DECEMBER 2020

State of Local Climate Action Report

Statewide Energy Efficiency Collaborative

Statewide
Energy
Efficiency
Collaborative

Acknowledgements

About SEEC

The Statewide Energy Efficiency Collaborative (SEEC) was established in 2009 as an alliance between three Statewide non-profit organizations (NGOs) and California's four investor-owned utilities (IOUs). SEEC provides no-cost support to California local governments through unique resources, expertise and local agency relationship of each partner. Work performed under this program is coordinated with the Statewide Local Government Energy Efficiency Best Practices Coordinator. The program offerings which SEEC provides are within the scope of the California Long Term Energy Efficiency Strategic Plan.

SEEC Partners:
- ICLEI-Local Governments for Sustainability
- Institute for Local Governments
- Local Government Commission
- Pacific Gas and Electricity Company
- San Diego Gas & Electric Company®
- Southern California Edison
- Southern California Gas Company

Institute for Local Government
Promoting Good Government at the Local Level

Local government plays an integral part in shaping a thriving community. That's why ensuring that local government leaders have the best resources, connections, and knowledge available is essential for their success. With a 65-year history of serving the needs of local governments in California, the Institute for Local Government (ILG) supports city, county and special district officials in tackling the state's most pressing and evolving issues. ILG's work crosses multiple local and state agencies, centering around four main pillars: Leadership & Governance; Public Engagement; Sustainable & Resilient Communities; and Workforce Development & Civics Education. The Beacon Program is ILG's flagship sustainability program, which honors voluntary efforts by local governments to reduce greenhouse gas emissions, save energy and adopt policies that promote sustainability. As of 2020, the program supports and recognizes over 160 participating cities and counties setting the standard in California for what it means to be a healthy and vibrant community.

Local Government Commission
Leaders for Livable Communities

For nearly 40 years, LGC has been working to build livable communities throughout California and beyond by providing technical assistance to cultivate leadership, build capacity, advance policies, and implement solutions. LGC works in four key program areas - climate change and energy, community design, water, and national service, providing customized support to local governments that embody our values of Local, Integration, Collaboration, and Trust. For SEEC, LGC organized the Annual Statewide Energy Efficiency Forum for 11 consecutive years, reaching 4,318 total participants from across California to learn, network, and build mutual support for energy and climate action. LGC also developed dozens of webinars, roundtable calls, and resources, including annual legislative updates and the Zero Net Energy Hub, and hosted the Best Practices Coordinator who tracked statewide progress towards California's ambitious clean energy goals and connected practitioners with experts, funding opportunities, policy support, and more. Through a new partnership with California's Regional Energy Networks, LGC will be continuing to support local government GHG reduction and climate action efforts.

ICLEI–Local Governments for Sustainability is the leading global network of more than 1,750 local and regional governments committed to sustainable urban development. Active in more than 100 countries, we support local governments to deliver their self-determined sustainability policy and drive local action for low-emission, nature-based, equitable, resilient and circular development. Our members and team of experts work together through peer exchange, partnerships, and capacity building to create systemic change for urban sustainability. ICLEI USA is the United States country office of ICLEI and a leading technical expert on greenhouse-gas emissions accounting, climate action, and resilience and sustainability planning. Along with its ClearPath emissions management tool, we remain firmly positioned as the experts in the industry through our development of the *The U.S. Community Protocol for Accounting and Reporting of Greenhouse Gas Emissions*, the *Local Government Operations Protocol*, and the *Recycling and Composting Protocol.*

Executive Summary

The impacts of climate change have begun to affect communities around the world. The year 2020 has exhibited massive fires, hurricanes, heat waves, economic loss and a widespread pandemic. These calamities have caused distress on our most vulnerable communities and it will require cross sector cooperation and action to reverse the damage that has transpired. This document was developed to call attention to the climate catastrophes being experienced now by communities in California and showcase how communities and local governments have been working to mitigate these crises and the work that continues to be developed and implemented.

This report was authored by the partnering organizations of the Statewide Energy Efficiency Collaborative (SEEC), which was established in 2009 between California Investor Owned Utilities (IOUs) and California non-profit organizations (NGOs) to advance climate action and energy efficiency in California communities. With these organizations' unyielding efforts to support communities, this report will place a spotlight on a few SEEC Member local governments that have done exceptionally well at reducing emissions and working to create a more sustainable community. The cities of Cupertino, West Hollywood, Truckee, and Brisbane will be showcased later in the report for their advancements in climate action and innovation used to create sustainable communities. Many other California cities will be presented for their adoption of several policies and programs helping the communities reduce emissions.

In the past decade, while California communities worked diligently to reduce emissions, three themes emerged as a part of those strong efforts by local governments and communities. This report will discuss the three big trends seen throughout California which are: Community Choice Aggregation; (CCA); electrification of transportation; and Zero Net Energy. The report then samples a few communities to look at the emissions reductions in inventories developed in the ClearPath tool to get a sense of how far California has come and how far we need to collectively go.

Although the SEEC program will be coming to an end on January 1st 2021, the SEEC NGOs, IOUs, community members, governments, businesses and organizations throughout California will continue to support each other and act on climate to change our current course towards a sustainable and livable planet.

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Introduction

The Statewide Energy Efficiency Collaborative (SEEC) was developed to aid local governments in accelerating energy efficiency programs, reducing greenhouse gases and advancing climate action. Since SEEC's inception in 2009, SEEC partners have provided California governments with technical assistance, training, resources and networking opportunities all as efforts to advance energy efficiency and reduce energy emissions. This program was funded by California communities and administered by the California Investor Owned Utilities (IOUs) Southern California Gas Company, San Diego Gas & Electric Company, Pacific Gas & Electric Company and Southern California Edison Company. A 2018 decision by the CPUC has required the IOUs to adhere to a more stringent total cost recovery test, thus they will no longer be able to fund the SEEC program. Although the SEEC program will come to an end January 2021, the SEEC NGOs, ICLEI, the Local Government Commission (Best Practices Coordinator and SEEC Forum lead), the Institute for Local Government, as well as the IOUs will still be available for assistance and continue to work together with communities to reduce climate change in California.

SEEC Member Communities

This report was developed to celebrate the many successes of the SEEC Program and participating communities, and to pave the way for new collaborations and support. In this report we'll discuss the top three trends seen throughout the state to reduce emissions, summarize climate action seen throughout California, and provide snapshots of local government programs that are working to reduce emissions.

Impacts of Climate Change on Comminutes

The year 2020 has been a landmark year for the world. The novel coronavirus (COVID-19) has rattled communities and public health authorities around the world. Racial injustice has reared its head once more and devastating wildfires have wreaked havoc to our communities. The effects of climate change have begun playing out globally. The 4th California Climate Change Assessment finds that California communities will experience increased public health issues such as heat waves due to temperature increase; respiratory illness due to wildfire smoke and increased mental stress from disasters [1]. As climate change continues to worsen, disadvantaged and vulnerable communities will be at the frontlines experiencing the worst of these effects.

[1] https://www.climateassessment.ca.gov/

Wildfires

35.28% California area covered by historical wildfires
1.04% California area covered by current wildfires

Now more than ever, California is experiencing the detrimental impacts of climate change. Over the last few years, the state has seen record breaking wildfire destruction [2]. Since the end of August 2020, approximately 1,059,583 acres have burned, about 682% more acres than the entire previous year [3].

While the majority of wildfires are started by human-caused ignitions (e.g., campfires), the conditions in which they thrive are exacerbated by human-induced climate change. As climate change worsens, warming increases and precipitation patterns vary, both causing drier conditions [4]. These climate variations not only intensify fire conditions but prolong wildfire season [4]. As these conditions worsen, and wildfires intensify, they cause massive ecosystem losses, billions of dollars worth of property damage, and threaten the health and lives of countless individuals.

Wildfires are a global issue, but Californian communities can do their part in the global fight. Local municipalities and counties can directly reduce fire risks by pursuing pre-fire management action, such as healthy forests stewardship, prescribed burns, and fuel breaks [5]. Communities can indirectly mitigate fire risk by actively reducing greenhouse gas emissions, which slows down warming processes throughout the global climate [6]. This is crucial as more than two-thirds of all GHGs come from cities [7]. However, while it is imperative that cities and other jurisdictions act to reduce their greenhouse gas emissions, it is up to every individual to reduce their impact before the effects of climate change become more catastrophic.

[2] https://emlab.msi.ucsb.edu/sites/emlab.msi.ucsb.edu/files/wildfire-brief.pdf
[3] https://www.fire.ca.gov/stats-events/
[4] https://www.ucsusa.org/resources/infographic-wildfires-and-climate-change
[5] https://www.fire.ca.gov/media/4934/fireplan.pdf
[6] https://www.edf.org/climate/will-wildfires-keep-spreading-climate-change
[7] https://www.c40.org/why_cities

Wildfires

Current Wildifres (11/2020)

Historic Burn Areas (1878-2019)

9-10 Extremely Severe

 7-8 Severe

5-6 Moderate

3-4 Mild

1-2 Low
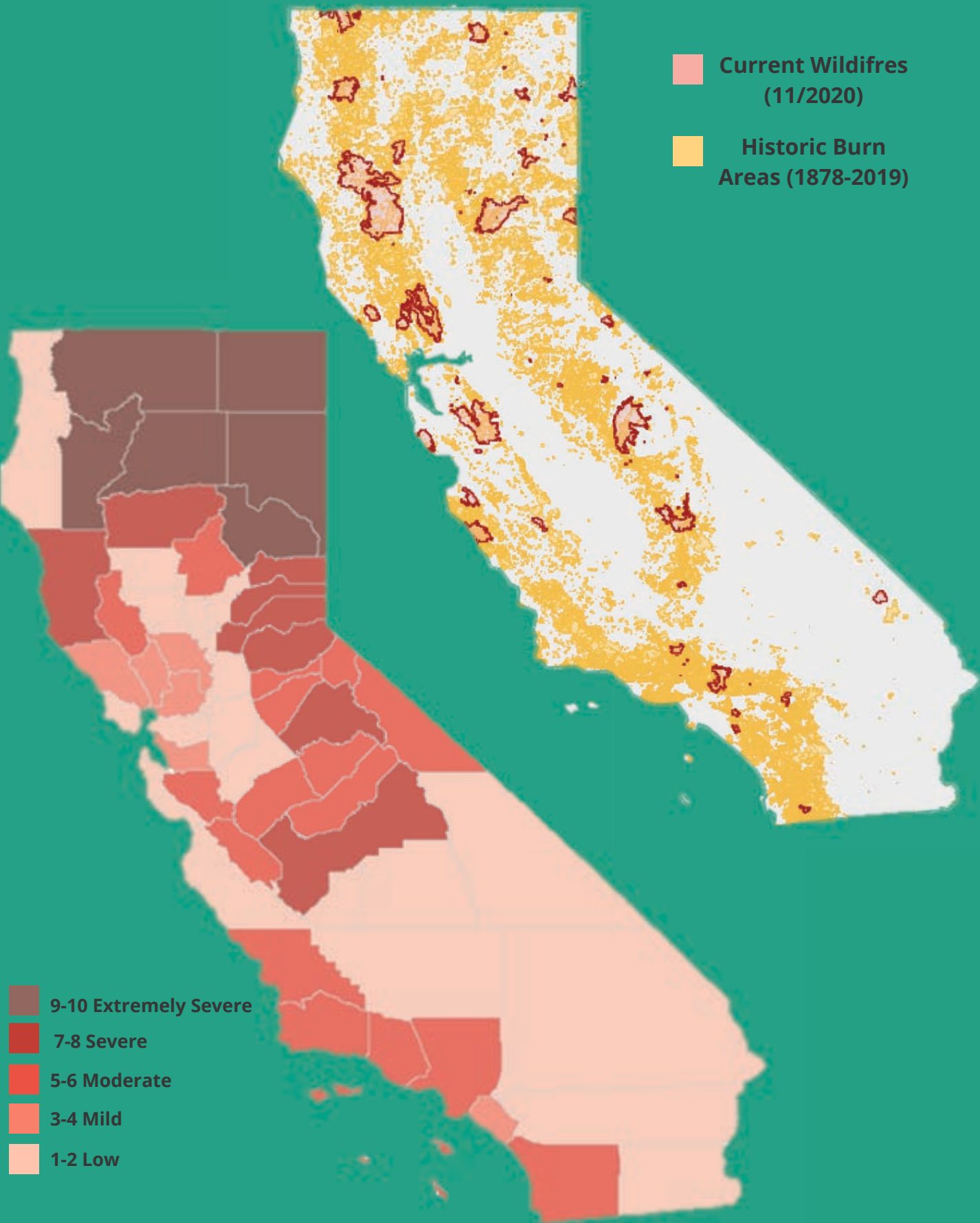
Economic Damages

With varying impacts of climate change on the rise, associated economic damage will ensue in many forms. From agricultural losses, coastal impacts, wildfire damage, and healthcare costs, local economies across the state will face devastating consequences. Coastal effects are projected to cost ocean-dependent economies more than $45 billion annually and could impact upwards of $100 billion in coastal property and coastal infrastructure [8]. These vulnerable coastal economies employ over half a million people and make up more than $20 billion in wages, much of which will be negatively impacted by sea level rise and coastal erosion [9]. In terms of agriculture, the state's 2015 drought caused a $900 million loss in gross crop revenue. This historic drought might reflect realties in years to come. California's 2006 heat-wave caused $5 billion of costs in related emergency room visits, hospitalizations, and deaths. Additionally, certain forecast scenarios show that the Southwest region would face roughly $11 billion (2015 value) in premature deaths annually up to 2050. Due to outdoor work implications, there is a potential for $23 billion in wage losses annually.

