

Report on Clean and Efficient Built Environment Section of Climate Action and Adaptation Plan

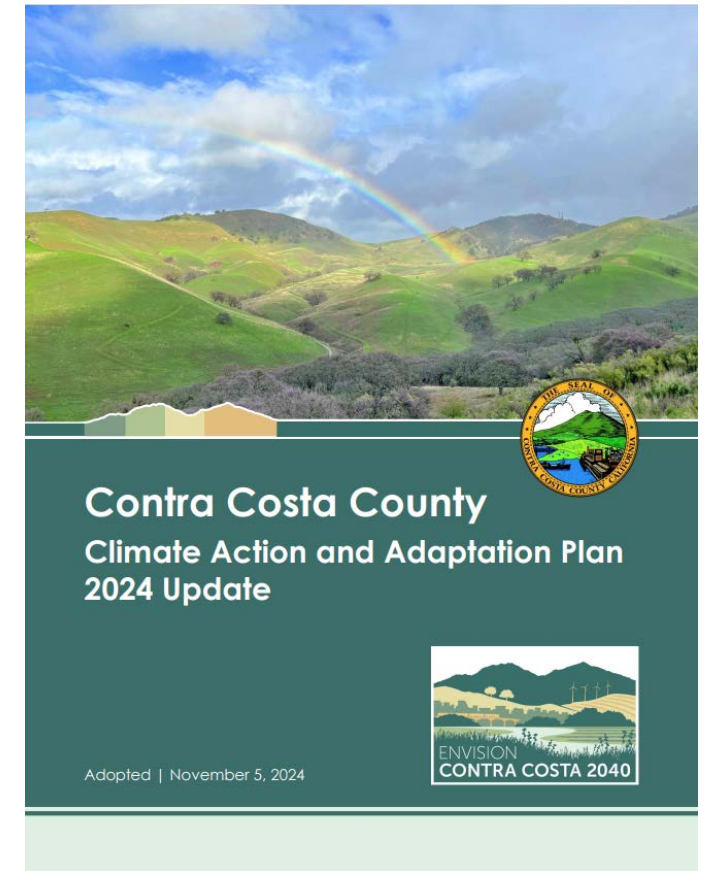
SUSTAINABILITY COMMISSION
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Background

- Board of Supervisors adopted the Climate Action and Adaptation Plan (CAAP) 2024 Update on November 5, 2024
- CAAP was developed with the 2045 General Plan through the Envision Contra Costa process
- 4 themes are interwoven through both plans:
 - Environmental justice
 - Community health
 - Economic development
 - Sustainability
- CAAP is County's strategic plan to address climate change by reducing greenhouse gas (GHG) emissions, improving climate resilience and adaptation, and promoting equity on climate issues
- Includes strategies for community-facing programs and County operations



Sector	2005 MTCO ₂ e	2013 MTCO ₂ e	2017 MTCO ₂ e	Percent change 2017 from 2013	2017 Percent of Total
Residential energy	274,690	258,420	252,730	-8%	20.7%
Nonresidential energy	118,740	125,350	122,040 *†	3%	10%
Solid waste	48,450	26,540	25,570	-47%	2%
Landfill	193,950	196,500	197,710	2%	16%
On-road transportation	628,200	651,130	550,490 †	-12%	45%
BART	2,300	2,680	1,350	-41%	.001%
Off-road equipment	71,880	66,230	17,580	-76%	.01%
Water and wastewater	8,080	7,400	5,690	-30%	.004%
Agriculture	57,320	58,200	46,180	-19%	3.7%
Total	1,403,610	1,392,450	1,219,340	-13%	
* 2013 data used as a proxy.					
† Subject to potential revisions as new data become available. MTCO ₂ e = metric tons equivalent of carbon dioxide					

**Transportation
and buildings are
key emissions
sources we can
influence.**



CAAP Goals

- Strategies and actions support the State's GHG emissions reduction goals through 2045, as established by State laws and regulations
 - Reduce community-wide GHG emissions by 40 percent from the 1990 levels by 2030.
 - Reduce community-wide GHG emissions by at least 85 percent from the 1990 levels by 2045 and be on a pathway to support statewide carbon neutrality by 2045.
- Improving community resilience to climate hazards through adaptation

CAAP Strategies:

Clean and Efficient Built Environment

Homes, workplaces, and businesses in unincorporated Contra Costa County run efficiently on clean energy.

