a program to provide low-cost or free air conditioning and filtration, improved insulation, low emitting materials, and indoor ventilation in homes, emphasizing buildings that are home to Impacted populations. – Partner with schools, community-based organizations, labor unions, Workforce Development Board and other appropriate groups to provide green jobs training for residents. Prioritize training for people currently or recently working in polluting or extractive activities. – Provide support for state and federal green jobs programs, efforts to support organized labor, and living wage labor standards. – Include environmental justice and climate issues in County Racial Equity Action Plan.	– County Administrator's Office – Conservation and Development – Employment and Human Services – Health Services – Office of Racial Equity and Social Justice (still in development)	– County operations – Existing development – New development – Residents in unincorporated areas – Businesses in unincorporated areas	– Community-based organizations – Environmental justice groups – Local grocery stores and food banks – Housing developers and contractors – Community colleges, schools, labor unions, and local career skills training programs – Workforce development programs	– Inclusion of environmental justice and climate issues in County Racial Equity Action Plan. – Funds spent by County departments on energy efficiency and other services in disadvantaged communities compared to non-disadvantaged communities. – Measures of health and social impacts of climate change that reveal significant disparities and inequities across groups.	– Enhanced recreation opportunities – Greater community resilience – Improved community equity – Increased economic opportunities – Increased resilience to pests

Goal	No	CAP Strategy	Strategy Description	Implementation actions	Lead Department	Applicability	Potential Partners	Potential Measure(s) of Effectiveness	Co-Benefits
Climate Equity cont'd	6.2	Invest in solutions to support climate equity.	County investments support climate equity. The County implements best practices in Environmental, Social, and Governance considerations as CAP is implemented.	– Evaluate and adjust County budgeting and spending as needed to ensure equitable investment in Impacted Communities. Incorporate addressing climate change, providing climate solutions, and enhancing community equity into the mission of all County departments. – Include environmental justice and climate issues in the County Racial Equity Action Plan and in the responsibilities of the County Office of Racial Equity and Social Justice. – As part of CAP and General Plan implementation, consider whether the strategy provides equitable benefits for Impacted Communities as a criterion for prioritization. – Continually engage communities most affected by climate change in developing and implementing climate solutions and ensure that such solutions provide benefits to Impacted Communities. – Advocate for the Contra Costa Employees Retirement Association to use Environmental, Social, and Governance criteria in its investment policies, and to offer socially responsible investment options for its members. – Amend the County investment policy to divest from fossil fuels, require the use of Environmental, Social, and Governance criteria, and prohibit investment in all securities issued by fossil fuel companies. – Work with schools, county library, and community-based organizations to provide environmental education.	– County Administrator's Office – Conservation and Development – Employment and Human Services – Health Services – Office of Racial Equity and Social Justice – Public Works (Parks and Recreation) – Treasurer/Tax Collector	– Impacted Communities – Residents in unincorporated areas	– Community-based organizations – Contra Costa Employees Retirement Association – Environmental justice groups – School and college districts – Library – Youth groups	– Adopted guidance on best practices. – Advocate for Contra Costa Employees Retirement Association to use Environmental Sustainability Governance (ESG) in its investment priorities and to offer environmentally and socially responsible investment choices for members. – Modify County investment policy to use ESG and to prohibit investment in all securities issued by fossil fuel companies. –	– Improved community equity – Increased economic opportunities
Climate Equity cont'd	6.3	Increase access to parks and open space.	All County residents have easy access to parks and open space. The County has an easily accessible and integrated system of high-quality, safe, and well-maintained parks and trails for all residents of unincorporated county, including Impacted Communities.	– Establish a target of all residents being located within a half-mile of a park or other green space. – In partnership with regional agencies, support land acquisition for new parks and open space areas and protect such lands through conservation easements.	– Conservation and Development – Public Works (Parks and Recreation)	– New development – Residents in unincorporated areas –	– Agriculture – Agricultural groups – Contra Costa Resource Conservation District – East Bay Regional Park District – Environmental justice groups – Local land trusts and land conservation groups – Housing developers	– Number of residents in unincorporated county, including those in Impacted Communities, located within a half-mile of a park or other green space. – Total acres of parks and green space by type.	– Enhanced recreation opportunities – Greater community resilience – Improved air quality – Improved community equity – Improved public health – Increased economic opportunities – Reduced disaster effects
Climate Equity cont'd	6.4	Ensure residents have equitable, year-round access to affordable local fresh food.	There is increased access of County residents to local fresh food. The County facilitates creation of more farmer's markets, supports urban gardens, and ensures that healthy food is made affordable and accessible to Impacted Communities and those in food desert areas.	– Facilitate establishment of year-round farmers markets in all communities, prioritizing Impacted Communities. – Work with community groups to establish and maintain urban gardens, particularly in Impacted Communities and on vacant land. – Encourage major supermarkets to locate in Impacted Areas.	– Health Services – Agriculture – Senior Nutrition Program	– Residents in unincorporated areas – Businesses in unincorporated areas	– Agriculture – Agricultural groups – Community gardening groups – Environmental justice groups – Farmers markets – Local grocery stores and food banks	– Number of regular farmers markets in all communities and in Impacted Communities. – Number of permits issued for urban gardens in all communities (if permits are required by policy). – Number of residents participating in In Lieu of Services (ILOS) food benefits.	– Improved community equity – Improved public health – Increased economic opportunities

Goal	No	CAP Strategy	Strategy Description	Implementation actions	Lead Department	Applicability	Potential Partners	Potential Measure(s) of Effectiveness	Co-Benefits
Climate Equity cont'd	6.5	Ensure that large industrial facilities act as good neighbors.	Large industrial facilities are good neighbors. The County puts forward recommendations to responsible permitting agencies regarding permits for fossil-fuel based industries/point sources, tracks data on fossil fuel products produced and/or transported in and through Contra Costa County and allows for a just transition of polluting and extractive industries.	– Provide recommendations to responsible permit agencies regarding permits for fossil fuel-based industries and point sources. – Regularly track data on fossil fuel production and transportation in Contra Costa County. – As economic conditions change, support efforts to phase out heavily polluting and extractive industries and replace them with businesses that contribute to a regenerative and circular economy.	– County Administrator's Office – Conservation and Development – Health Services Environmental Health Division	– Industrial operations – Residents in unincorporated areas – Businesses in unincorporated areas	– BAAQMD – CARB – Chambers of Commerce – East Bay Leadership Council – Community-based organizations – Environmental justice groups – Industry groups – Labor unions	– Quantity and type of fossil fuels produced, refined, stored in, and distributed through the County can be determined, and periodically reported. – Information on specific fossil fuel facilities in Contra Costa County, including changes of ownership, mergers and acquisitions, investor presentations and reports, or any other public information that may indicate a facility's interest or intent to expand in the future, taking into account broader market trends in oil and gas refining and export in the Bay Area. – Local air quality metrics	– Improved air quality – Improved community equity – Improved public health – Increased economic opportunities
Leadership: *Contra Costa County is a model for how local government can take action on climate issues.*									
Leadership *Contra Costa County is a model for how local government can take action on climate issues.*	7.1	Establish Contra Costa as a leader among local governments for addressing climate issues.	Contra Costa County is a leader among local governments on how it addresses climate issues. The County incorporates Climate Action Plan goals into ongoing work, all County departments follow best practices from County's Green Business Program, and all County facilities participate in EBMUD Water Smart Business program if located in EBMUD service territory.	– Continue to publicize and support the operations of the County's Interdepartmental Climate Action Task Force. – Work with all County departments to encourage adoption of best practices from the County's Green Business Program and participation in the EBMUD Water Smart Business Program (where appropriate). – Encourage development of new policies and initiatives that support the County's climate goals. – Explore the creation of funding mechanisms, including a carbon impact fee, to support the County's Sustainability Fund if additional financial resources are needed. – Ensure that all funding mechanisms minimize or avoid financial impacts to Impacted Communities and do not exacerbate economic inequities. – Facilitate trainings for County staff on climate change (including the results of the Vulnerability Assessment and CAP technical work) and how they can support climate action through their work with the County and at home. – Encourage County employees to explore innovative technologies and programs that address climate change. – Incorporate pest prevention principles into new construction and retrofit programs on County properties. – Require businesses to ensure compliance with the County's Environmentally Preferred Purchasing policy as a condition of obtaining County contracts to the extent feasible.	– County Administrator's Office – Human Resources – Conservation and Development – Public Works	– County operations – Businesses in unincorporated areas	– All County departments – Climate Action Taskforce – Community-based organizations – Green Business Program – Library	– Ongoing work products and semi-annual reports from Interdepartmental Climate Action Task Force. – Reports to Board of Supervisors include sustainability impact statement. – Annual report on conditions placed on discretionary projects to ensure support of Climate Action Plan goals. – Number of County departments adopting best practices of the Green Business Program. – Number of County departments/facilities certified through Water Smart Business program. – Trainings and other information for County staff on climate change. – Amount of pesticides applied to County properties. – Number of County facilities with an active integrated pest management plan. – Number of County departments that have adopted their own Climate Action Plan	– Cost savings – Improved community equity – Increased economic opportunities – Increased resilience to pests

Goal	No	CAP Strategy	Strategy Description	Implementation actions	Lead Department	Applicability	Potential Partners	Potential Measure(s) of Effectiveness	Co-Benefits
Leadership cont'd	7.2	Continue to recognize the climate crisis as an emergency for Contra Costa County and make deep decarbonization a top County priority.	Contra Costa County takes action to address the climate emergency. Efforts to do this include implementing the Climate Emergency Resolution initiatives (including seeking input from the community to help plan for economic transition), prioritizing implementation of the Climate Action Plan, and considering the effects of climate change on residents, especially the young, low-income, elderly, communities of color, and other Impacted populations.	– Integrate additional efforts from the Climate Emergency Resolution into County department work plans. – Consider climate and equity effects and vulnerabilities as a factor in County budgeting and decision-making, integrating climate adaptation and GHG reduction features as necessary to increase resilience and GHG reductions countywide. – Assess County programs, policies, operations, and projects (excluding stationary sources) for their contribution to achievement of County's GHG reduction targets and consistency with the CAP. – Disclose GHG emissions to a registry such as the Carbon Disclosure Project (CDP).	– County Administrator's Office – Conservation and Development	– County operations	– All County departments – Interdepartmental Climate Action Task Force – Community-based organizations – Local environmental groups	– Adopted climate emergency resolution – Actions taken to implement climate emergency resolution	– Improved community equity – Increased economic opportunities
Implementation strategies									
Implementation strategies	8.1	Monitor and report progress toward achieving Climate Action Plan targets on an annual basis.		– Assign responsibility for facilitating and supporting CAP implementation to the County's Department of Conservation and Development . – Identify key staff from each department responsible for supporting CAP implementation and updates for annual reporting and monitoring. – Continue to involve community-based organizations and other key stakeholders in reviewing and recommending CAP action items – Prepare an annual progress report on implementation of the recommended GHG reduction strategies and progress toward CAP targets. When information is available, provide updates on estimated GHG emissions reductions and current GHG emissions levels. – Monitor implementation of the Sustainability Fund for projects in county facilities – Use the CAP implementation and monitoring tool to track GHG benefits from CAP implementation and identify progress toward the CAP reduction targets. – Improve the County permitting system and other systems as needed to support collecting CAP implementation data.	– Conservation and Development	- – County operations – Residents in unincorporated areas – Businesses in unincorporated areas	– All County departments – Interdepartmental Climate Action Task Force – Sustainability Commission	– Preparation of Annual Report and presentation to Sustainability Commission, Sustainability Committee, and Board of Supervisors. – Dedicated funding in annual budget for CAP implementation. – Regularly maintained CAP tracking tool. – Updated to County permitting system to support tracking of CAP implementation. – Sustainability Fund progress report	– All
Implementation strategies cont'd	8.2	Continue collaborative partnership with agencies and community groups that support Climate Action Plan implementation with an emphasis on residents and community-based organizations from Impacted Communities.		– Participate in local and regional organizations that provide tools and support for energy efficiency, energy conservation, GHG emissions reductions, adaptation, public information, and implementation of this CAP. – Commit to formal membership through joint powers authorities or other partnerships to implement high priority strategies from the CAP – Provide policy input to partner agencies on policy barriers that need to be addressed at the State level.	– Conservation and Development	– County operations – Residents in unincorporated areas – Businesses in unincorporated areas	– All County departments – Interdepartmental Climate Action Task Force – Sustainability Commission – Community-based organizations – Agency partners	– Partnerships maintained	– All