This is just the surface of economic damage. Many more California industries are climate-vulnerable. Residents, businesses, and governments alike must do everything in their power to mitigate climate change in order to keep economic damages to a minimum.
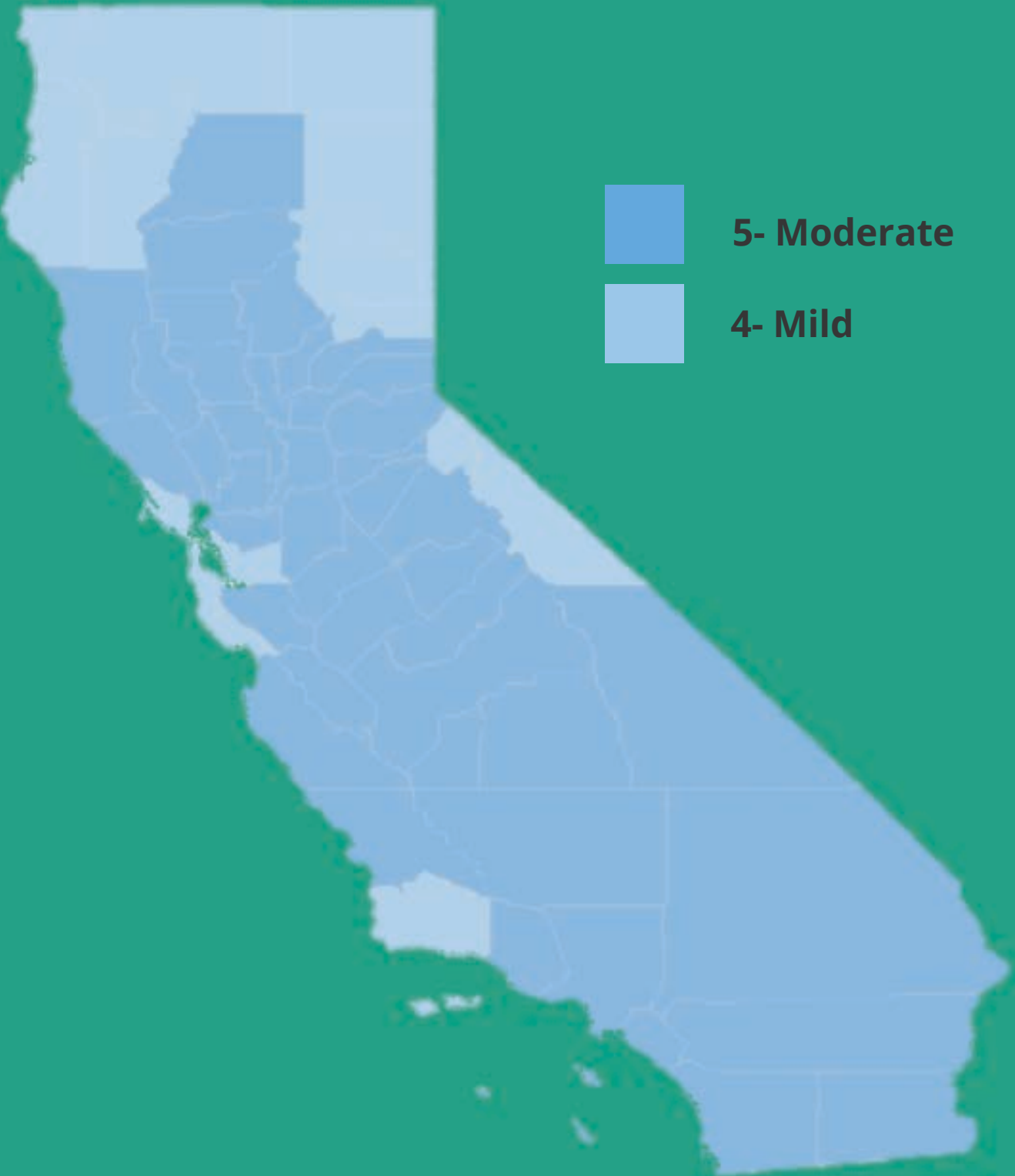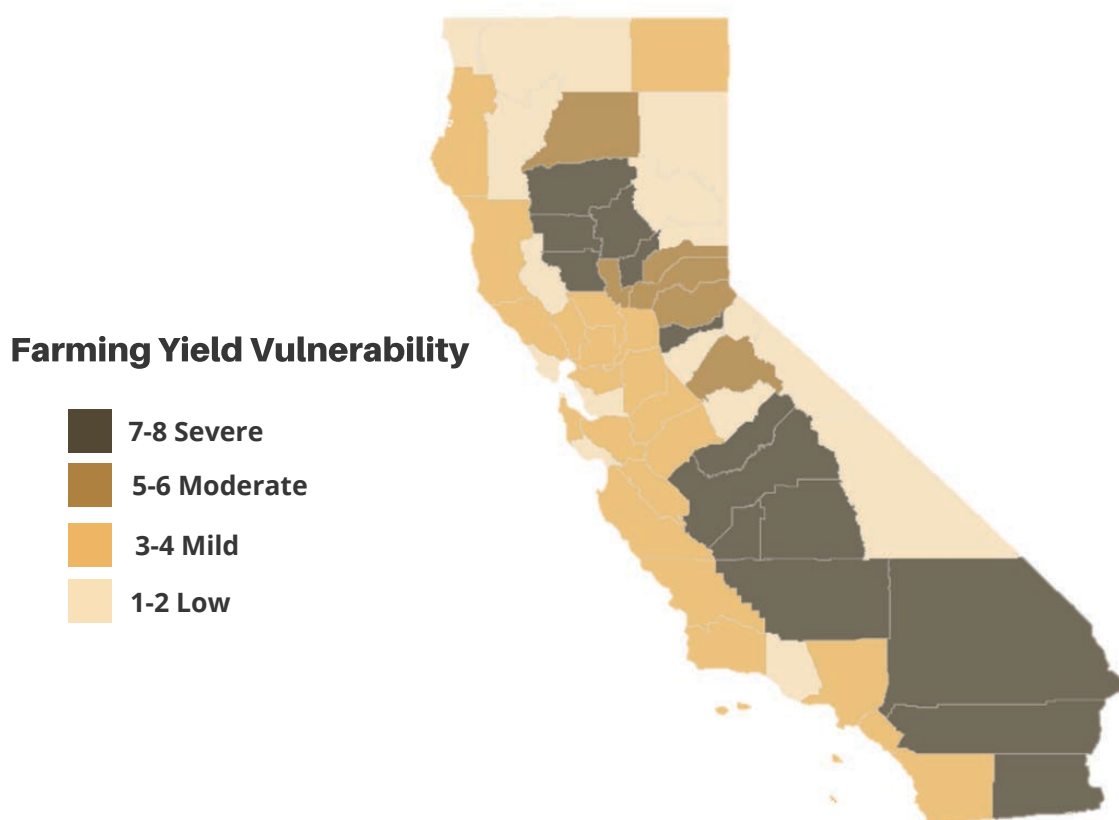
[8] https://oag.ca.gov/environment/impact
[9] https://nca2018.globalchange.gov/chapter/25/

Economic Damage Vulnerabilities

5- Moderate

4- Mild

Farming Yield

The California agricultural industry is an essential industry that many state and nation-wide residents rely on for food, goods, or livelihoods. California's agriculture output makes up almost 3% of its GDP and 13% of the US total agricultural value [10,11]. Scientists project that climate change will exacerbate conditions that impair agricultural productivity. A majority of these impacts relate to precipitation variations, and temperature increases. A combination of these factors causes low snowpack and reduced streamflow run-off, all of which promote drought conditions in agricultural-prevalent areas [9]. Especially in California, the high temperatures further worsen farming conditions because there is limited groundwater availability, which is needed in long drought periods [10]. Additional to hydrologic impacts, these changes in precipitation and temperature create advantageous conditions for crop pests [12]. Based on these impacts, forecasts are projecting farming yields to decrease in many counties throughout California [13]. These effects will have serious economic, social, and environmental consequences for California farmers, residents, and the state as a whole.

Farming Yield Vulnerability

- 7-8 Severe
- 5-6 Moderate
- 3-4 Mild
- 1-2 Low

[10] https://projects.propublica.org/climate-migration/
[11] https://economic-impact-of-ag.uark.edu/california/
[12] https://www.carbonbrief.org/rise-in-insect-pests-under-climate-change-to-hit-crop-yields-study-says#:~:text=Climate%20change%20could%20increase%20the,crops%20at%20a%20faster%20rate.
[13] https://projects.propublica.org/climate-migration/

Temperature Impacts

Increasing temperatures cause a multitude of issues throughout the state, many of which have already been addressed above. However, high temperatures also directly impact the health and wellbeing of Californians. Even though many California areas naturally experience high temperatures, average temperatures will increase and higher temperatures will become more frequent [9]. Northern California areas will also experience increases in average temperature and hotter temperature frequencies [9]. These changes cause more instances of heat-related illnesses like heat exhaustion and heatstroke [9]. For vulnerable populations, higher temperatures can pose a more severe threat such as premature death [9]. Besides heat-related illness, high temperatures promote communicable disease spreading, allergen implications, disease burden, and ground-level ozone pollution [9]. All of which can have minimal to severe effects on human health.

Aside from health impacts, higher temperatures can cause increases in greenhouse gas and other pollutants. Even though many Californians are switching to sustainable forms of air conditioning, many still rely on conventional systems to cool their homes, commercial buildings, and industrial facilities. With hotter temperatures, more energy will be used and more greenhouse gases will be directly and indirectly emitted [14].

[14] https://climate.org/cooling-your-home-but-warming-the-planet-how-we-can-stop-air-conditioning-from-worsening-climate-change/#:~:text=The%20Trouble%20with%20Air%20Conditioning&text=As%20our%20planet%20warms%2C%20the,conditioning%20and%20refrigeration)%20will%20rise.&text=HFCs%20are%20a%20much%20more,the%20disposal%20of%20old%20units.

Temperature Vulnerabilities

9-10 Extremely Severe

7-8 Severe

5-6 Moderate

3-4 Mild

1-2 Low
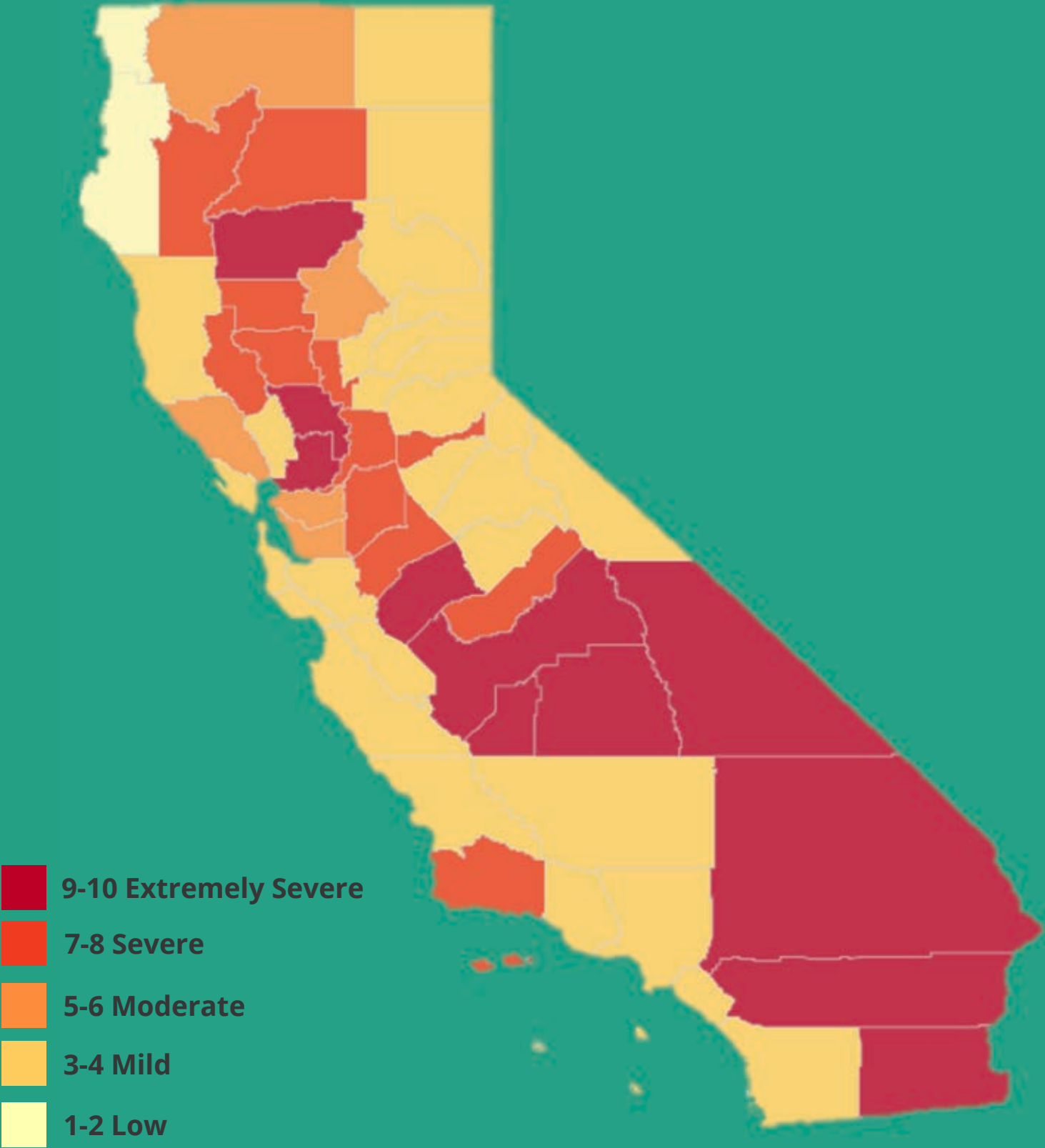
Climate Action for Disadvantaged Communities

In California, disadvantaged communities already experience the effects of air and water pollution which contribute to poorer health. Climate change will only exacerbate public health crises in these areas without substantive and swift action by communities to reverse climate change. Since the passing of SB 535 and the amendment AB 1550, California has recognized the need to prioritize disadvantaged communities in reducing their emissions and increasing their resiliency. With 25% of cap-and-trade proceeds going towards disadvantaged communities and another 10% set aside for low income communities and households, it is imperative for governments to work toward climate action and utilize this funding to prevent further issues in these communities [15]. Through 2018, $1.9 billion (57%) of $3.4 billion cap-and-trade funds were used for projects benefiting disadvantaged communities, low income communities and households as well as low-income communities and households within a ½ mile of disadvantaged communities [16].