Achieving State Greenhouse Gas Reduction Targets Will Require Going All-Electric

- In 2019 residential structures accounted for 19% of Contra Costa County's total GHG emissions
- Meeting California's statewide GHG emission reduction targets will require a fuel source transition in residential buildings from natural gas to all-electric

Proportion of GHG Emissions, 2019

Sector	2019
Transportation	47%
Energy - Residential	19%
Energy - Nonresidential	9%
Solid waste	22%
Agriculture	4%
Off-road equipment	5%
Water and wastewater	Less than 1%
BART	Less than 1%
Land use and sequestration	-7%
Total Annual MTCO ₂ e	100%
Note: Total may not equal the sum of individual rows due to rounding.	

Source: Updated 2024 CAAP

Clean and Efficient Built Environment

Community-Facing Programs

- **Adopt new or modified reach codes** that require higher energy efficiency and lower GHG emissions
- Support **energy efficient and carbon-free** retrofits in homes and businesses through education, policies, and programs
- Create a County **roadmap** to support converting buildings to rely on low-carbon or carbon-free energy using an equitable framework
- Study what the County should do to support **low-carbon concrete**
- Encourage project applicants to incorporate **sustainable building strategies, solar, and battery storage** into their projects
- Explore opportunities to install **community solar**

County Operations

- Design and **construct new County facilities to be zero-net energy**
- **Track energy and water use** and **conduct upgrades** of County facilities, including conversion to all-electric space and water heating
- Continue enrolling County facilities' electricity accounts in **MCE's Deep Green** tier
- Explore developing **microgrids** for County facilities



BE-1: Require and incentivize new buildings and additions in unincorporated Contra Costa County to be low-carbon or carbon neutral

- Adopt new or modified reach codes that exceed the California Building Standards Code, as the State updates the Building Code every three years, to require the use of low-carbon intensive energy sources, to achieve higher levels of energy performance, and to achieve lower levels of GHG emissions. (COS-A14.4)
 - October 1, 2024, County Board of Supervisors adopted Ordinance No. 2024-17 amending the CA Energy Code to increase energy efficiency standards for certain newly constructed buildings. Becomes effective May 1, 2025.
- Maintain, update, and publicize County ordinances and programs requiring new residential buildings, hotels, offices, and retail to be more energy efficient, with low levels of greenhouse gas emissions. Evaluate the feasibility of including other building types as appropriate. (COS-A14.5) – ONGOING, as reflected above.
- Design and construct new County facilities to be zero-net energy to the extent feasible. (COS-P14.8) – UPDATE from County Facilities staff at future meeting on this.

BE-1 continued...



Provide educational materials to encourage project applicants to incorporate passive solar design features into new developments and significant alterations and additions. – **In development, expect to be completed in Summer/Fall**



Promote sustainable building strategies and designs, including small and “tiny” homes, to project applicants as site appropriate. Consider requiring sustainable features as a condition of approval, including reuse of materials to minimize embedded carbon. – **In development, expect to be completed by end of year**



Provide educational and technical resources to advance the adoption of heat pump water heater and heat pump space heating in buildings in support of BAAQMD Regulation 9, Rule 4, and Regulation 9, Rule 6, which will mandate that replacement and new water heaters (2027 and 2031), and space heaters (2029) are zero NOx. (COS-A14.10). – **Have a County Sustainability Resources webpage on building incentive programs. Looking on how to expand on this.**

BE-2: Retrofit existing buildings and facilities in the unincorporated county, and County infrastructure, to reduce energy use and convert to low-carbon or carbon-free fuels

- Create a County policy or program to facilitate making existing residential and nonresidential buildings more energy-efficient and powered by carbon-free energy. (COS-A14.6) – **Work of Draft Clean Energy Roadmap to inform on this.**
- Create a detailed County roadmap to convert existing homes and businesses to use low-carbon or carbon-free appliances. The roadmap should include steps to support converting buildings to rely on low-carbon or carbon-free energy using an equitable framework that minimizes the risk of displacement or significant disruptions to existing tenants. (COS-A14.7) – **Draft Clean Energy Roadmap released for public Comment in March 2025.**
- Provide educational and technical resources to advance the adoption of heat pump water heater and heat pump space heating in buildings. – **Have a County Sustainability Resources webpage on building incentive programs.**

BE-2 Continued...