Goal	No	CAP Strategy	Strategy Description	Implementation actions	Lead Department	Applicability	Potential Partners	Potential Measure(s) of Effectiveness	Co-Benefits
Implementation strategies cont'd	8.3	Secure necessary funding to implement the Climate Action Plan.		– Identify funding sources and levels for reduction strategies as part of annual reporting. – Include emissions reduction strategies in department work plans, the capital improvement program, and other plans as appropriate. – Pursue local, regional, State, and federal grants to support implementation. – Explore dedicated funding sources for CAP implementation, including from the Sustainability Fund or other revenue sources as needed. – Explore opportunities to allocate a portion of revenues from revenue-generating strategies to CAP allocation.	– Conservation and Development	– County operations – Residents in unincorporated areas – Businesses in unincorporated areas	– All County departments – Interdepartmental Climate Action Task Force – Agency partners	– Climate action integration into all department work plans and Capital Improvement Program. – Number of grants and amount of funding being pursued, awarded, and managed. – Funding provided for the Sustainability Fund.	– All
Implementation strategies cont'd	8.4	Continue to update the baseline emissions inventory and Climate Action Plan every five years.	Measure greenhouse gas emissions on regular basis, including overall emissions and trends.	– Prepare a GHG emissions inventory that shows GHG emissions after emergency conditions created by the COVID-19 pandemic are expected to have ended. – Update the CAP to incorporate new technology, practices, and other options to further reduce emissions.	– Conservation and Development	– County operations – Residents in unincorporated areas – Businesses in unincorporated areas	– All County departments – Interdepartmental Climate Action Task Force	– Updated GHG inventories every 5 years.	– All
Implementation strategies cont'd	8.5	Maintain and update the Climate Action Plan to allow for greater resilience.		– Coordinate where possible updates of the Climate Action Plan, General Plan Safety Element, and Local Hazard Mitigation Plan cycle to ensure plan alignment and coordination of climate mitigation and adaptation efforts. – Assess the implementation status and effectiveness of adaptation strategies.	– Conservation and Development	– County operations – Residents in unincorporated areas – Businesses in unincorporated areas	– All County departments – Interdepartmental Climate Action Task Force	– Progress on implementing GHG reduction strategies, climate adaptation strategies, and general sustainability strategies.	– All

CAP Strategy		Implementation Actions	Assumptions	2030	2040	2050	Performance Standards	2030	2040	2050	GHG Reduction 2030	2040	2050
Clean and Efficient Built Environment: Homes, workplaces, and businesses in unincorporated Contra Costa County run efficiently on clean energy.													
1.1	Require new buildings or additions built in unincorporated Contra Costa County, on or after January 1, 2023, to be low-carbon or carbon neutral.	- Establish, publicize, and enforce a County building code requiring new single-family, multifamily, affordable housing, hotels, offices, retail, and County facilities to be all-electric, along with other building types as appropriate. - Partner with community groups and MCE to establish an induction cooktop loaner program for county residents as a way to build familiarity with the technology. - Explore establishing a low-carbon concrete requirement for all new construction and retrofit activities and consider additional strategies to reduce embedded carbon in construction materials. This requirement shall support or exceed State requirements for net-zero emissions for cement use by 2045. - Encourage project applicants to incorporate passive solar design features into new developments and significant reconstructions. - Promote additional sustainable building strategies and designs, including small and "tiny homes", to project applicants as site-appropriate. Consider requiring additional sustainable features as a condition of approval, including reuse of materials to minimize embedded carbon.	Cumulative % of residential new construction influenced by electric construction incentives:	95%	95%	95%	Number of new all-electric residential units	9,230	21,620	36,330	13,460	21,590	17,570
			Cumulative % of new office construction influenced by electric construction incentives:	80%	85%	95%	Number of new all-electric commercial buildings	400	710	1,090			
			Cumulative % of new non-office commercial construction influenced by electric construction requirements/incentives:	75%	80%	90%							
			Cumulative % new non-residential buildings that are office space:	20%	20%	20%							
	Retrofit existing buildings and facilities in unincorporated county, and County infrastructure, to reduce energy use and convert to low-carbon or carbon-neutral fuels.	- Create and implement a County policy or program, with building code revisions as needed to support implementation, to ensure existing residential and non-residential buildings are efficient and powered by carbon free energy. - Ensure all County-led and supported energy efficiency and weatherization, renewable energy, and electrification programs incentivize and prioritize conversion of buildings built before 1980 and are targeted to owners of properties that are home to very low-, low-, and moderate- income residents and/or located in Impacted Communities. - Require replacement water heaters and heat pumps to be electric if the building electric panel has sufficient capacity. - Evaluate options to require additions and alterations to existing buildings to be all-electric, including upgrades to the building electric panel. - Require homes and businesses to enact energy-efficient retrofits and electric appliance conversions at time of sale, lease. or retrofits requiring a building permit if retrofits or replacements have not	Percent of existing homes conducting standard retrofits	20%	30%	40%	Number of housing units undergoing	14,330	21,330	28,650			
			Percent of existing homes upgrading to Title 24 Standards	20%	30%	40%	Number of housing units renovated to Title	13,370	20,060	26,750			
			Percent of existing mobile homes conducting standard retrofits	30%	40%	60%	Number of commercial buildings undergoing	530	700	880			
			Percent of businesses conducting standard retrofits (not including fuel switching)	15%	20%	25%	Number of commercial buildings renovated to Title	530	700	880			
			Percent of businesses retrofitting to current Title 24 standards (not including fuel switching)	15%	20%	25%	Total residential electrical panel upgrades	11,030	27,570	66,180			

1.2		occurred for at least 10 years. - Create a detailed roadmap for electrification of existing homes and businesses by 2024 that includes equitable requirements for electrification, financial incentives for community members with additional compensation for Impacted Communities, and allows for a methodical conversion that does not create a risk of displacement or significant disruptions. - Create and implement a program to provide reduced-cost or free retrofits to local small business and households earning less than the area median income, in support of the Contra Costa County Asthma Initiative and other non-profit partners, as well as other health equity efforts for Impacted Communities. Support the use of low-emitting materials, including paints and carpeting, in retrofits to improve indoor air quality. - In partnership with MCE and BayREN, continue to support voluntary home and business energy efficiency retrofits, including electrification measures. - Facilitate participation by homes and businesses to participate in demand response programs. - Continue to conduct energy and water tracking, audits, and upgrades of County facilities, including conversion of all feasible County facilities to all-electric space and water heating. - Advocate for modifications to the federal Weatherization Assistance Program that expands eligible measures to include whole building clean energy improvements, such as wall insulation, duct sealing, electric panel upgrades, electric heat pumps, and related measures. Advocate for an increase to the income eligibility limits for the Weatherization Assistance Program. - Establish requirements for cool roofs and light-colored, permeable paving materials as part of retrofit, repair, and replacement activities, using recycled materials or other materials with low embedded carbon as feasible.	Cumulative % existing commericial buildings eligible for electrification	40%	40%	40%	Total commercial electrical panel upgrades	60	400	1,230	45,960	87,900	150,350
			Cumulative % of residential gas equipment reaching end of life replaced with electric due to panel incentive - cooktops and clothes dryers:	10%	25%	60%							
			Cumulative % of residential gas equipment reaching end of life replaced with electric due to panel policy - water and space heaters:	10%	25%	60%							
			Cumulative % of commercial gas equipment reaching end of life replaced with electric due to panel incentive - cooktops:	5%	15%	30%							
			Cumulative % of commercial gas equipment reaching end of life replaced with electric due to panel incentive - water and space heaters:	5%	15%	30%							
			Number of equipment type conversions per electrical panel upgrade	2	2	2							
	Increase the amount of electricity used and generated from renewable sources in the county.	- Require all new parking lots developed as part of projects with at least 5,000 square feet of conditioned space to include shade structures with solar panels. - Encourage property owners to pursue financial incentives for solar installations and energy storage on new and existing buildings. - Work with MCE to increase enrollment, especially in 100% renewable energy tiers.	Percent of existing homes installing solar energy systems	15%	25%	35%	Residential solar systems installed	9,320	16,320	23,330			
			Percent of existing homes with solar energy systems and installing battery storage systems	20%	35%	50%	Residential battery systems installed	4,860	19,350	42,060			