Another advancement in the environmental justice field is SB 1000, adopted in 2016. SB 1000 now requires local governments to include an environmental justice element in their general plan or include environmental justice in subsequent elements in the general plan. This is a huge step forward in reversing environmental inequities and increasing community involvement. California governments need to take action now to protect the most disadvantaged communities and build resilience in the face of the challenges ahead.

[15] https://ww3.arb.ca.gov/cc/capandtrade/auctionproceeds/communityinvestments.htm
[16] https://ww2.arb.ca.gov/sites/default/files/classic//cc/capandtrade/auctionproceeds/2019_cci_annual_report.pdf

Exploring California Emission Trends

The first step SEEC communities take to act on climate change is to conduct a greenhouse gas emissions inventory. Inventories serve as the foundation for future emissions mitigation efforts, as they determine the baseline emissions levels for municipalities and communities. Inventories also identify the specific activities and sources contributing emissions and the relative contribution of each, making them a powerful tool for governments to demonstrate the concrete impacts of their programming and projects. Emissions inventories allow jurisdictions to set emissions reduction targets and develop mitigation plans. By the end of 2018, nearly 300 California jurisdictions have used their inventories to develop climate or energy action plan to reduce emissions [17].

Many local governments use ClearPath to conduct emissions inventories. ClearPath is an online inventorying software developed by ICLEI – Local Governments for Sustainability, which has been made available for free to all California local governments through the SEEC program. As of fall 2020, California jurisdictions have completed 1,001 community-wide inventories and 455 local government operations inventories using the ClearPath platform.

This section of the report focuses on emissions trends of some of these cities and counties from 2010 to 2017. Using a sample of communities as an indicator of potential trends across California, it first examines emissions from the residential electricity, residential fuels, commercial electricity, commercial fuels, on-road transportation, and solid waste sectors for 2010 through 2015. Second, it uses another subset of these cities that have completed more recent inventories to evaluate trends from some of these sectors into 2017. Third, emissions inventories are evaluated for their consistency with U.S. Community Protocol guidelines in terms of the inclusion of the Five Basic Emissions Generating Sectors. Finally, this section looks at how different approaches are being taken for local governments to complete inventories.

Emission Trends 2010 to 2015

Tracking emissions trends over time is a critical component to taking climate action. While this is important on international, national, and state levels, it's also necessary for local governments to monitor emissions. Without the knowledge of how and where emissions are either rising or falling, local governments may not be able to effectively plan to mitigate emissions in their communities. The best practice to determine how a community's emissions have changed over time is to conduct a baseline GHG inventory and then compare it to an updated inventory for a subsequent year. This is a concrete and detailed approach to assess how climate mitigation actions may have achieved emissions reductions, or how factors such as population growth, economic growth, and/or improper implementation of mitigation strategies may have contributed to emissions increases.

The SEEC ClearPath tool provides a unique opportunity to analyze detailed inventory data and it has enabled a comparison of emissions from 2010 to 2015 across a sample of 37 cities and counties in California for this report. These jurisdictions made up 7.7% of the population of California in 2015.
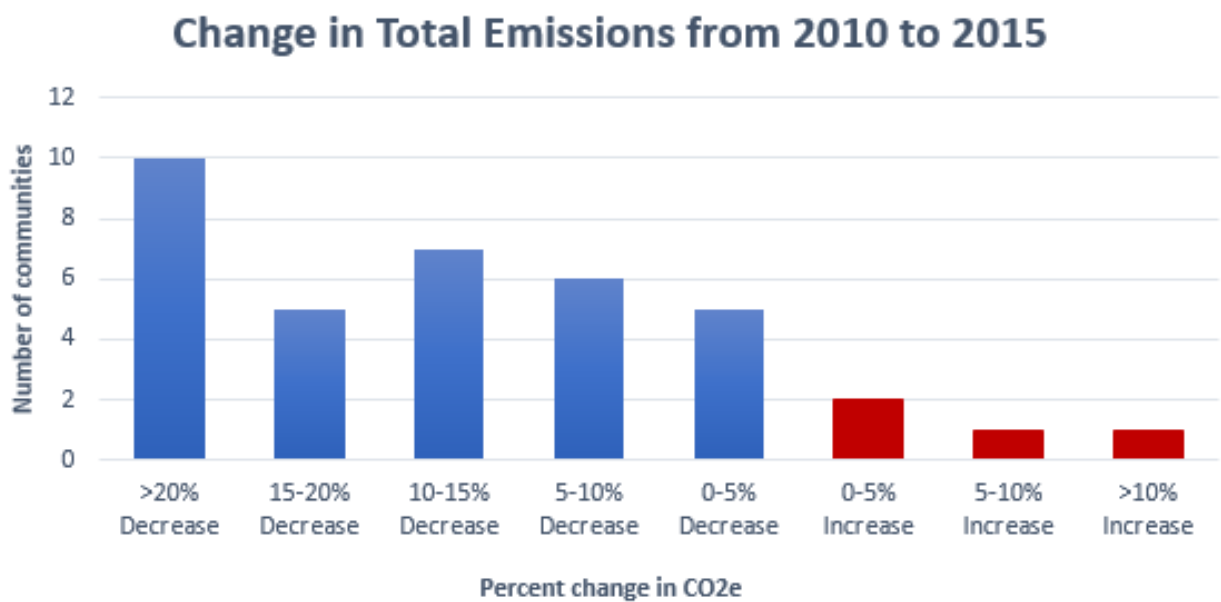
Figure 1. Change in emissions for 37 cities and counties in California from 2010 to 2015.

Total Local Emission Reductions

Collectively, these 37 local governments reduced emissions by 1,415,139 MTCO2e from 2010 to 2015, an overall reduction of 9.5%. The residential electricity, residential fuels, commercial electricity and commercial fuels sectors experienced emissions reductions from 2010 to 2015. On-road transportation and solid waste emissions increased. Thirty-three communities experienced emissions reductions, while only four saw emissions rise over the time period. It should be noted that some of the communities reporting emissions decreases of greater than 20% may have made changes in their inventory methodology and/or the data that was used, which may have contributed to large percentage reductions.

In addition, some communities may have experienced changes in the commercial energy data that was reported and received from utilities due to the "15/15 Rule" for energy data aggregation. This rule, adopted by the CPUC, states that data cannot be released if there are fewer than 15 entries within the dataset, or one entry comprises more than 15% of the aggregated data. Some jurisdictions may have received commercial energy data for the year 2010 that was not provided for the year 2015, which could have contributed to large changes in emissions data.
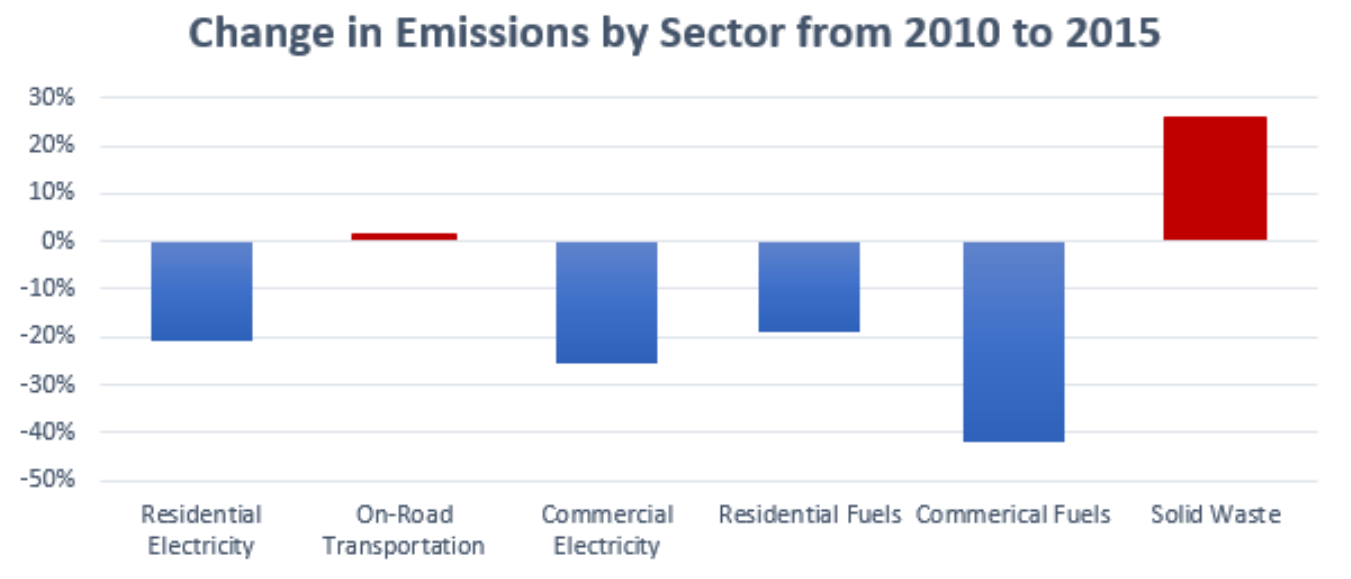
Figure 2. Change in emissions by sector from 2010 to 2015.

Residential Electricity

Change in Residential Electricity Emissions from 2010 to 2015
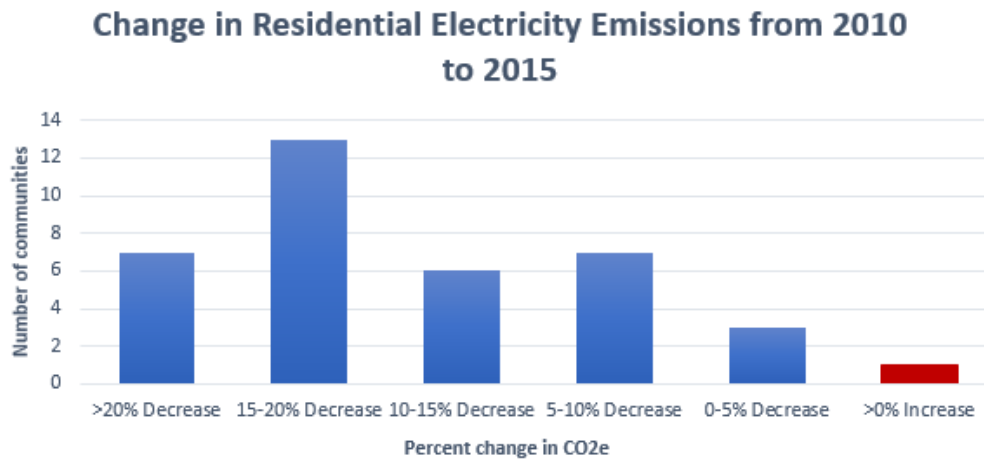
Figure 2. Change in emissions from residential electricity from 2010 to 2015.

Change in Residential Electricity Consumption from 2010 to 2015
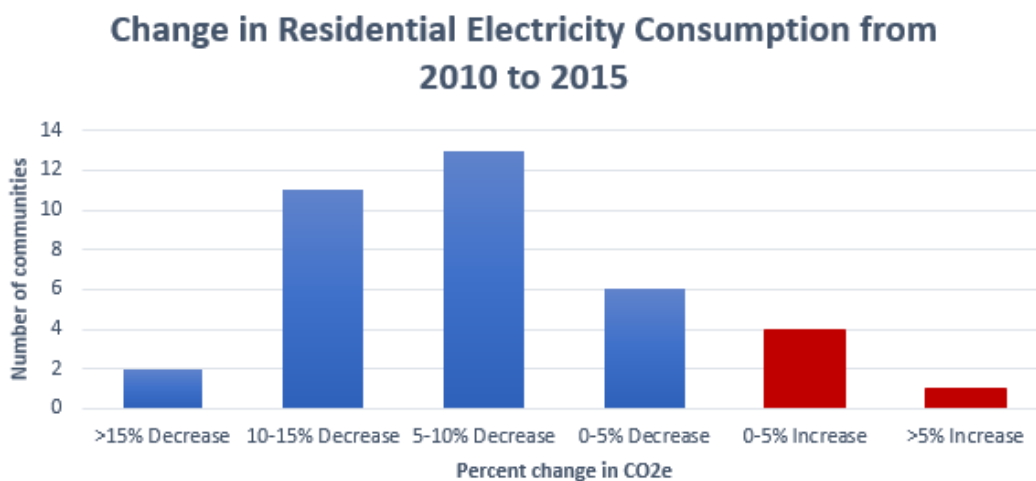
Figure 3. Change in residential electricity consumption from 2010 to 2015.

Of the 37 local governments, 36 reduced emissions from the residential electricity sector, with over two-thirds of communities experiencing up to 20% in reductions. While some of these reductions may be attributed to a cleaner electricity grid due to California's Renewable Portfolio Standards (RPS), residential electricity consumption also decreased from 2010 to 2015 in 86% of the jurisdictions, as shown in Figure 4 below. The communities in this sample reduced a total of 208,075 MTCO2e, the equivalent amount of emissions generated by the energy used in 24,000 homes in one year.