Evaluate options for incentivizing and requiring additions and alterations to be energy efficient and to achieve the lowest feasible levels of GHG emissions, including upgrades to the building electric panel, as needed.
(COS-A14.8) – **In development, in coordination with Clean Energy Roadmap.**



Ensure County-led and supported retrofit programs incentivize and prioritize conversion of buildings built before 1980 and emphasize assistance to owners of properties that are home to very low-, low-, and moderate- income residents and/or located in Impacted Communities, as permitted by available funding.
(COS-A14.9) – **Launched Bay Point/Pittsburg Energy Enhancement Pilot Program that meets this criteria.**



Explore opportunities, in collaboration with partner agencies, to create new incentives or publicize existing ones to support updating existing buildings to achieve the lowest feasible levels of GHG emissions. **ONGOING**
– **Do this through Energy Efficiency Collaborative, Sustainability Exchange and new All-Electric Working Group.**

BE-2 Continued...

- Work to continue to obtain funding with partners such as BayREN and MCE to implement a program or programs to provide reduced-cost or free energy-efficiency and zero-carbon retrofits to local small businesses and households earning less than the area median income, in support of the Contra Costa County Asthma Initiative, Contra Costa County Weatherization Program, similar County programs, other nonprofit partners, and 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.

ONGOING...

- In partnership with MCE and BayREN, continue to support voluntary home and business energy efficiency retrofits, including all-electric measures. **ONGOING..**
- Partner with community groups and MCE to establish an induction cooktop education program for county residents. (Initiated in 2024.) – **Planning this year.**
- Facilitate participation by homes and businesses in demand response programs. – **ONGOING....**
- Continue to conduct energy and water tracking activities, audits, and upgrades of County facilities, including conversion of feasible County facilities to all-electric space and water heating. – **UPDATE from County Facilities staff at future meeting on this.**

BE-2 Continued...



Advocate for modifications to the federal Weatherization Assistance Program that expand 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 in the income eligibility limits for the Weatherization Assistance Program. – **Coordinating with County Weatherization Program to implement.**



Implement requirements for cool roofs and light-colored, nonreflective permeable paving materials as part of retrofit, repair, and replacement activities, using recycled materials or other materials with low embedded carbon as feasible and as established by the Building Standards Code. – **In development. Planning to evaluate previous work done on this topic this calendar year.**

BE-3: Increase the amount of electricity used and generated from renewable sources in the county



Require new commercial parking lots with 50 or more spaces to mitigate heat gain through installation of shade trees, solar arrays, or other emerging cooling technologies. Prioritize the use of solar arrays where feasible and appropriate. (HS-P8.3) – **In development.**



Encourage property owners to pursue financial incentives for solar installations and energy storage technologies, such as battery storage systems, on new and existing buildings. – **ONGOING...**



Work with MCE to increase enrollment, especially in the Deep Green tier. – **ONGOING...**



Continue to enroll all eligible, non-solar-equipped County facility electricity accounts in MCE territory in the Deep Green tier. – **ONGOING...Update from County Facilities staff at future meeting on this.**

BE-3 Continued...



Work with the Contra Costa County Fire Protection District and other organizations that provide fire protection services to provide education and promote incentives for battery storage systems that can increase the resilience of homes and businesses to power outages. – **In development.**



Encourage installation of battery storage systems in new and existing buildings, especially buildings with solar energy systems and buildings that provide essential community services. (COS-P14.7) – **ONGOING... Looking at updating website content/info on subject.**



Provide information about battery storage systems with all applications for new home construction and solar panel installations. – **In development.**



Pursue implementation of recommendations of the 2018 Renewable Resource Potential Study. **ONGOING...**

BE-3 Continued...



- Evaluate the least-conflict feasible locations for stand-alone battery storage systems and modify land use regulations to enable such use in these locations. – **In development.**
- Explore the technical and economic feasibility of developing and operating microgrids in Contra Costa County, and for County facilities. (Supported by COS-P14.3 and COS-A14.2) – **In development.**
- Explore opportunities to install community solar projects with battery backup to provide clean energy to Impacted Communities. – **In development.**

THANK YOU!



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