1.3		- Continue to enroll all eligible County facility electricity accounts in MCE territory in the Deep Green tier. - Work with the Contra Costa County Fire Protection District and other organizations that provide fire protection services to promote the Self-Generation Incentive Program and related efforts to provide education and incentives for battery storage programs. - Provide information about battery storage systems to all applications for new home construction and solar panel installations. - Implement recommendations of the 2018 Renewable Resource Potential Study.	Percent of new homes installing battery storage systems	30%	50%	60%	Non-residential solar systems installed	40	150	320			
			Percent of existing businesses installing solar energy systems	3%	6%	11%	Non-residential battery systems installed	20	60	170			
			Percent of existing businesses with solar energy systems and battery storage systems	15%	30%	45%	Residential electricity supplied by MCE (kWh)	272,314,980	287,508,190	327,249,430	11,180	12,250	0
			Percent of residents enrolling in MCE	90%	90%	90%	Residential electricity provided at Deep	25,853,360	54,591,570	93,205,290			
			Percent of businesses enrolling in MCE	90%	90%	90%	Non-residential electricity provided by MCE	228,368,680	229,708,700	229,787,640			
			Percent of residents enrolling in 100% renewable tiers	10%	20%	30%	Non-residential electricity provided at Deep	10,963,660	17,644,790	44,126,660			
			Percent of businesses enrolling in 100% renewable tiers	5%	8%	20%							
			Percent of direct access customers switching to MCE	5%	7%	10%							
No Waste Contra Costa: Contra Costa County generates no more solid waste than 2.25 pounds per person per day (PPD)													
2.1	Increase composting of organic waste.	- Establish a source-separated organics collection service for all residential and commercial customers in County-controlled franchise areas. - Use franchise negotiations to encourage organics collection service providers to use composting systems that capture most methane produced, as feasible. - Work with wastewater providers to explore the use of organic waste as feedstock for anaerobic digesters to produce electricity or fuel. - Support the siting of composting facilities in the county as	Current compost diversion rate	77%	77%	77%	Number of households with composting service	63,040	78,930	93,630	1,830	3,330	4,220

		appropriate with community characteristics. - Encourage local restaurants, grocery stores, and other entities that process large quantities of food to partner with food rescue organizations to divert food that would be otherwise thrown away to non-profit organizations for distribution to those in need. - Leverage Food recovery programs and the Community Wellness & Prevent Program nutrition program to decrease food waste and address hunger.	Target diversion rate	90%	95%	95%	Number of businesses with composting service	3,160	3,690	4,090			
2.2	Reduce waste from County operations.	- Establish a source-separated organics collection service at all County facilities. - Implement 3-stream recycling (trash, recycling, and compost) at all County facilities. - Conduct regular waste audits of County facilities, including assessing the volume and composition of all waste streams, to identify challenges with waste activities and develop educational or operational changes to address issues and reduce waste generation. - Source material for capital projects from local and low-carbon sources to the greatest extent feasible, including allocating additional funds to allow for such materials, and integrate appropriate standards into the County's Environmentally Preferred Purchasing (EPP) program. - Require vendors to comply with updated Environmentally Preferable Purchasing Program (EPP program) and associated recovery organic material requirements, including requirements under SB 1383. - Continue to reduce paper use in County operations. - Encourage medical facilities and medical waste recycling companies to enhance their ability to increase the amount of medical waste recycled or reprocessed. - Enact Bay-friendly landscaping practices at County facilities. - Explore opportunities to reuse wood from County tree maintenance activities as an alternative to chipping.	Target composting diversion rate	85%	95%	95%	Weekly average cubic yards of composted organics (uncompacted)	1,050	1,140	1,140	900	1,370	1,450
			Target recycling diversion rate	85%	95%	95%	Weekly average cubic yards of recycled materials (uncompacted)	270	300	300			
2.3	Increase community-wide recycling and waste minimization programs	- Create a source-reduction program in partnership with regional agencies to promote the rethinking, refusing, reducing, reusing, regenerating, recycling, and recovering of materials. - Improve educational efforts to promote better waste sorting among community members. - Work with waste haulers to expand the types of materials accepted by recycling programs as economic conditions allow. - Work with waste haulers to expand availability of curbside pickup recycling services. - Ban single-use plastics and encourage the use of reusable items over disposable materials.	Target diversion rate	77%	80%	85%	Reduction in landfilled recyclables (tons)	0	490	1,560	520	1,470	4,300
			Decrease in non-organic and non-recycleable waste tonnage from waste minimization programs	20%	35%	50%	Decrease in non compostable/recyclable tonnage (tons)	5,640	11,020	18,810			
							Pounds of waste per person per day	2.08	1.91	1.81			

Reduce Water Use and Increase Drought Resilience: Contra Costa County uses less water and communities are prepared for drought													
3.1	Reduce indoor and outdoor water use.	- Offer BayREN water bill savings programs through community water providers. - Encourage the installation of greywater and rainwater catchment systems, particularly for new construction, as feasible for wastewater infrastructure. Reduce regulatory barriers for these systems and explore creating incentives to install these systems in new and existing buildings. - Continue to enforce the Water Efficient Landscaping Ordinance and encourage the use of drought-tolerant landscaping for exempt residential and commercial landscapes through partnership with EBMUD and other organizations. - Require homes and businesses to install water-efficient fixtures at time of retrofit activities. - Update the Model Water Efficient Landscaping Ordinance (MWELO) to be specific to Contra Costa County. - Identify opportunities for greywater use in public spaces and implement as feasible - Promote the installation of composting toilets at appropriate County facilities in locations without wastewater service.	Percent of existing homes with greywater systems	5%	10%	20%	Number of residential greywater system	3,990	10,580	25,450	970	1,310	1,480
			Percent of existing businesses with greywater systems	2%	5%	10%	Number of commercial greywater	90	240	560			
			Percent of existing homes retrofitting water fixtures	60%	80%	90%	Number of nonresidential buildings receiving water efficiency	1,790	2,380	2,680			
			Percent of existing businesses retrofitting water fixtures	60%	80%	90%	Number of residential buildings receiving water	36,190	48,260	54,290			
			Percent of new homes with greywater systems	10%	20%	35%							
			Percent of new businesses with greywater systems	5%	10%	20%							
3.2	Ensure sustainable and diverse water supplies.	- Work with groundwater sustainability agencies to ensure that new and existing wells pump water at or below sustainable levels. - Discourage new development that may reasonably lead to groundwater overdraft, subsidence, or other negative impacts, or which may reasonably depend on the import of unsustainable quantities of water from location outside the county. - Require the use of permeable surfaces for new or reconstructed hardscaped areas. - In coordination with Groundwater Sustainability Agencies, expand opportunities for groundwater recharge. - Work with water suppliers to expand recycled water systems as feasible, including considering additional treatment to allow for additional recycled water uses.	Supportive (no assumptions)				Supportive (no performance standards)				Supportive (no GHG reductions)		
Clean Transportation Network: Contra Costa County's transportation network provides safe and accessible options for walking, biking, and transit. If residents and workers are driving, they are in zero-													
	Improve the viability of walking, biking, zero carbon commutinger, and using public transit for travel within, to, and from the county.	- Continue to implement strategies to support Complete Streets, Vision Zero commitments, and the Active Transportation Plan. - Work with CCTA to establish and expand a countywide bicycle network connecting incorporated and unincorporated communities, including providing access for Impacted Communities. - Explore establishing or joining a bikeshare program that provides access to both conventional bikes and e-bikes.	Miles of bike lanes	40	80	132	lanes	40	80	130			
			Average round trip length for bike trips (miles)	8	8	8	Bicycle mode share	0.010	0.011	0.013			
			Is bike parking provided in most non-residential locations?	Yes	Yes	Yes	Bus ridership (commute share)	0.02	0.04	0.05			

4.1		- Support efforts to expand the service area and frequency of regional transit agencies, including AC Transit, BART, County Connection, Tri Delta Transit, the San Francisco Bay Ferry, and WestCAT. - Maximize development of jobs and housing, supportive of achieving a jobs-housing balance, near high-quality transit service. - Require large nonresidential and mixed-use developments to participate in Transportation Demand Management strategies, including providing shuttle services between employment centers and key transit centers, offering telecommuting, and encouraging use of pre-tax commute benefits. - Explore adopting a Vulnerable Road User Law. - Develop and adopt through the Capital Road Improvement and Preservation Plan (CRIPP) process an updated list of transportation projects that reduce vehicle miles traveled. - Secure additional funding for the maintenance and expansion of bicycle, pedestrian, and public transit infrastructure. - Improve safety and comfort of bicycle, pedestrian, and public transit facilities. - Work with local and regional transit agencies to provide "last mile" transportation connections and options. - Encourage and support increased regional integration of transit systems to promote more equitable fare structures, easier transfers, and improved information sharing.	% increase in combined housing units/acre due to TOD	16%	38%	63%	BART ridership (passenger miles) % increase in housing units/acre % increase in jobs/acre VMT reduction from TDM programs	17,473,620 16% 18% 1,705,370	21,841,610 38% 31% 7,858,900	27,276,920 63% 45% 28,130,740	9,600	24,250	48,350
			% increase in jobs/acre due to TOD	18%	31%	45%							
			Target bus ridership	2%	4%	5%							
			Percent increase in BART ridership over baseline projection for that year	5%	10%	15%							
			Percent of employers participating in TDM	5%	10%	20%							
			Average trip reduction from voluntary TDM participation	15%	30%	45%							
			Percent of county with expanded sidewalks	5%	10%	15%							
4.2	Increase the use of zero-emissions vehicles. Transition to a zero-emission County fleet by 2030 and a community fleet that is at least 50% zero-emission by 2030.	- Require new County vehicles to be zero-emission to the extent a viable vehicle is available on the market, with a goal of all County vehicles to be zero-emission by 2030. - Provide incentives for zero-emission vehicles, in partnership with MCE, BAAQMD, and other agencies. - Work with property owners to install electric vehicle charging stations in and near multifamily dwelling units. - Increase installation of electric vehicle charging stations at public facilities, emphasizing increased installation in Impacted Communities. - In partnership with regional agencies, explore providing subsidies for households making below the area median income to purchase or lease zero-emission vehicles. - Pursue fees and regulatory efforts to convert TNC, taxi, and similar car-hire services to zero-emission vehicles. - Work with the BAAQMD and other regional agencies to convert off-	Percent of county vehicles that are zero-emission	80%	85%	95%	New VMT from electric vehicles, community-wide Reduction in municipal vehicle gasoline use New VMT from electric vehicles, TNC Reduction in offroad gasoline use (gallons) Reducton in offroad diesel use (gallons)	208,555,930 230,120 91,983,130 2,773,260 3,658,270	480,723,730 222,520 114,895,920 2,953,500 3,931,740	1,053,461,930 247,340 155,608,280 3,082,210 4,128,050	97,350	168,010	335,200
			Percent of community fleet that is zero-emission (light duty)	25%	45%	75%							
			Target % of total community TNC VMT from electric vehicles	75%	80%	90%							
			Percent of community fleet that is zero-emission (heavy duty)	10%	30%	60%							
			Target % total commercial Natural Gas VMT replaced by biomethane:	10%	15%	20%							

		road equipment to zero-emission clean fuels. - Work with contractors, fleet operations, logistics companies, and other operators of heavy-duty vehicles to accelerate the transition to zero-emission heavy-duty vehicles. - Continue to require all new and significantly retrofitted logistics facilities to install charging stations for heavy-duty electric vehicles at loading docks and staging areas. - Work with Public Works to use renewable natural gas (sourced from recovered organic waste) for transportation fuel, electricity, or heating applications in cases where battery-electric, hybrid-electric, and sustainably sourced hydrogen fuel-cell sources are not available. - Encourage efforts to maximize EV charging during solar peak hours.	Target % total commercial Diesel VMT replaced by biomethane:	10%	15%	20%	Increase in biomethane VMT	##########	9,029,270.00	13,763,020.00			
			Percent of lawn and garden fuel use convered to electric	30%	50%	65%							
			Percent construction equipment fuel use converted to electric	30%	45%	60%							
			Percent industrial and light commercial fuel use converted to electric	20%	40%	55%							
Resilience Communities and Natural Infrastructure: Contra Costa County will increase resilience to climate hazards and foster community health												
5.1	Protect against and adapt to changes in sea levels and other shoreline flooding conditions.	- Establish requirements for new development to locate habitable areas of buildings above the highest water level expected for the lifetime of the project, or to construct a levee to provide adequate protection during the lifetime of the project. - Support the use of natural infrastructure, including ecosystem restoration, to protect against sea level rise and associated shoreline flooding. - Coordinate with state and regional agencies, neighboring jurisdictions, property owners, utilities, and others to prepare a Sea Level Rise Adaptation Plan and fund and implement wetland restoration and other sea level rise adaptation efforts. - Convene a working group of local shoreline communities and community-based organizations to collaborate on shoreline	Supportive (no assumptions)				Supportive (no performance standards)				Supportive (no GHG reductions)		