Residential Fuels

Change in Residential Fuels Emissions from 2010 to 2015
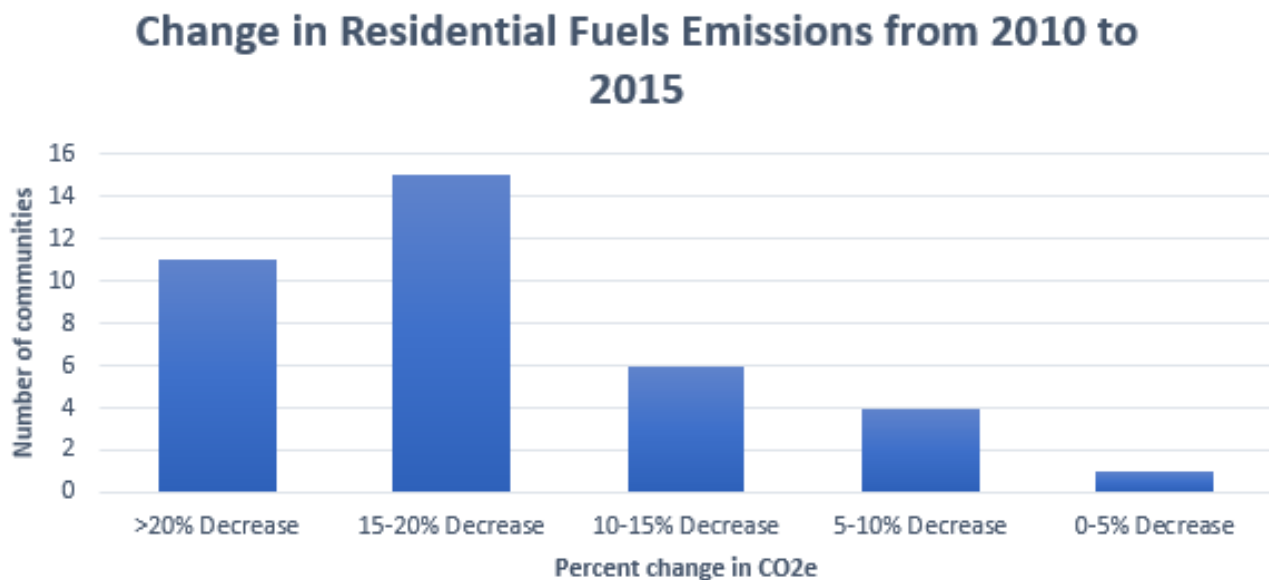
Figure 4. Change in emissions from residential fuels from 2010 to 2015.

Residential fuel emissions showed similar trends, with even greater reductions being achieved in this sector. Emissions from residential fuels decreased across all of the 37 cities and counties, and the majority of communities reduced residential fuel emissions by more than 15%, with approximately one-third of communities reducing emissions by 20% or more. Across these cities and counties, emissions from the residential fuels sector were reduced by 20%, or 371,057 MTCO2e.

On-Road Transportation

Emissions from the on-road transportation sector were more varied. In the sample of 37 communities, 23 communities experienced emissions decreases from 2010 to 2015, while 14 communities saw emissions rise. Although more cities and counties reduced emissions, the increases in communities where emissions rose outweighed the reductions in other communities, and the sample experienced an overall 1.6% increase in emissions.

However, some communities' inventories showed such drastic changes between 2010 and 2015 that there were likely some alterations in inventory methodology and/or inaccurate data was used. These outliers, defined as communities with a greater than 20% increase or decrease, are shown in grey in Figure 5 below. Excluding these outliers, the sample is comprised of 26 jurisdictions. Within this new sample, 17 communities reduced on-road transportation emissions, while nine communities experienced emissions increases. More jurisdictions reduced emissions from on-road transportation, but the increases in communities where emissions rose outweighed these reductions. Overall, emissions increased by 175,223 MTCO2e, or 2.4%.
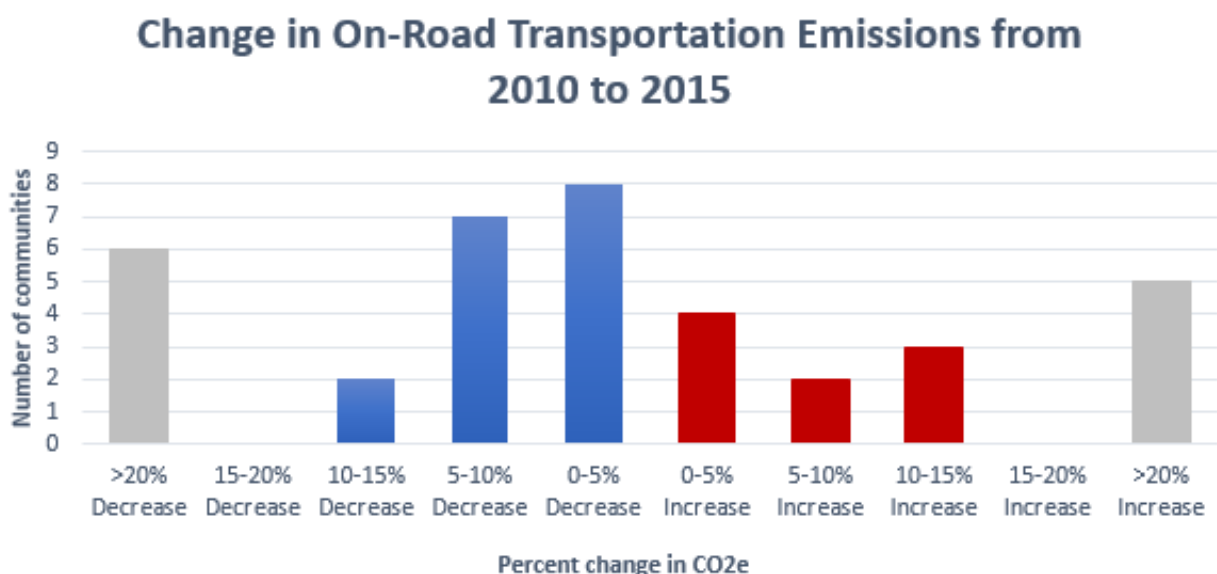
Figure 5. Change in emissions from on-road transportation from 2010 to 2015.

Solid Waste

Change in Solid Waste Emissions from 2010 to 2015
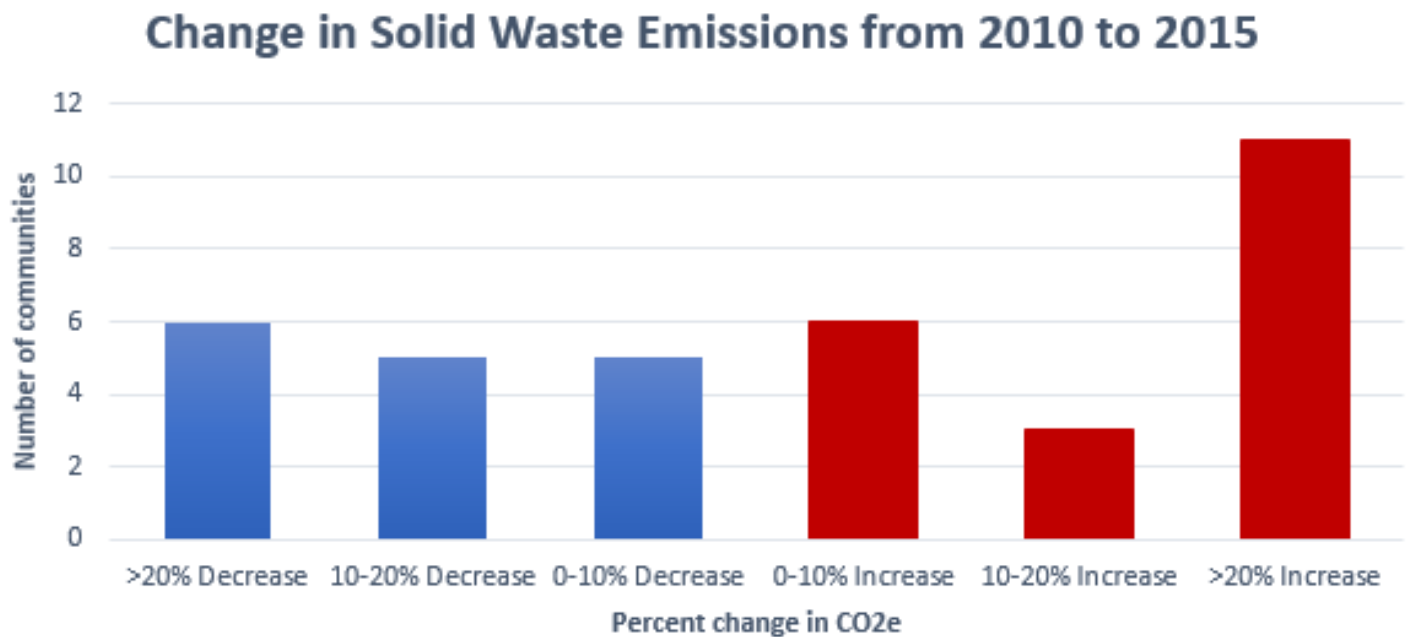
Figure 6. Change in emissions from solid waste from 2010 to 2015.

The solid waste sector accounted for the largest emissions increases across all of the communities on average. While all other sectors experienced overall reductions, emissions from solid waste rose by 25.8% across the cities and counties in this sample, contributing 168,959 MTCO2e to the atmosphere. Emissions changes by jurisdiction were roughly split, with 16 communities reducing emissions and 20 communities increasing emissions from solid waste.

Emissions Trends 2015-2017

Not all of the cities and counties included in the previous analysis conducted inventories more recently than 2015, but some jurisdictions have completed inventories for 2017 in SEEC ClearPath. To evaluate residential energy emissions trends beyond 2015, 11 community-wide inventories were analyzed.

Residential Electricity
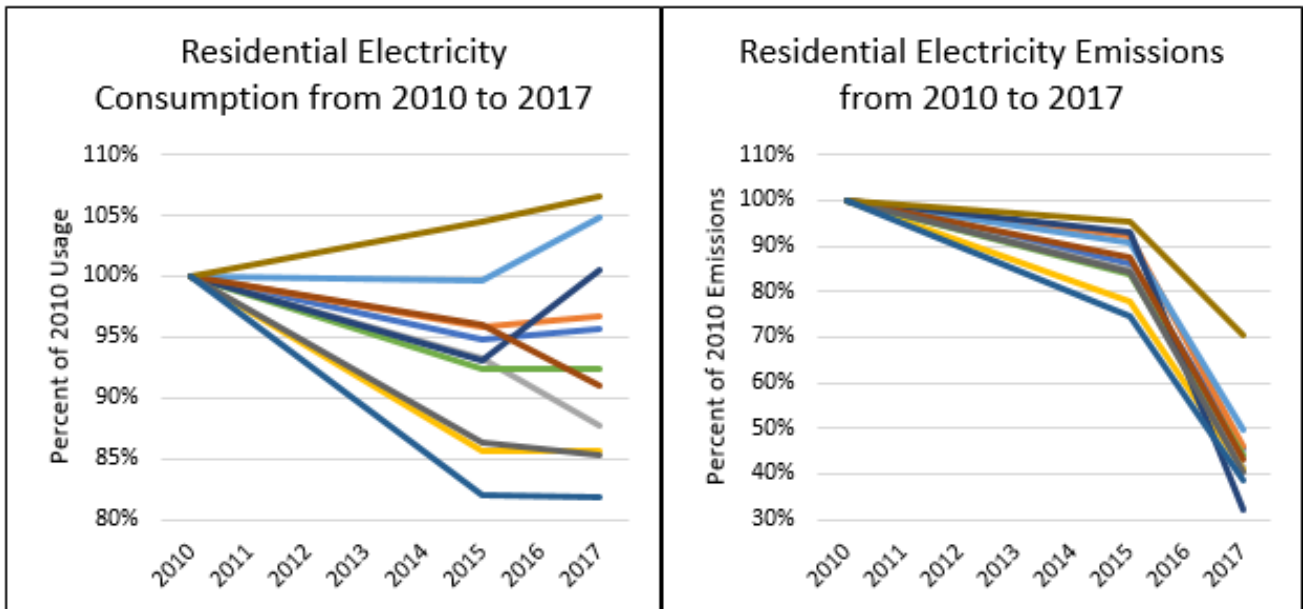
Figures 7 and 8. Change in residential electricity consumption and emissions from 2010 to 2017. Each line represents a City.

Emissions from residential electricity consumption have declined steadily from 2010 to 2017 across all of the communities in this sample. However, while eight of the communities have reduced residential electricity usage, three communities have experienced net increase in usage since 2010. The emissions reductions reported in those three communities are likely due to California's RPS and more renewables providing electricity to the grid.

Every community's residential electricity emissions decreased from 2010 to 2015 from between 5% to 26%. Emissions dropped even more significantly from 2015 to 2017, with reductions ranging from 30% to 61%, compared to the 2010 baseline.

Residential Fuels
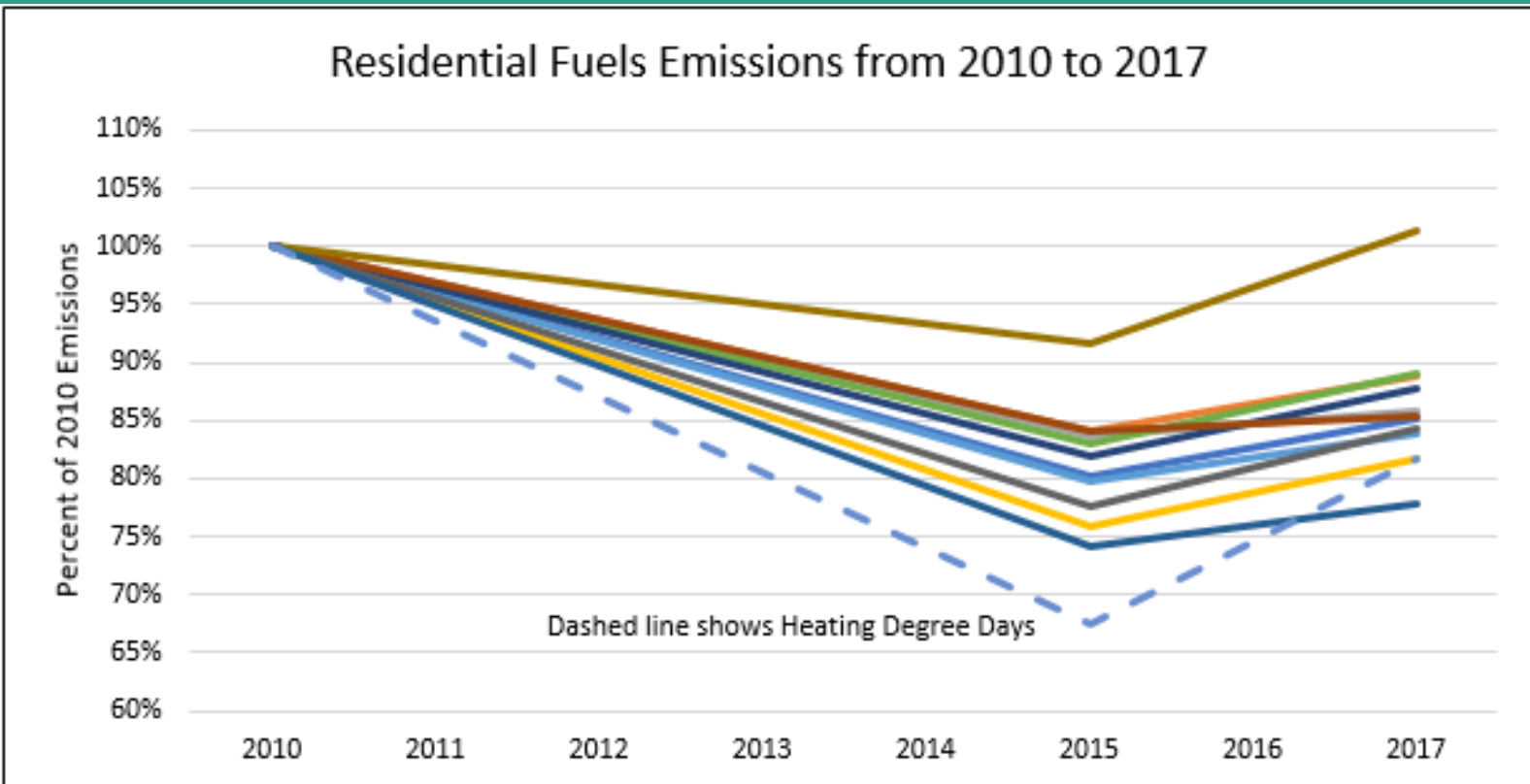
Figure 9. Change in emissions from residential fuels from 2010 to 2017. Each line represents a City.

Emissions generated from residential fuel usage decreased for all communities from 2010 to 2015, with reductions ranging from 8% to 26%. Emissions did rise from 2015 to 2017 for all of the cities included in the sample, but only one community experienced an overall emissions increase from residential fuels from 2010 to 2017; the 10 other communities in the sample reduced emissions over that time period. It is worth noting that Heating Degree Days, a measurement designed to quantify the demand for energy needed to heat a building, rose from 2015 to 2017.

Inventory Scope and Completeness

In coordination with other partners, ICLEI has published protocols for completing GHG inventories. These inventory protocols were developed to provide standardized guidance and create a consistent framework for communities and governments conducting emissions inventories. The U.S. Community Protocol (USCP), used for community-wide inventories, was published in 2013 and is endorsed by the Governor's Office of Planning and Research. The USCP is integrated into the ClearPath software, which conveniently simplifies the inventorying process. It is important for local governments to follow these guidelines to account for emissions accurately and consistently.

The Community Protocol requires that, at a minimum, inventories include emissions from five Basic Emissions Generating Activities (BEGAs). These are 1) residential and commercial electricity use, 2) residential and commercial stationary fuel use, 3) on-road transportation, 4) energy associated with water use and generation of wastewater, and 5) solid waste generation.

Inventories in ClearPath with at least five records were analyzed for this report. Inventories for the years 2009 and earlier included records for residential and commercial energy, transportation, and solid waste sectors 91% of the time. Inventories from 2010 and later were similar, with 93% of inventories including those four sectors. However, only about 80% of inventories in both time periods include water and/or wastewater energy records. Given the recognized importance of the water-energy nexus, this suggests more support is needed to help local governments account for the energy associated with water use and wastewater generation. This finding was highlighted in SEEC's 2016 Report as well, which emphasizes the importance of this conclusion.

Approaches to Completing Inventories

Conducting GHG emissions inventories has become increasingly common for local governments in California. Some jurisdictions have internal staff that are able to complete inventories, but many local governments do not have the capacity or knowledge and experience to conduct inventories. This has led to a number of different approaches to completing this foundational step in the climate action planning process. Other approaches jurisdictions have taken include hiring consultants or forming partnerships with universities to complete inventories. The SEEC program has also been a valuable resource to cities and counties across California, as it has provided the ClearPath inventorying software and customized support to local governments for free.

Regional efforts to complete emissions inventories for a group of communities has become a common approach. These efforts are often led by a council of governments, such as San Diego Association of Governments and Gateway Cities Council of Governments, or regional energy alliances, such as Ventura County Regional Energy Alliance. In some cases, staff from these entities conduct regional inventories or inventories for multiple communities within their jurisdiction. They have also provided centralized training and management of interns or other staff to complete inventories on behalf of their municipalities. Air quality districts have become another source of regional inventories. Bay Area Air Quality Management District, for example, compiles regional and county inventories that estimate Bay Area emissions of criteria air pollutants, greenhouse gases, and toxic air contaminants for past, present, and future years. Regional inventories can lead to increased regional support and engagement during the climate action process, increasing land use change programs and much more to help cities tackle emissions.

Reduction Measures

The ClearPath tool is also often used to create greenhouse gas reduction measures and determine how these actions will reduce a City's emissions. Transportation and Energy usage continue to be the largest sources of emissions for Cities, so determining actions and programs to reduce emissions in these sectors have been at the forefront of California climate action.

The same 37 California communities examined previously for GHG inventories were examined to get a glimpse of what types of measures these cities were modeling in ClearPath and planning to include in a Climate Action Plan.
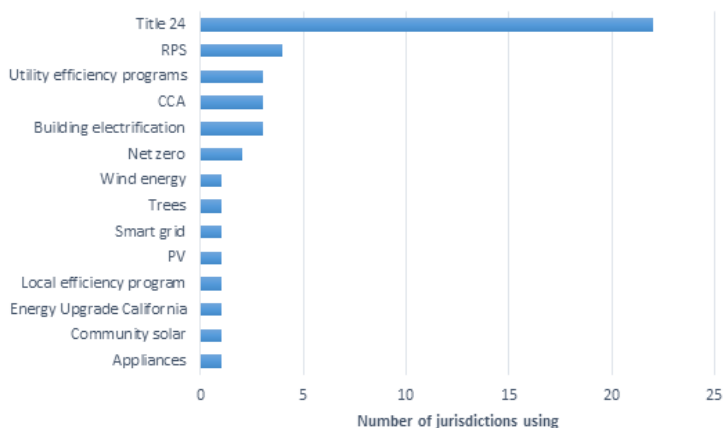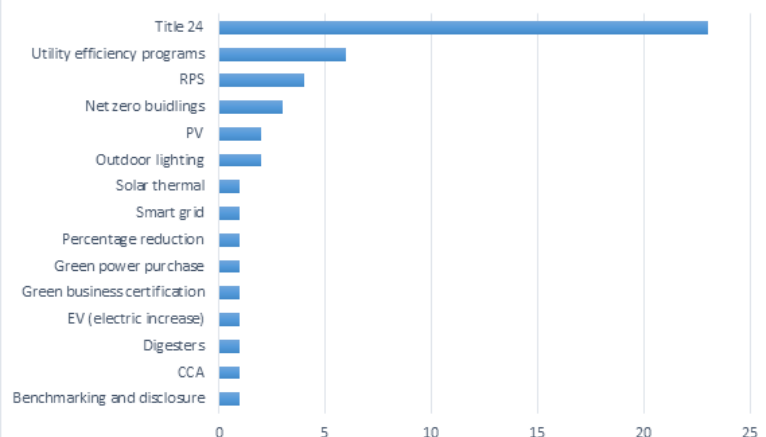
For both the residential and commercial energy sectors, incorporating Title 24 standards into building codes was the most widely used strategy to reduce energy emissions. Following Tile 24 standards, communities modeled reductions for realizing the statewide Renewable Portfolio Standard (RPS), utility efficiency programs, participating in Community Choice Aggregation (CCA), reaching net zero energy goals and building electrification. Many communities will develop a laundry list of strategies to best reduce energy emissions as one single strategy cannot completely mitigate emissions. Through this modeling, communities can determine what strategies have the largest impact on emissions and where to fill gaps.

In regards to transportation emissions, the most modeled strategies include vehicle efficiency, electric vehicle (EV) adoption, increasing public transit usage and land use planning strategies. Switching to multi-modal transportation, vehicle efficiency and incorporating land use changes are some of the most common strategies to help communities reduce transportation emissions. Many transportation strategies also allow for multilevel coordination between cities and regional entities to find ways to better serve communities.

Transportation Actions Modeled
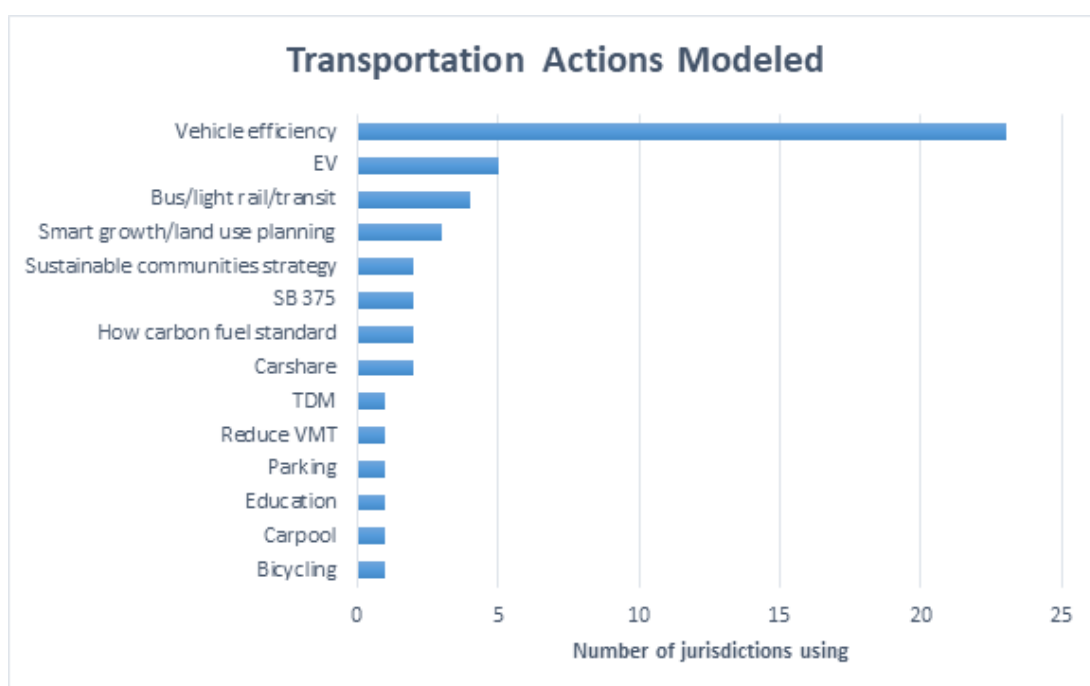
California Policies and Implementation

California is a leading state in terms of climate change action. Many policies have been adopted at the state level to direct California communities in developing programs, local policies and plans to reduce emissions and create sustainable communities.

California Energy and Climate Policies 2010-2020

Bill Number and Name	Year	Description
SB 350 - Clean Energy and Pollution Reduction Act of 2015	2015	Extended California's Renewables Portfolio Standard to 50% by 2030, with interim targets of 40% by 2024 and 45% by 2027. Required a doubling of energy efficiency of electricity and natural gas in existing buildings.
SB 32 - California Global Warming Solutions Act of 2006: emissions limit	2016	Required California to reduce its overall GHG emissions 40% below 1990 levels by 2030 and appointed the California Air Resources Board to develop policies to achieve this goal.
AB 1383 - Short-lived climate pollutants: methane emissions: dairy and livestock: organic waste: landfills	2016	Required statewide emissions reduction targets for short-lived climate pollutants, such as methane, of 40-50% below 2013 levels by 2030. Established targets to achieve a 50% reduction in the disposal of organic waste from the 2014 level by 2020, and a 75% reduction by 2025, with an additional target that at least 20% of edible food that is currently disposed of is recovered for human consumption by 2025.
SB 100 - California Renewables Portfolio Standard Program: emissions of greenhouse gases	2018	Revised SB 350 to achieve 50% of all electricity come from renewable resources by 2026, with a new target to achieve 60% by 2030. Required all of the state's electricity come from carbon-free resources by 2045.
Executive Order B-55-18 – To Achieve Carbon Neutrality	2018	Established a goal to achieve statewide carbon neutrality as soon as possible, and no later than 2045, and achieve and maintain net negative emissions thereafter.

California Environmental Justice and Equity Policies 2010-2020

Bill Number and Name	Year	Description
AB 1550 - Greenhouse gases: investment plan: disadvantaged communities	2016	Modified the California Climate Investment minimums to disadvantaged communities, requiring at least 25% of funds go to projects within and benefitting disadvantaged communities and at least an additional 10% is for low-income households or communities.
SB 1000 - Land use: general plans: safety and environmental justice	2016	Required cities and counties with disadvantaged communities to incorporate environmental justice policies into their General Plans, either in a separate element or by integrating related goals, policies, and objectives throughout the other elements.
AB 2722 - Transformative Climate Communities Program	2016	Created a comprehensive approach to reduce greenhouse gas emissions by creating a new Transformative Climate Community Plans program for disadvantaged communities that are most burdened by, and vulnerable to, high levels of pollution.
AB 617 - Nonvehicular air pollution: criteria air pollutants and toxic air contaminants	2017	Increased air monitoring requirements and penalties for polluters who exceed limitations in vulnerable communities. Focus is to reduce exposure in communities most impacted by air pollution by working with the state to develop and implement new strategies to measure air pollution and reduce health impacts.