5.2	Protect against and adapt to increases in the frequency and intensity of wildfire events.	- Prohibit new residential subdivisions in Very High Fire Hazard Zones and limit development in High Fire Hazard Severity Zones. - Require any new development in a Very High Fire Hazard Severity Zone, Wildland-Urban Interface, or State Responsibility Area to include fire-safe designs and materials, and to prepare, maintain, and regularly implement a fire protection plan. Such development shall meet or exceed State requirements for developments in fire-prone areas, including for ingress and egress, water supply, and firefighting equipment access. - In coordination with property owners, establish and maintain fire breaks and defensible space, fuel-clearing activities, and firefighting infrastructure. - Support undergrounding of utility lines, especially in the Wildland-Urban interface and fire hazard severity zones. - Work with community organizations to ensure Impacted Communities have access to financing and other resources to reduce the fire risk on their property, prepare for wildfire events, and allow for a safe and speedy recovery.	Supportive (no assumptions)	Supportive (no performance standards)	Supportive (no GHG reductions)
5.3	Establish and maintain community resilience hubs.	- Identify existing community facilities that can serve as resilience hubs and support affected populations during hazard events. Such facilities shall be distributed equitably throughout the county, with an emphasis on easy access for Impacted Communities. Where appropriate existing facilities are not present, develop plans for construction of new resilience hubs. - Retrofit selected facilities to act as resilience hubs, including adding solar panels, battery backup systems, water resources, and supplies to meet basic community and emergency medical needs. - Create a virtual resilience hub that connects County resources to the community through virtual community networks to provide detailed, up-to-date information about preparing for natural disasters, notifications and alerts related to public safety, space for virtual gathering and information-sharing, and other appropriate uses. Materials shall be accessible in multiple languages.	Supportive (no assumptions)	Supportive (no performance standards)	Supportive (no GHG reductions)

5.4	Sequester carbon on natural and working lands in Contra Costa County.	- Implement recommendations from ongoing carbon sequestration feasibility study, Healthy Lands, Healthy People. - Establish pilot programs for carbon sequestration on agricultural land. - Explore ways to increase carbon sequestration on County-owned facilities. - Partner with regional landowners and agencies to establish carbon sequestration programs and incentives. - Use offset protocols and guidance to promote sequestration on natural and developed lands. - Require any carbon sequestration program that the County provide benefits to communities that face environmental justice issues and actively and meaningfully engages with Impacted communities. - Explore the potential for citizen scientists to support tree inventories, tree planting, and maintenance of existing trees. - Establish a fund to support expanded tree planting and maintenance activities. - Continue to ensure that natural lands and other open space, including wetlands, native grasslands, and riparian areas, remain protected and are restored as needed. - Explore opportunities to integrate traditional fire management practices into forest management policies and programs. - Coordinate with farming groups, ranchers, and the University of California Cooperative Extension to identify and promote varieties of feedstock, livestock, and crops that are resilient to rising temperatures and changing precipitation patterns and increase carbon sequestration.	Percent increase in hectares of broadleaf forest	10%	15%	20%	Increase in hectares of broadleaf forest	2,330	3,500	4,670	5,950	9,000	12,050
			Percent increase in hectares of Conifer forest	10%	15%	20%	Increase in hectares of conifer forest	100	150	190			
5.5	Minimize heat island effects through the use of cool roofs and green infrastructure	- Require new and retrofitted large hardscaped areas to include mature trees, swales, native and drought-tolerant landscaping, and other green infrastructure features consistent with current and future climate conditions and other guidelines. - Increase tree planting in urbanized areas and open spaces, emphasizing areas with limited existing tree cover and using low-maintenance native tree species. - Prepare and implement a Tree Master Plan for the unincorporated county. - Provide shade trees or shade structures at parks, transit stops, plazas, and other outdoor spaces. - Support efforts to develop incentive programs for home and	Supportive (no assumptions)				Supportive (no performance standards)				Supportive (no GHG reductions)		

5.6	Protect the community against additional hazards created or exacerbated by climate change	- Require all new below market-rate housing to be located outside of mapped hazardous areas to the great extent possible, and require all development located in hazard zones that is not otherwise prohibited to be sited and designed to remain safe and habitable immediately following a natural disaster. - Treat susceptibility to hazards and threats to human health and life as primary considerations when reviewing all development proposals and changes to land uses. - Partner with community-based organizations to provide information to community members about how to prepare for projected climate change hazards. - Promote, and as necessary develop, available funding sources to incentivize residents and business to prepare for natural disasters, particularly members of Impacted Communities. - Consider projected impacts of climate change when siting, designing, and identifying the construction and maintenance costs of capital investment projects. - Actively promote and grow participation in Community Emergency Response Team (CERT) programs throughout the county.	Supportive (no assumptions)	Supportive (no performance standards)	Supportive (no GHG reductions)
Climate Equity: The Climate Action Plan will mitigate environmental factors leading to health disparities, promote safe and livable communities, and promote investments that improve neighborhood					
6.1	Provide access to affordable, clean, safe, and healthy housing and jobs.	- In partnership with community-based organizations, work to reverse community deterioration and blight, and improve person and property safety, in neighborhoods throughout Contra Costa County. - Require that new housing for households making less than Area Median Income or other impacted Communities be located outside of hazard-prone areas, including wildfires, landslides, floods, and sea-level level rise. - Establish a program to provide low-cost or free air conditioning and filtration, improved insulation, low emitting materials, and indoor ventilation in homes, emphasizing buildings that are home to Impacted populations. - Partner with schools, community-based organizations, labor unions, Workforce Development Board and other appropriate groups to provide green jobs training for residents. Prioritize training for people currently or recently working in polluting or extractive activities.	Supportive (no assumptions)	Supportive (no performance standards)	Supportive (no GHG reductions)

6.2	Invest in solutions to support climate equity.	- Evaluate and adjust County budgeting and spending as needed to ensure equitable investment in Impacted Communities. Incorporate addressing climate change, providing climate solutions, and enhancing community equity into the mission of all County departments. - Include environmental justice and climate issues in the County Racial Equity Action Plan and in the responsibilities of the County Office of Racial Equity and Social Justice. - As part of CAP and General Plan implementation, consider whether the strategy provides equitable benefits for Impacted Communities as a criterion for prioritization. - Continually engage communities most affected by climate change in developing and implementing climate solutions and ensure that such solutions provide benefits to Impacted Communities. - Advocate for the Contra Costa Employees Retirement Association to use Environmental, Social, and Governance criteria in its investment policies, and to offer socially responsible investment options for its members. - Amend the County investment policy to divest from fossil fuels, require the use of Environmental, Social, and Governance criteria, and prohibit investment in all securities issued by fossil fuel companies. - Work with schools, county library, and community-based organizations to provide environmental education.	Supportive (no assumptions)	Supportive (no performance standards)	Supportive (no GHG reductions)
6.3	Increase access to parks and open space.	- Establish a target of all residents being located within a half-mile of a park or other green space. - In partnership with regional agencies, support land acquisition for new parks and open space areas and protect such lands through conservation easements.	Supportive (no assumptions)	Supportive (no performance standards)	Supportive (no GHG reductions)
6.4	Ensure residents have equitable, year-round access to affordable local fresh food.	- Facilitate establishment of year-round farmers markets in all communities, prioritizing Impacted Communities. - Work with community groups to establish and maintain urban gardens, particularly in Impacted Communities and on vacant land. - Encourage major supermarkets to locate in Impacted Areas.	Supportive (no assumptions)	Supportive (no performance standards)	Supportive (no GHG reductions)
6.5	Ensure that large industrial facilities act as good neighbors.	- Provide recommendations to responsible permit agencies regarding permits for fossil fuel-based industries and point sources. - Regularly track data on fossil fuel production and transportation in Contra Costa County. - As economic conditions change, support efforts to phase out heavily polluting and extractive industries and replace them with businesses that contribute to a regenerative and circular economy.	Supportive (no assumptions)	Supportive (no performance standards)	Supportive (no GHG reductions)
Leadership: Contra Costa County is a model for how local government can take action on climate issues					

7.1	Establish Contra Costa as a leader among local governments for addressing climate issues.	- Continue to publicize and support the operations of the County's Interdepartmental Climate Action Task Force. - Work with all County departments to encourage adoption of best practices from the County's Green Business Program and participation in the EBMUD Water Smart Business Program (where appropriate). - Encourage development of new policies and initiatives that support the County's climate goals. - Explore the creation of funding mechanisms, including a carbon impact fee, to support the County's Sustainability Fund if additional financial resources are needed. - Ensure that all funding mechanisms minimize or avoid financial impacts to Impacted Communities and do not exacerbate economic inequities. - Facilitate trainings for County staff on climate change (including the results of the Vulnerability Assessment and CAP technical work) and how they can support climate action through their work with the County and at home. - Encourage County employees to explore innovative technologies and programs that address climate change. - Incorporate pest prevention principles into new construction and retrofit programs on County properties. - Require businesses to ensure compliance with the County's Environmentally Preferred Purchasing policy as a condition of obtaining County contracts to the extent feasible.	Supportive (no assumptions)	Supportive (no performance standards)	Supportive (no GHG reductions)
7.2	Continue to recognize the climate crisis as an emergency for Contra Costa County and make deep decarbonization a top County priority.	- Integrate additional efforts from the Climate Emergency Resolution into County department work plans. - Consider climate and equity effects and vulnerabilities as a factor in County budgeting and decision-making, integrating climate adaptation and GHG reduction features as necessary to increase resilience and GHG reductions countywide. - Assess County programs, policies, operations, and projects (excluding stationary sources) for their contribution to achievement of County's GHG reduction targets and consistency with the CAP. - Disclose GHG emissions to a registry such as the Carbon Disclosure Project (CDP).	Supportive (no assumptions)	Supportive (no performance standards)	Supportive (no GHG reductions)
Implementation Strategies					

8.1	Monitor and report progress toward achieving Climate Action Plan targets on an annual basis.	- Assign responsibility for facilitating and supporting CAP implementation to the County's Conservation and Development Department. - Identify key staff from each department responsible for supporting CAP implementation and updates for annual reporting and monitoring. - Continue to involve community-based organizations and other key stakeholders in reviewing and recommending CAP action items - Prepare an annual progress report on implementation of the recommended GHG reduction strategies and progress toward CAP targets. When information is available, provide updates on estimated GHG emissions reductions and current GHG emissions levels. - Monitor implementation of the Sustainability Fund for projects in county facilities - Use the CAP implementation and monitoring tool to track GHG benefits from CAP implementation and identify progress toward the CAP reduction targets. - Improve the County permitting system and other systems as needed to support collecting CAP implementation data.	Supportive (no assumptions)	Supportive (no performance standards)	Supportive (no GHG reductions)
8.2	Continue collaborative partnership with agencies and community groups that support Climate Action Plan implementation with an emphasis on residents and community-based organizations from Impacted Communities.	- Participate in local and regional organizations that provide tools and support for energy efficiency, energy conservation, GHG emissions reductions, adaptation, public information, and implementation of this CAP. - Commit to formal membership through joint powers authorities or other partnerships to implement high priority strategies from the CAP - Provide policy input to partner agencies on policy barriers that need to be addressed at the State level.	Supportive (no assumptions)	Supportive (no performance standards)	Supportive (no GHG reductions)
8.3	Secure necessary funding to implement the Climate Action Plan.	- Identify funding sources and levels for reduction strategies as part of annual reporting. - Include emissions reduction strategies in department work plans, the capital improvement program, and other plans as appropriate. - Pursue local, regional, State, and federal grants to support implementation. - Explore dedicated funding sources for CAP implementation, including from the Sustainability Fund or other revenue sources as needed. - Explore opportunities to allocate a portion of revenues from revenue-generating strategies to CAP allocation.	Supportive (no assumptions)	Supportive (no performance standards)	Supportive (no GHG reductions)