SB 32 – Local Emissions Reductions

City of Chula Vista

The City of Chula Vista is the second-largest municipality in San Diego County and located at the center of one of the richest cultural, economic and environmentally diverse zones in the United States. In 2000, the city recognized the importance of mitigating climate change and began to take action, starting with the adoption of the Carbon Dioxide Reduction Plan. This was the first Climate Action Plan (CAP) to be adopted in San Diego County, and it set the foundation for future climate mitigation and adaptation plans. Chula Vista followed up on its original plan with the Climate Mitigation Plan in 2008, and most recently with its 2017 Climate Action Plan.

In addition to reducing greenhouse gas (GHG) emissions and preparing for the impacts of a changing climate in Chula Vista, these plans have created community benefits such as financial savings on utility costs, improved public health, reduced traffic, an enhanced local economy, and a more equitable community.

Because Chula Vista is a growing city, total GHG emissions have grown since 1990. However, they have grown at a slower pace than the population, resulting in a reduction in per capita emissions. These per capita reductions are in-line with the targets laid out in California Air Resources Board's (CARB's) 2017 Scoping Plan. The city has received multiple awards, including a Platinum Beacon Spotlight Award for Agency GHG Reductions in 2013, 2014, and 2016.

The city's future climate action goals are robust and go beyond mitigation by specifically including environmental justice in planning.
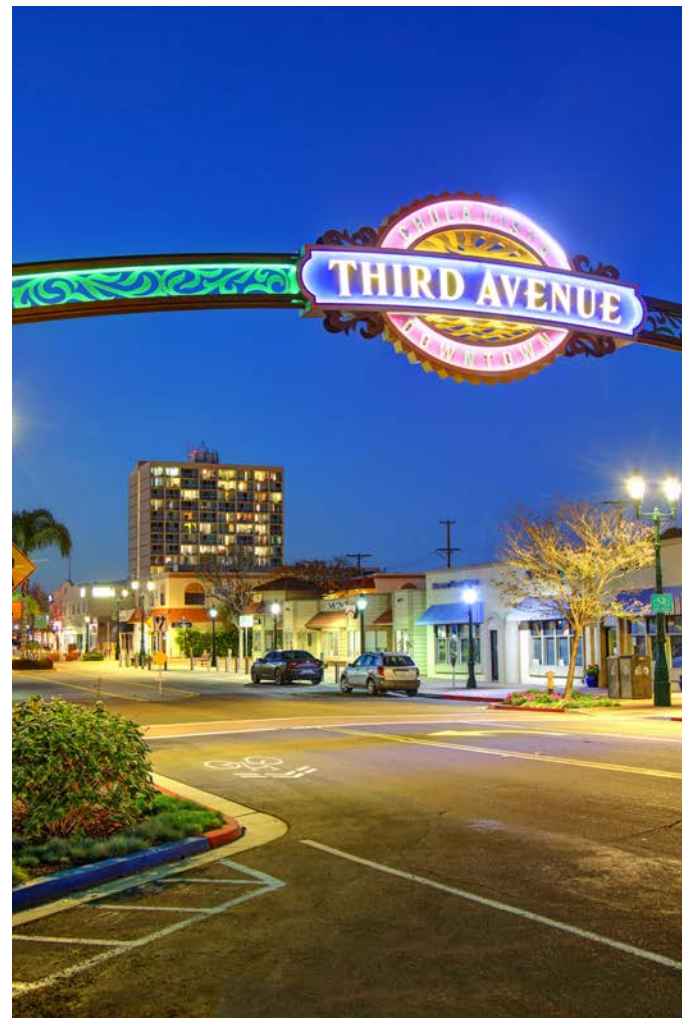
Implemented Actions

- In 2014, Chula Vista established a Property Assessed Clean Energy (PACE) financing programs that allowed contractors to finance energy efficiency, renewable energy and water efficiency upgrades to Chula Vista properties.

- Transit-oriented development (TOD) was identified in the 2005 General Plan update and has been incorporated in developments and plans such as the Urban Core Specific Plan to increase density and reduce transportation-related emissions [18].

- The city began transitioning its vehicle fleet to electric vehicles (EVs) and alternative fuel vehicles [19]

- Chula Vista transit and waste hauling vehicles were converted to 100% alternative fuel vehicles [19].

- Through new Green Building Standards, Chula Vista required new and renovated buildings to be 15-20% more energy efficient than previous requirements [20].

- Residential homes are required to be PV-ready and include pre-plumbing for water re-use [20]

Next Steps

Chula Vista formed a Climate Change Working Group in 2014, which has been a pivotal component of the city's climate action planning. The CCWG proposed a suite of new opportunities to meet the current CAP's emissions reduction goals. Some of the measures underway in Chula Vista include:

1. Banning single use plastics
2. Supporting building and vehicle decarbonization
3. Streamline solar permitting
4. Support multi-modal transport through increased bike lane protection
5. Support climate equity through developing Climate Equity Index
6. Adopt GHG reduction goal of an 80% reduction by 2050 [21]

[18] https://www.chulavistaca.gov/home/showdocument?id=11468)
[19] https://www.chulavistaca.gov/home/showdocument?id=15582
[20] https://www.ca-ilg.org/sites/main/files/file-attachments/chula_vista_2020_bps.pdf?1602016228
[21] https://www.chulavistaca.gov/home/showdocument?id=21549

SB 350 and SB 100 – Renewables Portfolio Standards

Sacramento Municipal Utility District

California's Renewables Portfolio Standard (RPS) was established in 2002 and set requirements for the proportion of electricity retail sales that must be served by renewable resources. Senate Bill 350 extended and increased the RPS requirements in 2015, and these targets were revised in 2018 with the passing of Senate Bill 100.

Sacramento Municipal Utility District (SMUD) is the nation's sixth-largest community-owned, not-for-profit, electric service provider. For decades, SMUD has been leading the charge for utilities in California in providing renewable electricity to its customers. Years of innovative approaches, energy efficiency programs and sustainable solutions have contributed to SMUD's recognition in the industry [22].

Like all California utilities, SMUD has had to plan and prepare for California's Renewables Portfolio Standard (RPS). The current requirements of the RPS were updated in 2018 with the passing of SB 100, which required all utilities to procure 60% renewables resources in their energy mix [23].

SMUD began to incorporate renewables in its energy mix in 1984 with the development of Photovoltaic 1 (PV1) solar farm near Rancho Seco Recreational Area in south Sacramento County. Less than 10 years later, SMUD established its Solano Wind Farm on the Montezuma Hills in Solano County. In 2008, SMUD introduced one of the country's first community solar energy programs, allowing customers to invest in local solar projects, and even more recently, SMUD became the first largescale California utility to achieve 20% renewable resources in its power mix [24].

[22] https://www.smud.org/en/Corporate/About-us/News-and-Media/2020/2020/New-year-new-clean-energy-goals
[23] https://leginfo.legislature.ca.gov/faces/billTextClient.xhtml?bill_id=201720180SB100
[24] https://www.smud.org/-/media/Documents/Corporate/Environmental-Leadership/Integrated-Resource-Plan.ashx

Today, SMUD's power mix is comprised of about 53% carbon-free resources, and in 2018 the utility reduced emissions by 50% from 1990 levels, the equivalent of removing 377,000 vehicles from the road. SMUD also adopted its most recent Integrated Resource Plan (IRP) in 2018, which lays out the roadmap to achieving 100% net-zero-carbon electricity and emissions by 2040, five years ahead of state mandates. The IRP includes a roadmap for meeting the interim target of providing electricity with 60% renewable sources by 2030 as well, and it includes a $7-billion investment to install nearly 2,900 MW of new carbon-free resources and to develop an aggressive strategy to expand demand-side resources such as rooftop solar, demand response programs, and customer-installed batteries [25].

AB 2722 – Transformative Climate Communities Program

Watts, CA

Watts, located south of Los Angeles, is burdened with severe air pollution and related health disparities. In 2018, the Watts Rising Collaborative, a program of the Housing Authority of the City of Los Angeles, received $33.5 million from the Transformative Climate Communities Program [26]. In order to improve housing, transportation, health outcomes, and overall quality of life, Watts will use this funding to install solar panels on 300 homes, provide energy efficiency improvements for 150 homes, improve biking and walking trails, build new affordable housing developments, and cultivate 50 new mini-farms, among many other neighborhood improvements [27].

[25] https://www.smud.org/-/media/Documents/Corporate/Environmental-Leadership/Integrated-Resource-Plan.ashx
[26] http://www.caclimateinvestments.ca.gov/2019-profiles/tcc
[27] https://sgc.ca.gov/programs/tcc/docs/20190201TCC_Awardee_Watts.pdf

Executive Order B-55-18: To Achieve Carbon Neutrality

City of Davis

In 2018, Governor Jerry Brown signed an executive order committing the state of California to carbon neutrality no later than 2045 and achieving net negative emissions thereafter.

The City of Davis, about 15 miles west of Sacramento, has long been a climate leader in California. Davis had originally committed to carbon neutrality by 2050, but with the impacts of climate change worsening, it was clear to the community and the City Council that their carbon neutrality goal needed to be reached sooner.

By implementing emissions reduction strategies focused on building energy efficiency, alternative transportation, sustainable land management, and collaboration with other agencies to provide local renewable energy options, Davis will aim to become carbon neutral ten years earlier. In March 2019, the Davis City Council voted to accelerate their carbon neutrality target date to 2040 [28].

Reaching total carbon neutrality is a difficult task, but Davis has a plan in place to reach net zero emissions. In addition to committing to carbon neutrality, Davis recently adopted energy reach codes to address emissions from the building energy sector and will also be updating their regional greenhouse gas emissions inventories and their Climate Action and Adaptation Plan in 2020. This updated plan will ultimately provide the framework for a pathway forward to significant emissions reductions.

Implemented Actions

- **Energy Reach Codes** – Davis adopted local ordinances to require certain residential and non-residential new construction to comply with more stringent energy standards than the statewide Title 24 codes [29].

- **Community Choice Energy** – Davis is a member of the Valley Clean Energy regional community choice energy provider. Along with Yolo County and the City of Woodland, Valley Clean Energy started providing the region with clean and affordable electricity on June 1st, 2018 [30].

- **Cool Davis** – Cool Davis was a program created from Davis' 2010 Climate Action and Adaptation Plan. It focuses on actively engaging with residents, businesses, and local organizations about committing to low-carbon lifestyles and inspiring the community to reduce emissions [31].

Next Steps

City of Davis will update the Climate Action and Adaptation Plan and regional greenhouse gas emissions inventories in 2020 in order to reach their 2040 goal of carbon neutrality.

Through actions similar to those in Davis, local governments are leading by example and aiding California in reaching its statewide carbon neutrality goals on time.

[29] http://documents.cityofdavis.org/Media/Default/Documents/PDF/CityCouncil/CouncilMeetings/Agendas/20190924/07-Residential-Energy-Efficiency-Reach-Code.pdf
[30] https://www.cityofdavis.org/city-hall/community-development-and-sustainability/sustainability-program/community-choice-energy
[31] https://www.cityofdavis.org/city-hall/community-development-and-sustainability/sustainability-program/cool-davis

California Local Governments Leading the Fight Against Climate Change

Top three California trends for reducing emissions

California is one of the leading states in the country aiming to act on climate change and create sustainable communities within its borders. California's main sources of emissions include transportation and energy usage in residential, commercial, and industrial buildings and facilities. Cities are undertaking ample goals and strategies to reduce these emissions and decrease the burdens experienced by local communities. As described in this section, three promising strategies have exploded onto the scene in the past few years to increase the impact of local action: 1) zero net energy, 2) transportation electrification, and 3) community choice aggregation.

Zero Net Energy

As energy usage has been a large source of greenhouse gas emissions in California and the broader US, many cities are establishing high impact goals or objectives to mitigate these emissions. One goal that has gained attention over the past few years is the concept of zero net energy. Zero net energy (ZNE) is the idea that a building or group of buildings' net consumption of energy is zero [32].

The concept of ZNE is not limited to a building, different scales of ZNE areas include: ZNE buildings, portfolios, campus/districts and communities. ZNE Portfolios, campuses/districts and communities are defined as groups of buildings that altogether consume less energy than the renewable energy produced [33]. To achieve ZNE, developers/planners can install on-site renewable energy sources or procure off site renewable energy sources to power the building(s) [34].

California has one of the most ambitious zero net energy goals in the US. The California Public Utilities Commission (CPUC) published the California Long Term Energy Efficiency Plan in 2008 to create a pathway for communities to increase energy efficiency and implement energy saving strategies to support California in reducing greenhouse gas emissions from the energy sector. Through this plan, the CPUC set the following goals: 1) all new residential construction will be ZNE by 2020, 2) all new commercial construction will be ZNE by 2030, 3) 50% of commercial buildings will be retrofitted to ZNE by 2030, and 4) 50% of new major renovations of state buildings will be ZNE by 2025 [35].

[32] California Long-Term Energy Efficiency Strategy Plan
[33] https://gettingtozeroforum.org/wp-content/uploads/sites/2/2017/08/ZNE_NBI_CommsToolkit_Terminology_.pdf
[34] NBI ZNE cohort session 3
[35] (https://www.cpuc.ca.gov/ZNE/ California Long-Term Energy Efficiency Strategy Plan)

Cities can use a range of strategies to achieve zero net energy including developing a stable funding stream, firm policies, deep energy efficiency retrofits, decarbonizing electricity and transportation sectors, robust communication/outreach, and on-site or off-site renewables.

The state of California also sets building efficiency standards through Title 24 that enables cities to require more energy efficient buildings as well as require hookups for electric vehicles and appliances in new construction. California local governments have begun to set and implement policies requiring energy efficient practices that will foster ZNE throughout their communities. Many cities are now setting their own targets to reach zero net energy by 2050 towards upholding the Paris Agreement and following IPCC recommendations.

Another strategy cities have begun implementing include microgrids. Microgrids are separate energy grid systems that can operate autonomously from a larger grid system [36]. Microgrids can localize power usage and provide energy to a community during emergencies such as storms, power outages or wildfires.

The City of Lancaster is a leader in zero net energy in the state of California, setting a goal to become the first zero net energy city in the state. The City has already achieved its goal of 100% renewable electricity by 2019 and is currently working toward many other sustainable and resilient strategies for their community members. Lancaster is working with partners like the ZNE Alliance, the Lancaster Choice Energy CCA, Energy Solutions, Olivine, NHA Advisors, Gridscape, Terra Verde Energy, and Blue Strike Environmental to implement the Lancaster Advanced Energy (AEC) Project.

The Lancaster AEC project plans to deploy a virtual power plant capable of 5 MW of solar and 10 MWH of storage; five community microgrids; two ZNE affordable housing subdivisions; three community resiliency centers and much more [37]. Resilient strategies like these can have transformative impacts on reducing greenhouse gas emissions and building sustainable zero net energy cities.

[36] https://www.energy.gov/articles/how-microgrids-work
[37] https://www.znealliance.org/aec

Transportation Electrification

Emissions from transportation and mobile sources in California make up the largest portion of overall emissions. Gasoline is the second largest fuel consumed in the state, following natural gas [38]. These gasoline powered vehicles and mobile sources produce higher emissions as gasoline has a higher emission rate or carbon intensity than natural gas [39]. In California's 2017 statewide greenhouse gas inventory, transportation emissions accounted for just over 40% of all emissions, with passenger vehicles making up 28% of that total. Passenger tailpipe emissions are the largest source of California emissions and disturb local air quality, creating negative effects on public health. Developing local and regional policies and programs to reduce these emissions will have a sweeping impact on reaching state emissions reduction goals.

The state adopted policies to help steer local governments and communities on a path towards transportation emission reduction and cleaner air. Governor Jerry Brown signed into law two crucial executive orders, Executive Order B-16-12 and Executive Order B-48-18 setting goals to reach 1.5 million Zero Emission Vehicles (ZEVs) by 2025 and 5 million ZEVs by 2030, respectively. In order to achieve these goals, the ZEV Plan was developed in 2013, updated in 2016 and has since been amended in 2018. The immediate barriers to substantial ZEV adoption included the lack of awareness of ZEVs, lack of infrastructure to charge ZEVs, lengthy re-charge times, and high upfront costs of vehicles. To resolve these issues, the 2016 plan set forth objectives to bolster ZEV adoption in the state as well as outside of California. The plan laid out over 200 strategies to increase ZEV adoption, including everything from providing outreach for multiple stakeholders to developing policies that permit more ZEV charging and spaces in commercial or mixed use properties. Utilities across the state have established programs to aid new ZEV owners in transitioning from gasoline powered vehicles to electric. These programs include rebates, EV test rentals, and charging stations [40]. As of July 2018, 410,000 new ZEVs have been sold in the state.

[38] https://www.eia.gov/state/?sid=CA#tabs-1
[39] https://www.eia.gov/tools/faqs/faq.php?id=73&t=11
[40] https://cal-cca.org/cca-programs/#toggle-id-2

The ZEV plan focuses on advancing electric vehicle technology so that the same technologies can expand to light duty, heavy duty and other public transit vehicles. Another large initiative includes the California high-speed rail project that will utilize 100% renewable energy and have ZEV hookups at stations. The high-speed rail will run from Sacramento to San Diego. Increasing electric buses in local communities can also aid commuters with the last mile of their trips, further electrifying California's transportation.

Switching many of these gasoline or diesel fuel transportation options to electric will greatly reduce the emissions in the transportation sector. This will also reduce the air pollution produced by tailpipe emissions burdening disadvantaged communities that are closest to freeway systems. The ZEV market is continuing to grow in California making more ZEVs available for all members of California communities and leading to a cleaner and safer environment for all.

Community Choice Aggregation

Similar to California's progressive approaches to climate policy, its transformative energy policy benefits California communities and individuals alike. This is evident through their early adaptation of Community Choice Aggregation (CCA) [41]. CCA is a robust approach to purchasing electricity in which a municipality can purchase electricity for the community after aggregating energy demand. The electricity is often generated by an alternative to the traditional utility but delivered through the utility's infrastructure [42].

Community Choice Aggregation provides prosperous benefits for individuals, their local communities, and the state of California. Because municipalities aggregate demand promoting collective buying power, municipalities can negotiate better rates, resulting in lower electricity bills. This buying power enables communities to dictate energy sources, which are rapidly increasing to renewables [43].

This buying power has influenced Californian CCAs to offer the average minimum Renewable Portfolio Standard of 43%. As communities demand cleaner energy sources and as CCAs procure cleaner energy sources, the Californian electricity grid will become cleaner and more decentralized. This cleaner, more decentralized grid will not only help the state reach closer to its 2045 goal of 100% clean energy, but it will also drastically reduce greenhouse gas emissions emitted from the energy sector.

Since the formation of the first Californian CCA, CCAs are rapidly increasing clean energy and customer capacities, procuring more than 3,600 MW of clean energy capacity for their customers. Of this clean energy capacity, almost two-thirds is solar energy and 27% is wind energy. CCAs acquired nearly 10% of all state electricity customers [44]. With these promising trends, aggregation efforts are estimated to reduce more than five million metric tons of greenhouse gas emissions cumulatively by the end of 2020 [45].

[41] https://cal-cca.org/about/
[42] https://www.epa.gov/greenpower/community-choice-aggregation
[43] https://cal-cca.org/cca-impact/
[44] https://www.nrel.gov/docs/fy19osti/72195.pdf
[45] https://cleanpowerexchange.org/wp-content/uploads/2017/06/Forecast-of-CCA-Impacts-in-CA-2016-2020-June-2-2017.pdf

Like the aggregate impact of CCAs, the individual impact of CAAs proves beneficial on all fronts. As one of the largest Californian CCAs with more than 470,000 customer accounts, MCE (formerly known as Marin Clean Energy) has eliminated over 300,000 metric tons of carbon dioxide from 2010 to 2018 [46]. Under MCE's contracts, they have implemented or are currently developing more than 670 megawatts of renewable energy. Because of their massive success, they have pledged approximately $1.6 billion to expand in-state renewable energy infrastructure. East Bay Community Energy (EBCE), another extensive Californian CCA, has initiated 550 megawatts of new renewable energy projects [47]. Because of their clean energy pursuit, EBCE's combined energy sources emit less than half of the GHGs per kWh than traditional energy suppliers.

Grid decentralization promotes grid reliability and resilience as communities will rely on the growing number of dispersed green energy sources compared to the diminishing number of fossil generating power plants [48,49]. Moving towards a decentralized power grid also reduces energy losses induced by traditional transmission and distribution infrastructure as well as promotes economic development and growth within local economies [50,51].

[46] https://www.mcecleanenergy.org/energy-suppliers/
[47]https://ebce.org/about/
[48] https://www.energy.ca.gov/sites/default/files/2019-12/declining_reliance_coal_ada.pdf
[49] https://www.energy.ca.gov/sites/default/files/2019-12/renewable_ada.pdf
[50]https://www.epa.gov/energy/distributed-generation-electricity-and-its-environmental-impacts
[51] https://www.ilo.org/public/english/standards/relm/gb/docs/gb283/pdf/jmmsr.pdf

Reducing Energy Consumption

Today, buildings alone account for around a quarter of emissions in California. Decarbonizing the building industry and pushing toward electrification will allow for emissions reductions, cost savings, and increased building safety, among many other co-benefits. Local governments across California have the tools to start making change today and have started adopting "reach codes" to go beyond Title 24 building standards and are more stringent than the statewide energy codes [52]. If reach codes aren't a possibility, local government agencies are able to focus on building energy efficiency through different avenues: following CalGREEN codes, higher levels of LEED certification, or developing building performance checklists.

There are two different types of reach codes: prescriptive and performance. Prescriptive reach codes require one or more specific energy efficiency measures, such as requiring solar panels, cool roofs, or reduced outdoor lighting on certain types of new construction [53]. Alternatively, performance reach codes require buildings to perform more efficiently based on certain energy efficiency criteria or exceeding minimum building energy performance [54]. Hybrid reach codes combine both prescriptive and performance reach codes to require energy efficiency measures and building performance requirements. An example of a hybrid code could be having different solar panel and energy performance requirements for different sizes of residential buildings.

[52] https://ww2.energy.ca.gov/title24/2016standards/ordinances/
[53] https://www.bayrencodes.org/reachcodes/
[54] https://www.bayrencodes.org/reachcodes/

Passing a Reach Code

In order for a government agency to pass a reach code, there are three main components. After government staff develops the reach code language and requirements, it must go through the application and review process by the California Energy Commission (CEC) to ensure the code complies with the law and then goes through a local public review process [55]. Ultimately, the code must create energy savings and be proven to be cost effective, meaning that the cost savings from the lower energy costs must cover any initial cost increases within the standard lifetime of the specific energy efficiency measures.

Best Practices

• **Local Context:** Reach codes work best when adjusted to a local context. It is important to cater the reach code to the specific wants and needs of the community. Working with stakeholders and residents to solicit feedback will ensure specific needs are met.

• **Consider Staff Time:** Efficient use of staff time is important to think about. Government staff are often overextended, so reach codes are the most effective when they require less staff time and resources to implement.

• **Examples from Nearby Jurisdictions:** When considering reach codes, look at nearby jurisdictions that have already adopted or are in the process of adopting reach codes. Often, it is easier for local governments to enforce and support overall implementation when codes are relatively consistent across neighboring jurisdictions.

• **Reach Code Champion:** Someone should be the champion of the reach code and see it through from start to finish. This could be a city staff member, council member, or committee member. Implementation and enforcement is the most important part, and establishing a champion for the project will ultimately ensure it is enforced [56].

[55] https://eecoordinator.info/wp-content/uploads/2012/01/ReachCodes3.pdf
[56] https://eecoordinator.info/wp-content/uploads/2012/01/ReachCodes3.pdf

Palo Alto Reach Code

What Reach Code did the City adopt?

In November 2019, the Palo Alto City Council adopted a building reach code that requires certain energy efficiency standards and, in some cases, total electrification for all new construction. All new low-rise residential buildings must adhere to an all-electric design with no gas appliances on top of Title 24 California Energy Code standards [57], with the exception of accessory dwelling units. Non-residential buildings must either be all-electric and meet Title 24 standards with no additional efficiencies or they can be mixed-fuel with efficiency requirements based on building type [58].

What building types does the Reach Code apply to?

- Low-Rise Residential (includes multi-family buildings with three stories or less)
- Non-Residential

[57] https://www.cityofpaloalto.org/gov/depts/ds/green_building/2019_energy_reach_code_study.asp
[58] https://www.cityofpaloalto.org/gov/depts/ds/green_building/2019_energy_reach_code_study.asp

Healdsburg Reach Code

What Reach Code did the City adopt?

In 2019, the City of Healdsburg adopted a reach code requiring electric space and water heating in new low-rise residential, all non-residential buildings, and major renovations [59]. The policy does allow the use of gas for cooking, fireplaces, and pool heaters.

What building types does the Reach Code apply to?

- Low-Rise Residential and Detached Accessory Dwelling Units
- Non-Residential
- Major Renovations and Significant Remodels

Energy Funding

From 2010 to 2020, grant funding for energy-related projects and programs has become more readily available through funds from California's Cap-and-Trade program. Of the approximately $13 billion that have been added to the California Greenhouse Gas Reduction Fund and dispersed through the California Climate Investments program, over one billion of those dollars have been allocated specifically to funding projects with a focus on energy efficiency and clean energy technology [60, 61, 62]. Energy funding in California is ultimately allocated to state agencies that open funding for more specific programs that span several different sectors.

[60] https://ww2.arb.ca.gov/sites/default/files/classic/cc/capandtrade/auction/proceeds_summary.pdf
[61] https://ww2.arb.ca.gov/sites/default/files/classic/cc/capandtrade/auctionproceeds/2020_cci_annual_report.pdf
[62] https://database.aceee.org/state/california

Farmworker Housing Component: Single-Family Energy Efficiency and Solar Photovoltaics

The Low-Income Weatherization Program (LIWP) is designed to provide low-income and vulnerable populations with no-cost energy efficiency upgrades and access to renewable energy [63]. Funded by the California Department of Community Services and Development, the Farmworker Housing Component: Single Family Energy Efficiency and Solar Photovoltaics element of the LIWP provides funding for energy efficiency upgrades and rooftop solar photovoltaic specifically to low-income farmworker households at no cost [64]. This funding is available to farmworker households in counties with the highest farmworker populations: Imperial, Fresno, Kern, Madera, Merced, Monterey, Riverside, San Joaquin, Santa Barbara, Stanislaus, Tulare, and Ventura counties [65].

As one of the most vulnerable populations in California, farmworkers are disproportionately impacted by the impacts of climate change. By receiving resources to reduce energy costs, farmworker households are able to take advantage of the climate investments made in California [66].

California Energy Commission: Local Government Challenge

Another funding opportunity presented to California communities was the Local Government Challenge. Through this grant program, the California Energy Commission (CEC) provided local governments with funds to expand sustainability and foster resilient communities. Many of these grants were awarded to disadvantaged communities and support local energy goals [67].

[63] https://www.csd.ca.gov/Pages/Low-Income-Weatherization-Program.aspx
[64] https://www.csd.ca.gov/Pages/Farmworker-Housing-Component.aspx
[65] https://www.csd.ca.gov/Pages/Farmworker-Housing-Component.aspx
[66] https://ww2.arb.ca.gov/sites/default/files/classic/cc/capandtrade/auctionproceeds/2020_cci_annual_report.pdf
[67] https://www.energy.ca.gov/programs-and-topics/programs/local-government-challenge

Local Government Challenge Awardees

Marin Clean Energy

Marin General Services Authority

City of Galt

City of San Leandro

Stop Waste Energy Council

City of Santa Cruz

County of San Luis Obispo

City of Santa Barbara

Ventura County Regional Alliance

San Bernardino Council of Governments

Gateway Cities Council of Governments

City of Del Mar

City of San Diego

Energy Innovation Challenge

Small Government Leadership Challenge

Larger Grant

Smaller Grant

The City of San Diego & The City of San Leandro

The California Energy Commission held the Local Government Energy Innovation Challenge (EIC) in 2017 as a part of its Existing Buildings Energy Efficiency Action Plan, and the Cities of San Diego and San Leandro were two of the four government agencies awarded funding out of 38 total submissions [68, 69]. Funding from the EIC was awarded to help local governments set up new and innovative programs to support local and statewide goals and policies for reducing energy usage and greenhouse gas emissions.