8.4	Continue to update the baseline emissions inventory and Climate Action Plan every five years.	- Prepare a GHG emissions inventory that shows GHG emissions after emergency conditions created by the COVID-19 pandemic are expected to have ended. - Update the CAP to incorporate new technology, practices, and other options to further reduce emissions.	Supportive (no assumptions)	Supportive (no performance standards)	Supportive (no GHG reductions)
8.5	Maintain and update the Climate Action Plan to allow for greater resilience.	- Coordinate where possible updates of the Climate Action Plan, General Plan Safety Element, and Local Hazard Mitigation Plan cycle to ensure plan alignment and coordination of climate mitigation and adaptation efforts. - Assess the implementation status and effectiveness of adaptation strategies.	Supportive (no assumptions)	Supportive (no performance standards)	Supportive (no GHG reductions)

CONTRA COSTA COUNTY CLIMATE ACTION PLAN

PROPOSED DRAFT STRATEGIES AND RECOMMENDED TARGETS TO FOR 2022 UPDATE

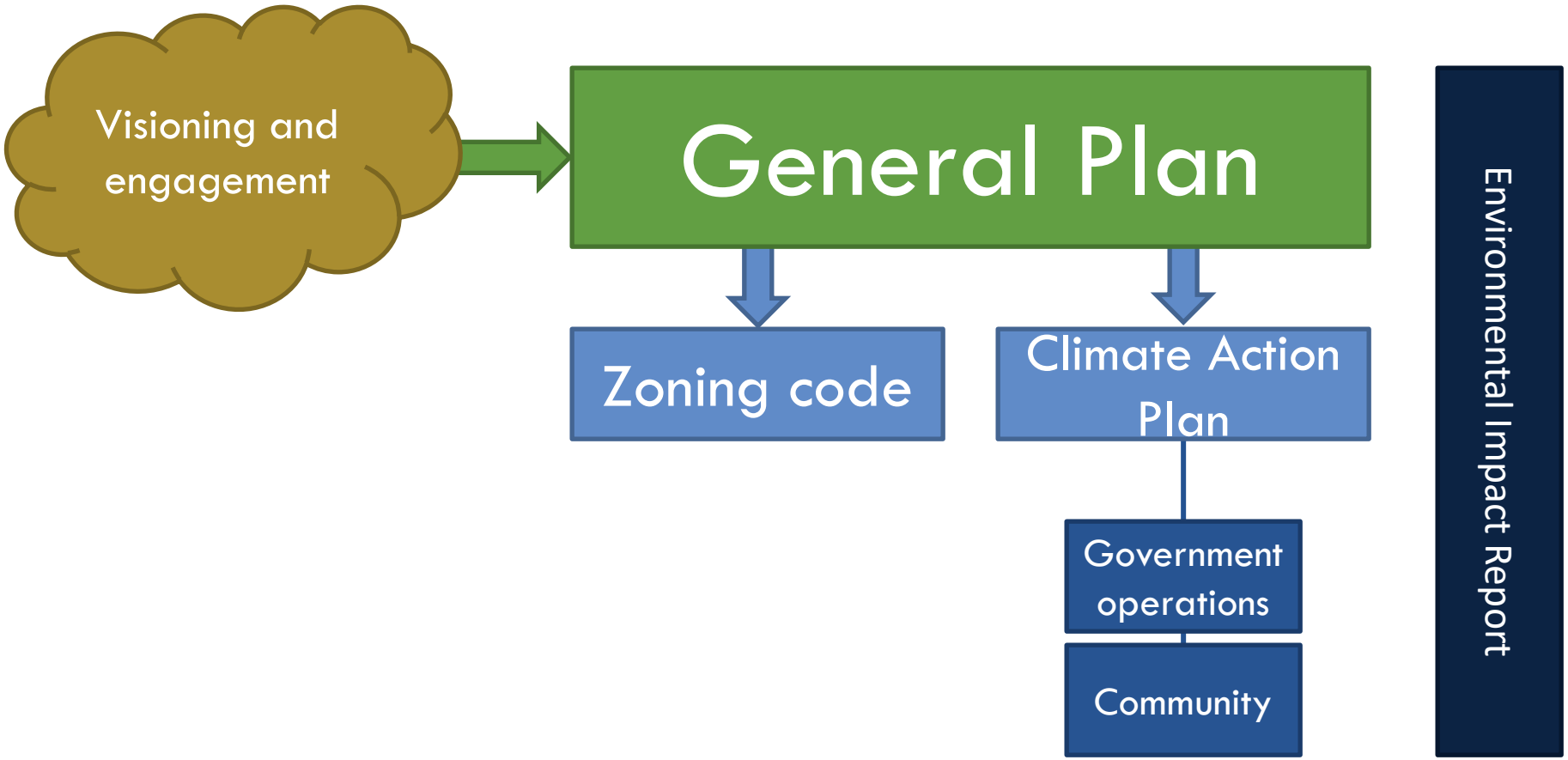
March 28, 2022

Jody London, Sustainability Coordinator, Contra Costa County

Tammy Seale, PlaceWorks

Eli Krispi, PlaceWorks

Envision Contra Costa



2022 Climate Action Plan (CAP)

Antioch Dunes National Wildlife Refuge

- Will provide County's strategic plan to reduce greenhouse gas emissions and support climate adaptation and increased resilience to climate hazards and their impacts.
- Will assess current and projected future emissions.
- Will meet requirements for a Qualified GHG reduction strategy for purposes of California Environmental Quality Act (CEQA)

CAP Update Process

CAP

Vulnerability Assessment and related policies

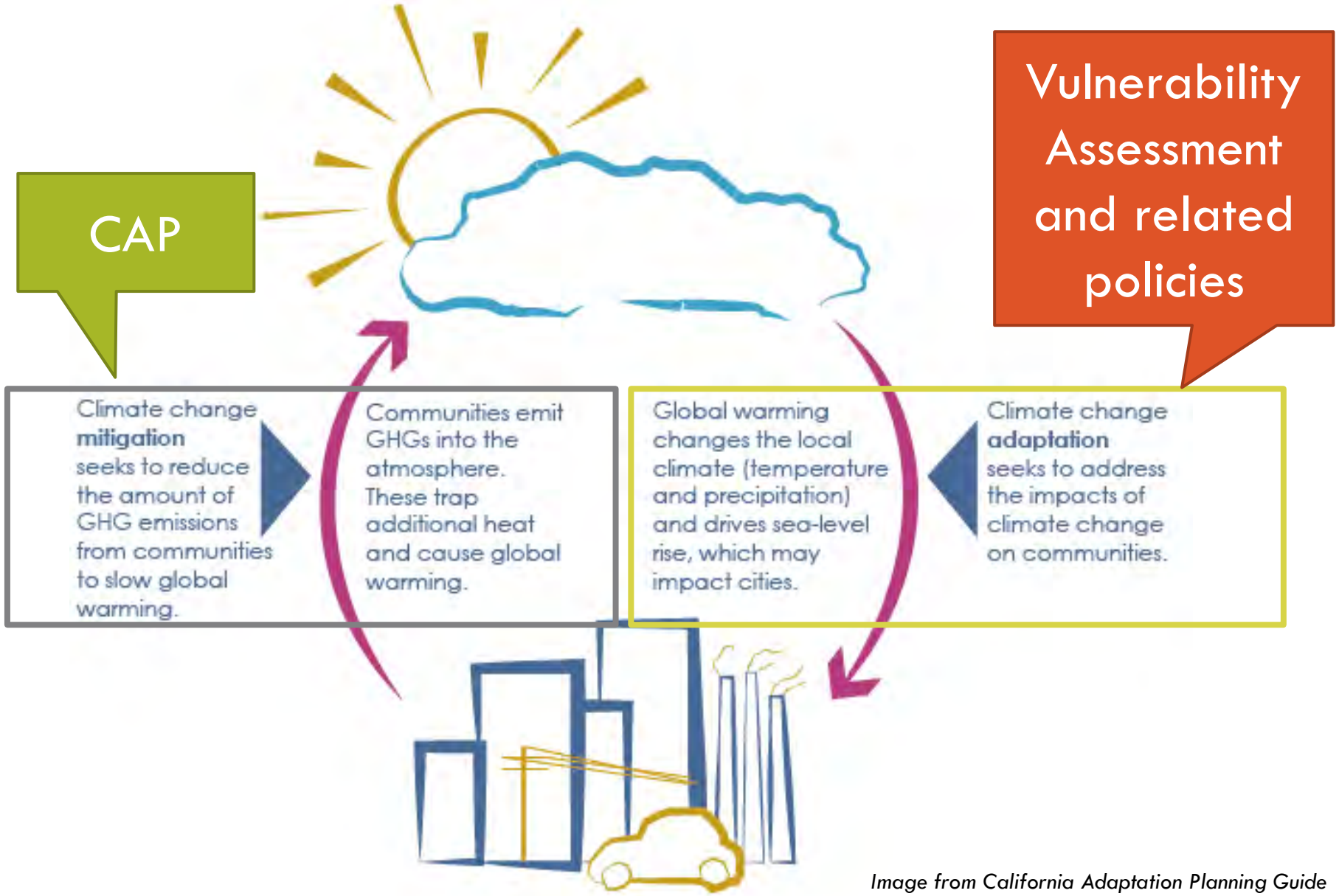


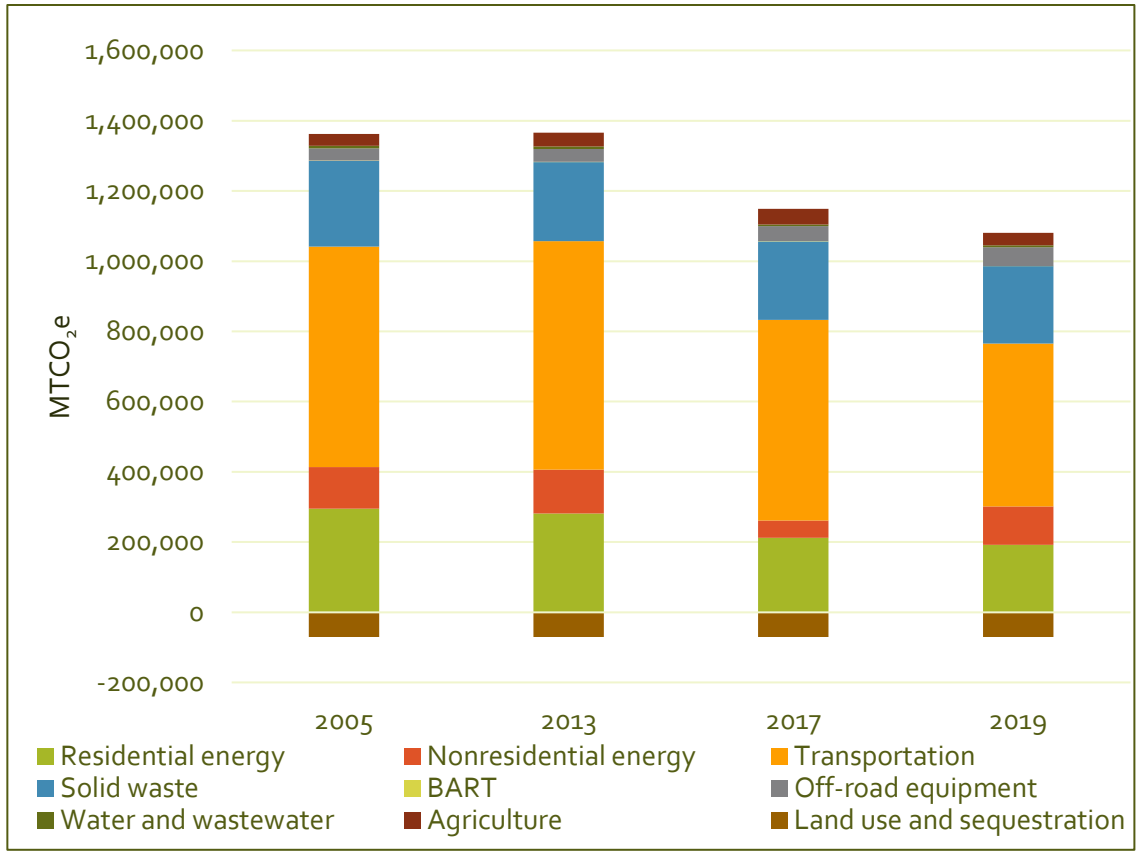
Image from California Adaptation Planning Guide

GHG Reduction Targets

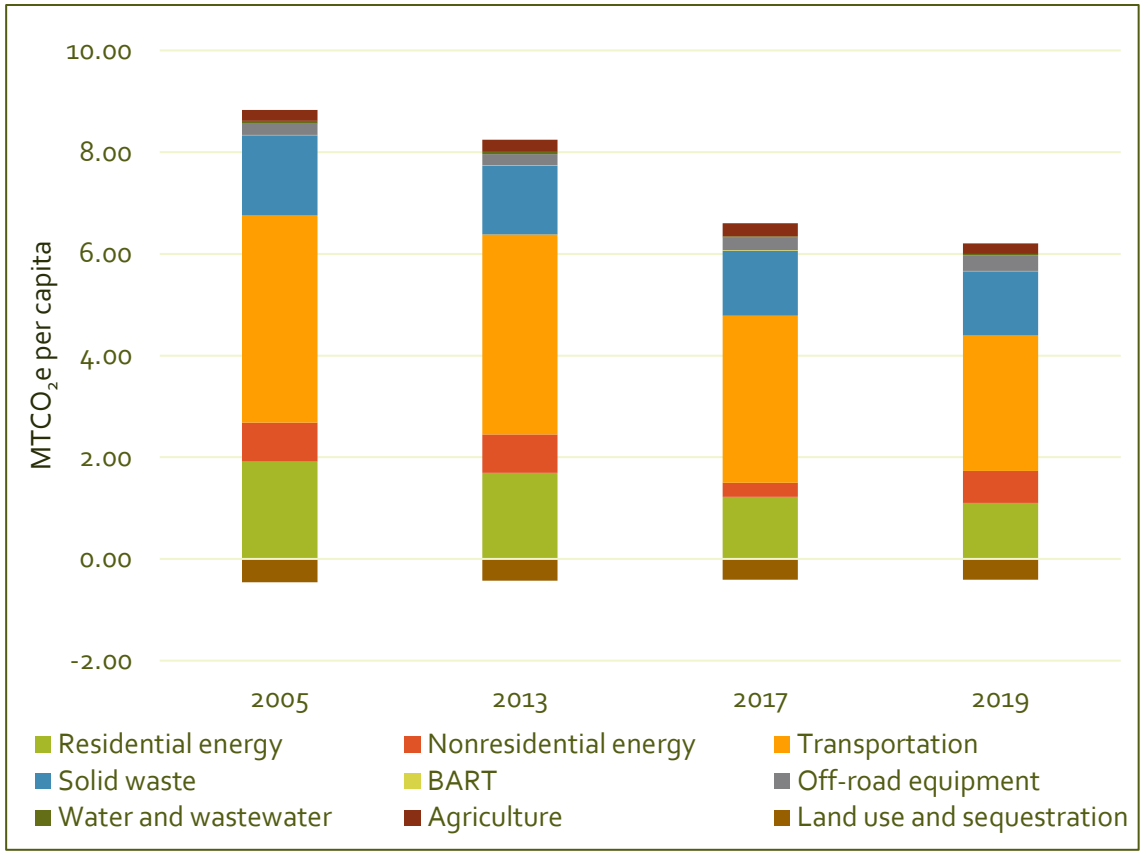
- Communities have flexibility in setting targets.
- Need to comply with state law and guidance to be used for CEQA purposes.
- Targets can be absolute or per-capita (per person).
- CAP Update will build on targets in existing CAP (2015).

Greenhouse Gas Emissions in Contra Costa County, 2005-2019

Absolute GHG Emissions by Sector, 2005-2019

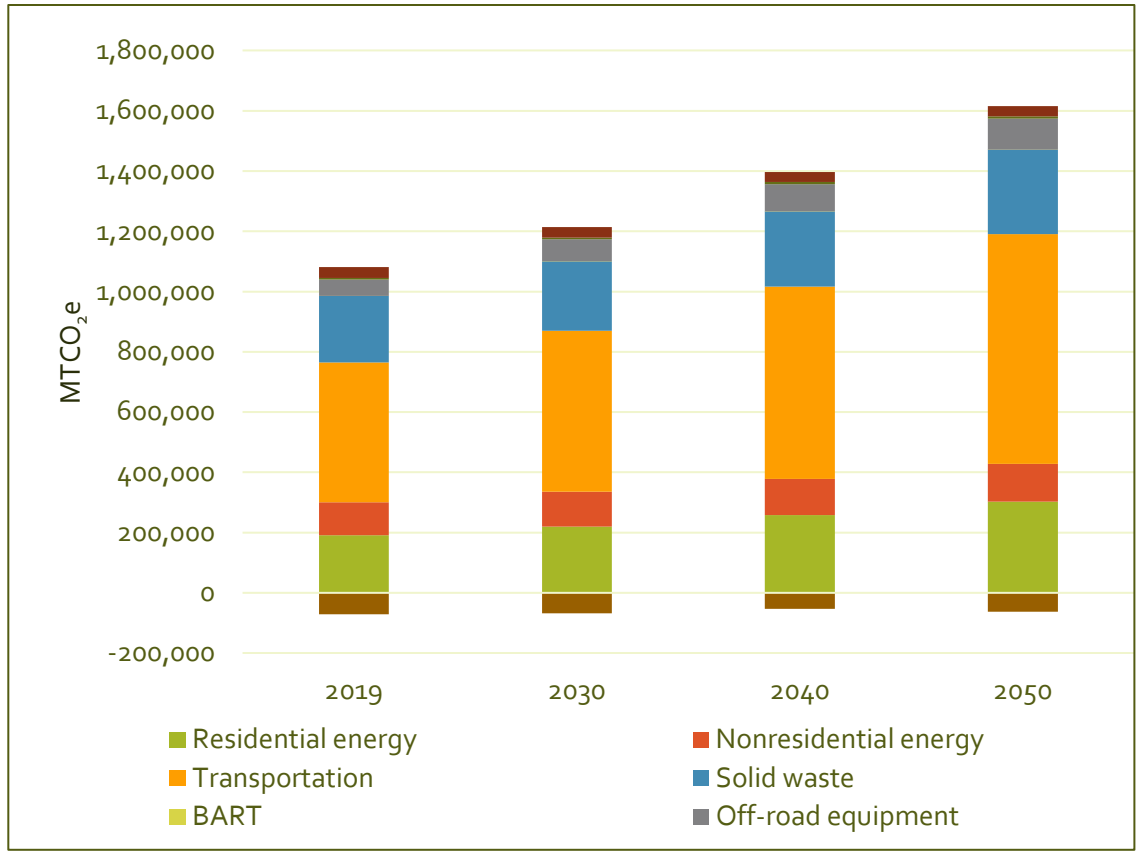


Per-Capita GHG Emissions by Sector, 2005-2019

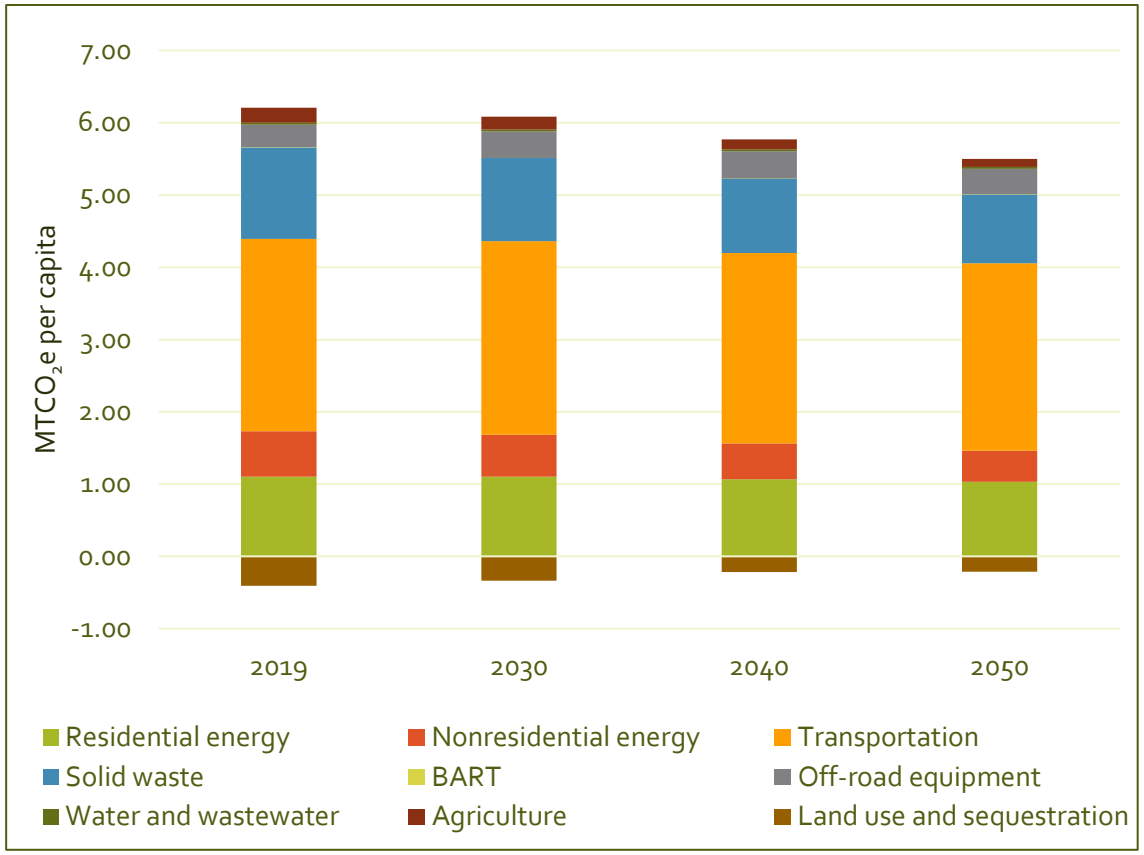


Forecast GHG Emissions in Contra Costa County

Absolute GHG Emissions Forecast, 2019-2050



Per-Capita GHG Emissions Forecast, 2019-2050



Draft Goals and Strategies

8 Goals

- Clean and Efficient Built Environment
- No-Waste Contra Costa
- Reduce Water Use and Increase Drought Resilience
- Clean Transportation Network
- Resilient Communities and Natural Infrastructure
- Climate Equity
- Leadership
- Implementation Strategies

28 Strategies

- 10 have quantifiable GHG reductions
- Remaining 18 support climate and sustainability actions but do not directly reduce GHG emissions or there is no feasible method to assess GHG emission reduction potential

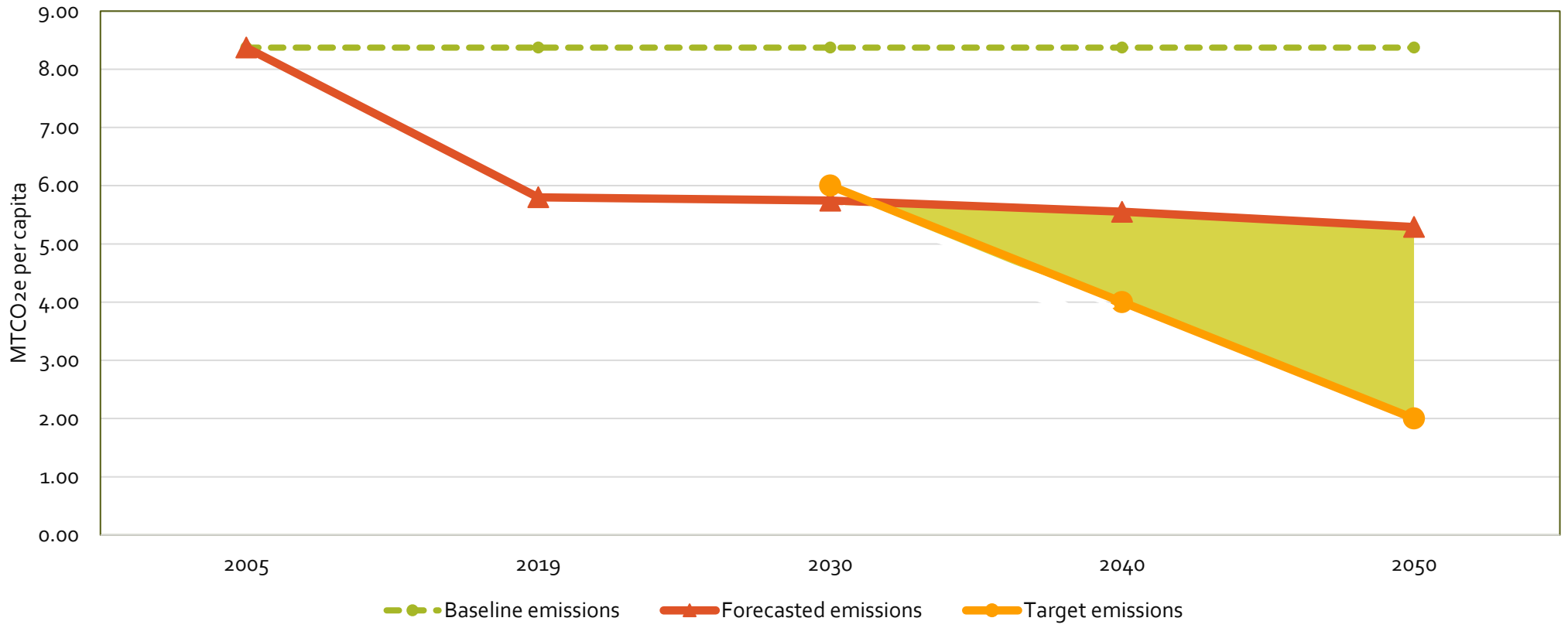
Draft Goals and Strategies

		Goal	Quantifiable?
Clean and Efficient Built Environment			
	1.1	Require new buildings or additions built in unincorporated Contra Costa County, on or after January 1, 2023, to be low-carbon or carbon neutral.	✓
	1.2	Retrofit existing buildings and facilities in unincorporated county, and County infrastructure, to reduce energy use and convert to low-carbon or carbon-neutral fuels.	✓
	1.3	Increase the amount of electricity used and generated from renewable sources in the county.	✓
No-Waste Contra Costa			
	2.1	Increase composting of organic waste	✓
	2.2	Reduce waste from County operations	✓
	2.3	Increase community-wide recycling and waste minimization programs	✓
Reduce Water Use and Increase Drought Resilience			
	3.1	Reduce indoor and outdoor water use	✓
	3.2	Ensure sustainable and diverse water supplies	
Clean Transportation Network			
	4.1	Improve the viability of walking, biking, zero carbon commuting, and using public transit for travel within, to, and from the county.	✓
	4.2	Increase the use of zero-emissions vehicles. Transition to a zero-emission County fleet by 2030 and a community fleet that is at least 50% zero-emission by 2030.	✓
Resilient Communities and Natural Infrastructure			
	5.1	Protect against and adapt to changes in sea levels and other shoreline flooding conditions	
	5.2	Protect against and adapt to increases in the frequency and intensity of wildfire events.	
	5.3	Establish and maintain community resilience hubs	
	5.4	Sequester carbon in natural and working lands in Contra Costa County	✓
	5.5	Minimize heat island effects through the use of cool roofs and green infrastructure	
	5.6	Protect the community against additional hazards created or exacerbated by climate change	

		Goal	Quantifiable?
Climate Equity			
	6.1	Provide access to affordable, clean, safe, and healthy housing and jobs	
	6.2	Invest in solutions to support climate equity	
	6.3	Increase access to parks and open space	
	6.4	Ensure residents have equitable, year-round access to affordable local fresh food	
	6.5	Ensure that large industrial facilites act as good neighbors	
Leadership			
	7.1	Establish Contra Costa County as a leader among local governments for addressing climate issues	
	7.2	Continue to recognize the climate crisis as an emergency for Contra Costa County and make deep decarbonization a top County priority.	
Implementation Strategies			
	8.1	Monitor and report progress toward achieving Climate Action Plan targets on an annual basis	
	8.2	Continue collaborative partnership with agencies and community groups that support Climate Action Plan implementation with an emphasis on residents and community-based organizations from Impacted Communities	
	8.3	Secure necessary funding to implement the Climate Action Plan	
	8.4	Continue to update the baseline emissions inventory and Climate Action Plan every five years	
	8.5	Maintain and update the Climate Action Plan to allow for greater resilience	

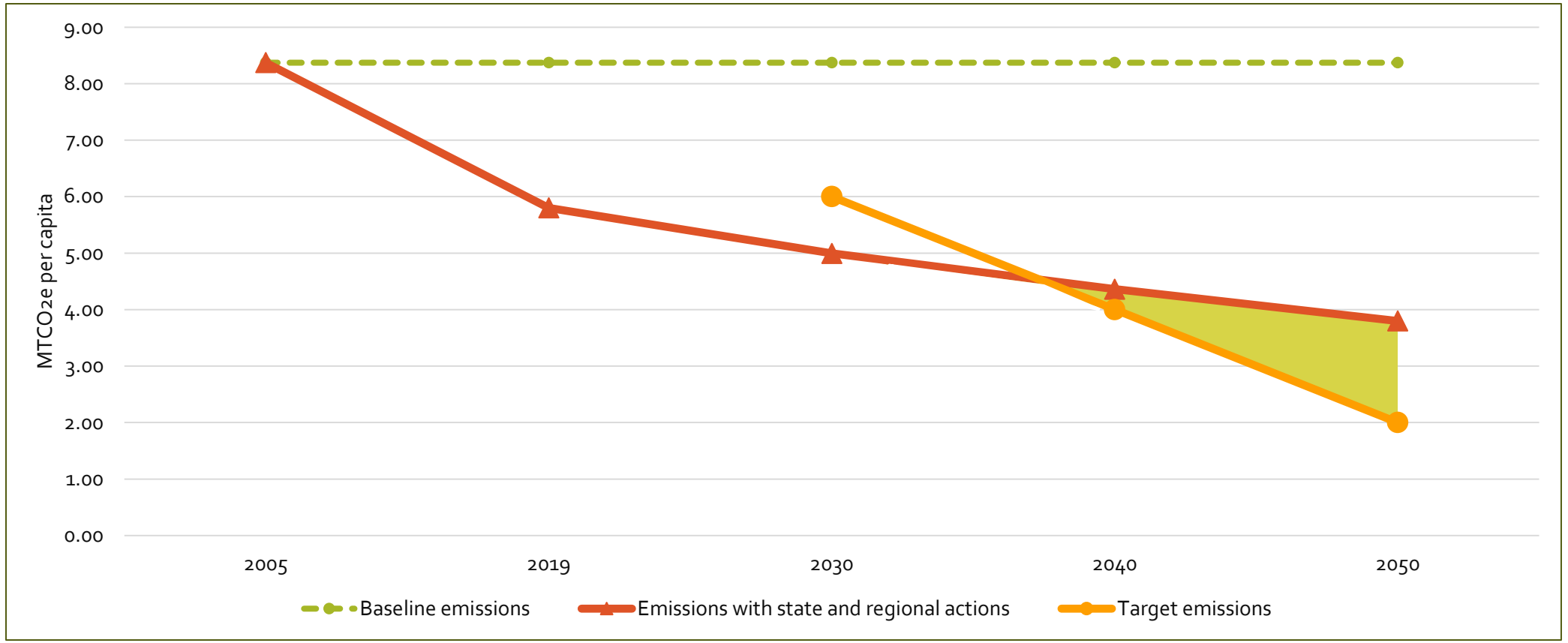
Forecast and Target

(aka business as usual – no action by State, MCE, others)

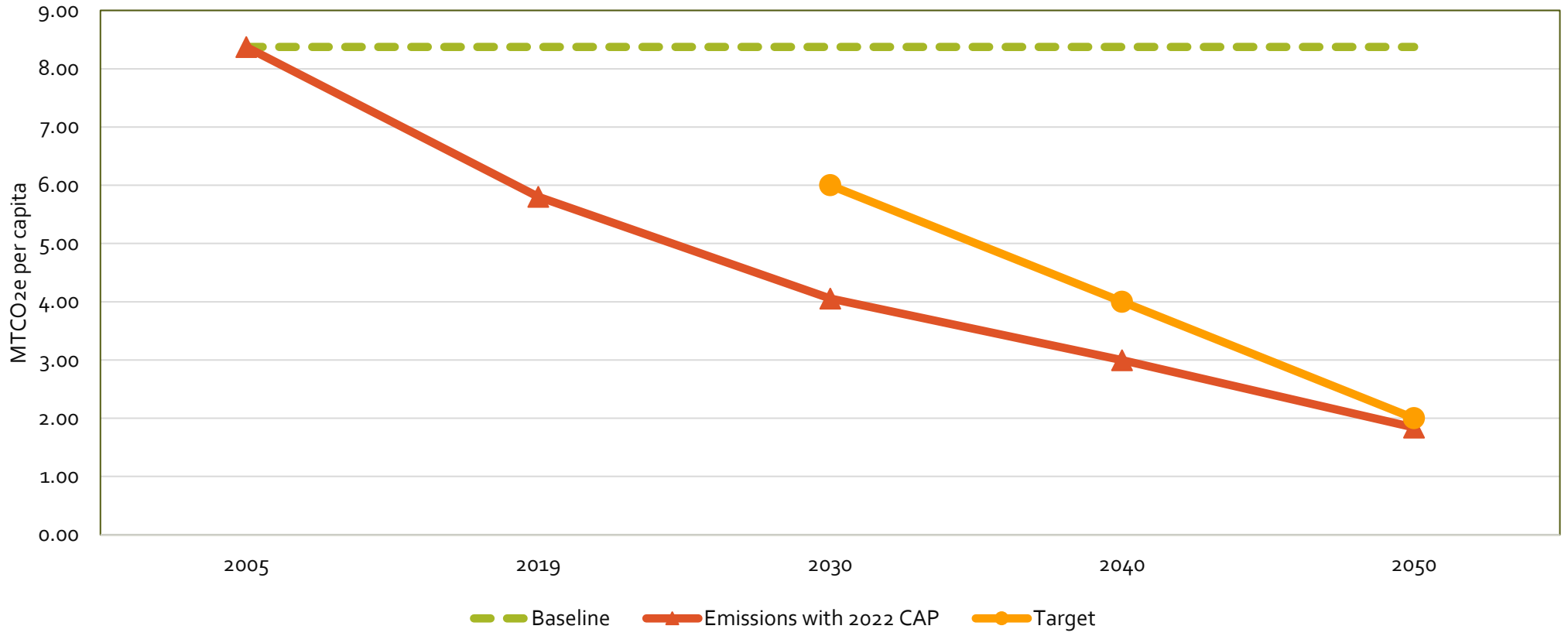


Existing Reductions and Target

(emissions projected with State and regional actions currently in place, i.e., renewable portfolio standard, clean car standard, low carbon fuel standard, MCE procurement policies)



Target and Emissions with 2022 CAP



Staff Recommendation

- 2022 CAP should include GHG emission reduction targets that are consistent with State guidance and for which there are demonstrable paths to achieving the necessary reductions.
- These recommended targets should be no greater than:
  - 6.0 $MTCO_2e$ per-capita by 2030,
  - 4.0 $MTCO_2e$ per-capita by 2040, and
  - 2.0 $MTCO_2e$ per-capita by 2050.
- Additionally, the 2022 CAP include an aspirational target of achieving **net carbon neutrality by 2040 or 2045**, consistent with the State's aspirational target.

Black Diamond Mine Regional Park

THANK YOU!

Contra Costa County Board of Supervisors

Subcommittee Report

SUSTAINABILITY COMMITTEE

Meeting Date: 03/28/2022

Subject: RECEIVE REPORT from Sustainability Commission Chair, or Designee.

Submitted For: Jody London, Sustainability Coordinator

Department: Conservation & Development

Referral No.: N/A

Referral Name: RECEIVE REPORT from Sustainability Commission Chair, or Designee.

Presenter: Mike Moore, Sustainability Commission Chair **Contact:** Jody London (925)655-2815

Referral History:

This is a standing item of the Commission.

Referral Update:

The Sustainability Commission Chair provides an update at each meeting of the Sustainability Committee on the work of the Commission.

Recommendation(s)/Next Step(s):

Fiscal Impact (if any):

None.

Attachments

No file(s) attached.

Contra Costa County Board of Supervisors

Subcommittee Report

SUSTAINABILITY COMMITTEE

Meeting Date:	03/28/2022		
Subject:	RECEIVE REPORT from Sustainability Coordinator.		
Submitted For:	Jody London, Sustainability Coordinator		
Department:	Conservation & Development		
Referral No.:	N/A		
Referral Name:	RECEIVE REPORT from Sustainability Coordinator.		
Presenter:	Jody London, DCD	**Contact:**	Jody London (925)655-2815

Referral History:

This is a standing item of the Committee.

Referral Update:

Key activities since the Sustainability Committee's last meeting on November 23, 2021, are listed below.

- On January 18, 2022, the Board of Supervisors adopted the all-electric ordinance for all new construction of residential and some new non-residential construction, such as retail, office, and hotels. The new requirements will go into effect June 1, 2022. Staff has submitted the documentation to the California Energy Commission, which must approve the ordinance because it is stricter than State building code.
- Demian Hardman-Saldana presented on the all-electric ordinance at the February 22, 2022, "Reaching Beyond" webinar series, attended by local governments across the state.
- On December 14, 2021, the Board of Supervisors adopted Ordinance No. 2021-38, Organic Waste Disposal Reduction to reduce the disposal of organic waste in landfills by regulating the collection and hauling of organic waste and to recover edible food. On January 11, 2022, the Board of Supervisors approved the Recovered Organic Waste Product and Recycled Paper Procurement Policy. The County was required to approve this mandatory ordinance and policy pursuant to the State's SB 1383 Short-Lived Climate Pollutant regulations.
- Staff planned and facilitated a meeting of the Interdepartmental Climate Action Task Force on February 15, in advance of the semi-annual report to the Board of Supervisors on March 22. The Task Force is working to successfully launch and support the G3 Champions (Green Government Group), volunteer County staff who will help their County departments adopt best practices from the County's Green Business Program and identify opportunities for further action. Recruitment for the G3 Champions is anticipated to begin in late March.
- The Health Services Department recently joined Practice Greenhealth, a non-profit membership organization founded on the principles of positive environmental stewardship and best practices by organizations in the health care community. Practice Greenhealth will help the County identify opportunities to reduce waste from County medical facilities.
- The Health Services Department is leading an application from the County to the Bay Area Air Quality Management District for an AB 836 Clean Air Center Grant. The purpose of this non-competitive grant is to enhance protection from wildfire smoke exposure for vulnerable populations. It will help fund air filters for community centers, libraries, and other buildings where people gather during smoke events.
- Sustainability staff continue to support the General Plan update. Staff is working on a schedule to have the Sustainability Commission review those parts of the General Plan that are related to the Climate Action Plan; this is in addition to the environmental justice policies, which the Sustainability Commission has been reviewing since last year.
- Sustainability staff organized and hosted the first 2022 meeting of the Sustainability Exchange, a quarterly gathering for local government staff in Contra Costa County who work on sustainability issues to network and learn from one another.

The topic was environmental justice. The meeting featured a presentation on the County's work on environmental justice for the General Plan update.

- Through grants from the State and Bay Area Air Quality Management District, Contra Costa Health Services and Department of Conservation and Development staff continue to implement the Contra Costa Asthma Initiative. The program provides in-home asthma trigger mitigations and energy efficiency measures to Contra Costa Health Plan Medical members with moderate to severe asthma.
- Healthy Lands, Healthy People, the carbon sequestration feasibility study funded through a grant from the California Department of Conservation, is underway. The team is developing a video and survey about carbon sequestration in natural and working lands and will host a series of focus groups later this year. The team is also analyzing land uses to identify options for carbon sequestration appropriate for each.
- The Sustainability group in the Department of Conservation and Development (DCD) welcomed a new planner, Nicole Shimizu, on February 15. Nicole was previously a Climate Corps Fellow with DCD.
- The Public Works Department has a new Energy Manager for County facilities. Brendan Havenar-Daughton started February 22.
- Public Works is working to launch the Sustainability Fund for investments in County facilities that support Climate Action Plan goals. The Measure X funds will be released to departments in April.
- Administrative Bulletins 507 and 508 have been updated to require purchase of Zero Emission Vehicles (battery electric, hydrogen, plug-in hybrid with battery range of at least 30 miles) unless justification based on operational need is approved by the County Administrator's Office.
- Public Works is exploring opportunities for County facilities to participate in MCE's Strategic Energy Management Program.
- Public Works continues developing the Vision Zero Action Plan and the Active Transportation Plan.
    - The Vision Zero Action Plan is designed to be an equitable, sustainable, multimodal transportation system where users of all ages and abilities can travel conveniently, reliably, and free from harm. The Vision Zero Action Plan was approved by the Board of Supervisors on March 1, 2022.
    - The Active Transportation Plan will focus on improving walking, biking, and rolling (i.e., wheeled mobility devices used by people with disabilities, strollers, scooters, skateboards, etc.) in the unincorporated areas of the County. The draft report is available for public review now. It will likely go to the Board of Supervisors for approval on April 12, 2022.
- On December 7, 2021, the Board of Supervisors adopted the East Contra Costa Groundwater Sustainability Plan. The purpose of the plan, which is developed in accordance with the state's 2014 Sustainable Groundwater Management Act, is for groundwater to be managed by local public agencies to ensure a groundwater basin is operated within its sustainable yield. See attachment for further details.
- DCD staff in the fall 2021 submitted two grant applications, with a total funding request of $315,500, to the CalTrans Sustainable Transportation Planning Grant Program:
    - Parr Boulevard Complete Street Project – Richmond Parkway to Union Pacific Railroad (North Richmond)- The project proposes to widen Parr Boulevard from Richmond Parkway to the Union Pacific Railroad crossing (approximately 0.96-mile study segment) and provide complete street improvements. This project could also potentially tie into a Complete Streets effort currently underway on Giant Road in the City of San Pablo.
    - Tara Hills Drive Complete Streets Project (Tara Hills) - The project proposes to install bicycle and pedestrian improvements along Tara Hills Drive from San Pablo Avenue to the end of Tara Hills Drive and Cornelius Drive (approximately 0.67-mile study segment) to the City of Pinole.
- The Federal government authorized funding to begin planning work for economic transition. The federal omnibus appropriations package (H.R. 2471) includes $750,000 for this purpose.
- Staff participated in professional learning opportunities regarding environmental justice, carbon sequestration, communication and facilitation strategies, race and equity, and related.
- Sustainability staff collaborated with County staff working on topics including land use and transportation, hazardous materials, green business program, the County's state and federal legislative platforms, economic development, health, codes, solid waste, energy, and related.
- Staff participated in regional activities.

Recommendation(s)/Next Step(s):

RECEIVE report from Sustainability Coordinator.

Fiscal Impact (if any):

None.

Attachments

No file(s) attached.