The City of San Diego received $1.9 million to introduce a smart city platform, Smart City Open Urban Platform (SCOUP), to benchmark buildings and track overall energy usage and emissions from City facilities [70]. This will allow City staff to track progress to compare with their Climate Action Plan and emissions reduction goals.

The City of San Leandro was awarded nearly $2 million to install high-efficiency LED lighting, building automation systems, and a one-megawatt solar photovoltaic generation system at the City's water pollution control plant to increase efficiency and support renewable electricity generation [71]. As the solar array went live in 2020, these upgrades will reduce electricity usage at the water pollution control plant by 53% and contribute to almost $240,000 in savings each year [72].
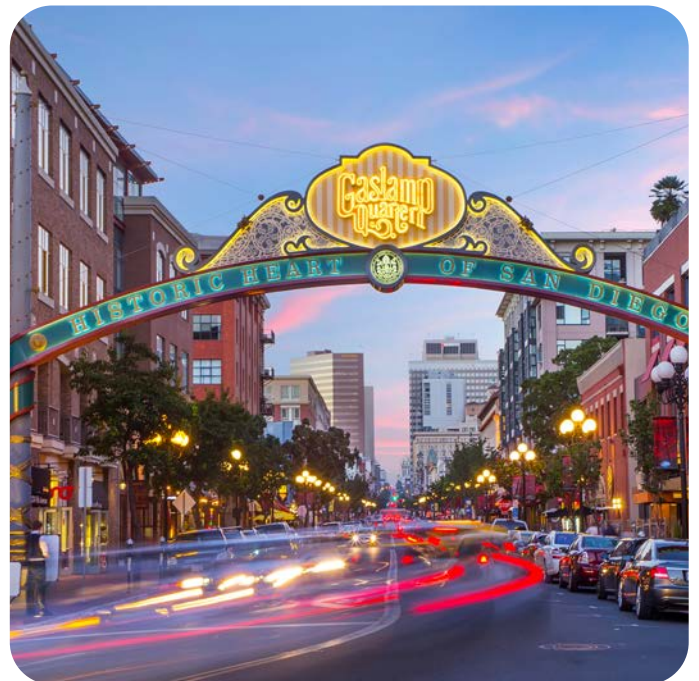
[68] https://www.energy.ca.gov/programs-and-topics/programs/energy-efficiency-existing-buildings#:~:text=The%20California%20Energy%20Commission%20(CEC,of%20existing%20buildings%20be%20improved.
[69] https://www.energy.ca.gov/programs-and-topics/programs/local-government-challenge
[70] https://www.sandiego.gov/sites/default/files/2017-05-25_city_receives_1_9_million_grant_to_improve_tracking_of_sustainability_efforts_nr.pdf
[71] https://www.sanleandro.org/civica/press/display.asp?layout=1&Entry=895
[72] http://calenergycommission.blogspot.com/2017/08/energy-commission-grant-helps-city-of.html

Case Studies

Narratives to highlight California communities who are leaders in the climate action and sustainability space.

West Hollywood, CA

The 36,500 populous city of West Hollywood is located in the heart of Southern California surrounded by Los Angeles and Beverly Hills [73]. In this heavily star studded area, West Hollywood is well known for its alluring and expressive atmosphere. Home of the famous Sunset Boulevard, West Hollywood is the destination of choice for art, music, and nightlife open for locals and tourists alike. Aside from the chic West Hollywood lifestyle, the City is a very well-known leader in California for its efforts to be a sustainable City.

West Hollywood adopted its Climate Action Plan in 2011 and has been hard at work implementing the plan and tracking its progress. The 2011 CAP focused on seven strategies including: Community Leadership and Engagement, Land Use and Community Design, Transportation and Mobility, Energy Use and Efficiency, Water Use and Efficiency, Waste Reduction and Recycling, and Green Space. Each of these strategies had a list of accompanying actions to reach the City's goals. The established target aims to reach 20 to 25 percent reduction of 2008 emissions levels by 2035. The City updated its greenhouse gas inventory by conducting a 2018 community wide inventory. Through this 2018 inventory, the City confirmed that its community emissions were reduced by 31% and far exceeded its 2035 target with more than 80% of all CAP measures implemented [74].

Photo provided courtesy of the City of West Hollywood. Some rights reserved.

[73] https://www.census.gov/quickfacts/fact/table/westhollywoodcitycalifornia
[74] https://weho.granicus.com/MetaViewer.php?view_id=22&clip_id=3544&meta_id=192178

West Hollywood, CA

The City of West Hollywood has received several accolades for its sustainability leadership and innovation. In 2020, the City received two awards from the American Planning Association (APA). From the APA Sustainable Communities Division, the City earned the Leadership in Sustainability Awards that recognized West Hollywood as sustainable innovators that inspire others [75]. From the APA Los Angeles Chapter, the City was bestowed the Award of Merit for Innovation in Green Community Planning for its updated Green Building Program [76] .

In its Green Building Program, West Hollywood aims to take building sustainability above and beyond California State requirements. Projects entering the planning process must: implement best management practices for storm water pollution prevention; supply electric vehicle infrastructure for new residential, duplexes; townhouses, non-residential, mixed use and multifamily buildings; supply adequate bike storage for multifamily units; include vegetative open space for multifamily and mixed use buildings; and more to provide a framework for sustainable buildings improvements.

In this program, the requirement for "EV Ready" spaces in newly constructed multifamily and non-residential buildings exceeds the CALGreen standards [77]. Other requirements under the Green Building Program include energy, water and material conservation. New buildings are required to install energy efficient appliances certified by Energy Star, water conserving plumbing fixtures, and properly recycle or repurpose materials used on site throughout construction and building use [78]. This new Program instills progressive concepts into the built environment while also mirroring community goals [79].
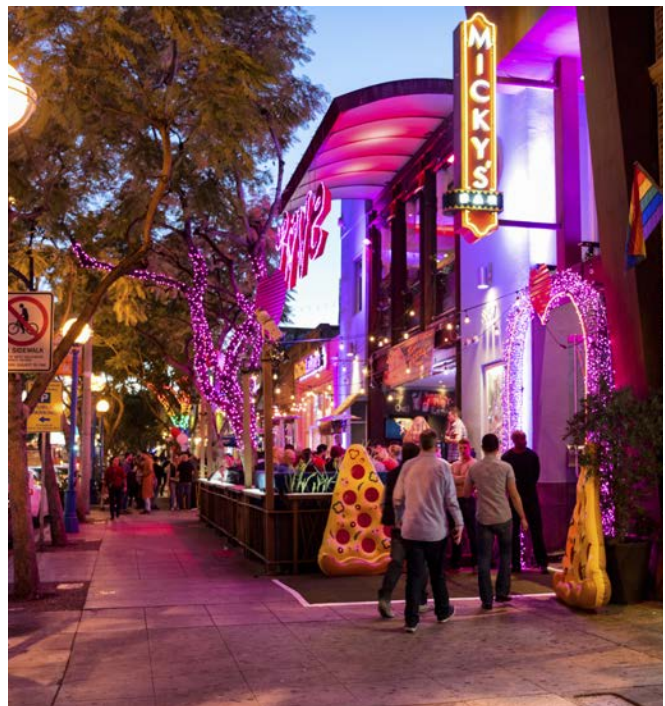
[75] https://www.weho.org/home/showdocument?id=47985
[76] https://apalosangeles.org/wp-content/uploads/The-2020-APA-Los-Angeles-Planning-Awards-Recipients-5-15-2020.pdf
[77] https://www.weho.org/city-government/city-departments/planning-and-development-services/building-and-safety/ev-charge-up-west-hollywood
[78] https://www.weho.org/home/showdocument?id=42147
[79] https://www.weho.org/home/showdocument?id=42201

West Hollywood, CA

Co-creating climate action strategies and initiatives with residents and business owners is the most effective way to assure a sustainable future for a community. Enabling the Community to be involved in governmental customs and empowering community members creates a better relationship between community and government. The STAR program is a voluntary reporting platform jurisdictions can report out initiatives the city is taking to create a sustainable community. In 2019, West Hollywood reported to the STAR program and became a STAR Certified community for the actions to reduce greenhouse gas emissions, reduce noise pollution, enhance water quality, and support West Hollywood's art culture demonstrating leadership among California cities to empower community members [80].

Providing clean energy through a Community Choice Aggregation (CCA) program is one of the environmental trends seen in California over the past few years. Providing clean energy to a community can significantly reduce greenhouse gas emissions. In 2017, West Hollywood joined the Clean Power Alliance CCA in order to provide clean energy to its community. Through joining this CCA, West Hollywood was able to provide different tiers for community members to receive energy from renewable sources. The default for all community members is to receive 100% renewable energy. If end users do not wish to use the 100% Green Power tier, they can opt out for a less green option. The tiers following include 50% renewable energy and 50% GHG free energy and a 36% renewable, 60%GHG free option [81]. To date, more than 95% of the West Hollywood community is powering their homes or businesses with 100% green power [82]. Due to joining the CCA, West Hollywood, again, showcases its leadership in sustainability.

Photo provided courtesy of the City of West Hollywood. Some rights reserved.

[80] https://www.weho.org/city-government/city-departments/planning-and-development-services/star-communities-certification
[81] https://www.weho.org/city-government/city-departments/planning-and-development-services/clean-power-alliance
[82] Robyn Eason, City of West Hollywood

West Hollywood, CA

Lastly, through all the initiatives West Hollywood has implemented they have received recognition through the Beacon Program. The Beacon Program provides a framework for communities to implement and share sustainability best practices and awards communities for accomplishing these practices. Communities can receive awards for different levels of energy savings, greenhouse gas reductions and implementation of sustainability practices. West Hollywood has received four Beacon awards in the span of two years. The City received the Platinum award, which is the highest tier, for implementation of sustainability practices in 2018. That same year, the City received Gold tier remarks for reducing municipal energy use and overall community greenhouse gas emissions. The year prior, West Hollywood received recognition for sustainability best practices implementation showcasing West Hollywood's determination to foster a sustainable City [83]. The City aims to continue to reach for the next level of sustainability and is currently updating its Climate Action Plan to further reduce emissions. The City will remain a California leader and strive to set an example of how to advance the state's climate goals.

[83] https://www.ca-ilg.org/beacon-participant-profile/city-west-hollywood

Cupertino, CA

The City of Cupertino is a well-known founding City of the technology and innovation capital, Silicon Valley, and is the home to many different technology giants including the Apple Inc. headquarters. Cupertino is located at the southern rim of the San Francisco Bay and directly adjacent to the Santa Cruz mountain range. The City and the community pride themselves on three main ideologies: education, innovation and collaboration [84]. With nature at its side and a forward thinking community base, Cupertino is yet another sustainability leader in the state of California.

As the US pulls itself out of the Paris Agreement, many cities have not given up. California cities have continued to pursue progressive actions to reduce greenhouse gas emissions and keep global warming below 1.5° C. In September 2018, the City of Cupertino declared a Climate Emergency, along with other Bay Area governments. This declaration calls for community wide greenhouse gas reductions, collaboration and education with community members on the impacts of climate change, and calls all levels of government, local, state, federal and global, to act now on climate change. In this declaration, the City also plans to centralize disadvantaged communities in all processes, encouraging these communities be a part of and take ownership in the planning processes to ensure equitable access and treatment for all is achieved [85]. Additionally, the City has signed onto commitments such as Diesel Free by 2033, the Global Covenant of Mayors, We Are Still In and more to demonstrate dedication to developing sustainable communities globally. Not only has Cupertino declared a climate emergency and signed onto several commitments, the city has also made major advancements in implementing reduction measures and reducing emissions.

[84] https://www.cupertino.org/our-city/about-cupertino
[85] https://ccclimateleaders.org/wp-content/uploads/2020/05/Cupertino-CA-Sept-18-2018-Resolution-No.-18-094-Declaring-a-Climate-Emergency.pdf

Cupertino, CA

In Cupertino's first Climate Action Plan, developed in 2015, the City set targets to reduce community-wide emissions below 2010 levels 15% by 2020, 49% by 2035 and 83% by 2050 align with the state reduction goal of 80% reduction by 2050 [86]. In the Climate Action Plan progress report, published in 2018, the City determined it had surpassed its 2020 goal by reducing community emissions 24% below 2010 levels two years early. The Climate Action Plan set out 200+ measures the City could implement to reach its goals, Although increases in population, jobs, vehicle miles travelled (VMT), natural gas and overall service population occurred in the years between 2010 and 2018, the overall community emissions still reduced [87]. This is in large part due to the use of carbon free electricity.

As part of a large theme in California emissions reductions, implementing the use of Community Choice Aggregation (CCA) programs largely helped the City reduce much of its emissions. Cupertino joined the Silicon Valley Clean Energy (SVCE) CCA and has now been able to provide 100% renewable electricity to the Community.

[86] https://www.ca-ilg.org/sites/main/files/file-attachments/final.cap_.pdf
[87] https://www.cupertino.org/home/showdocument?id=25662

Cupertino, CA

SVCE has tiered options for end users to utilize either 1) 100% renewable electricity or 2) 50% renewable electricity and 50% non-carbon polluting electricity [88]. The City of Cupertino's municipal buildings utilize 100% renewable electricity and 96% of Cupertino residential and Commercial users obtain their electricity from SVCE.

This immense usage of clean electricity reduced overall electricity emissions by 95% from 2010 to 2018. In addition, Cupertino passed one of the strongest all-electric reach codes for new construction in the state to take advantage of the cleaner energy provided by SVCE, expanding its usage in all new buildings. Along with this increase in renewable electricity, Cupertino was able to decrease transportation emissions by 10% from 2010 to 2018. This decrease is in large part due to the increase in cleaner vehicles, including a large increase in the number of electric vehicles (EV) in the community. Cupertino has the second highest count of EV's in the Bay Area. While EV adoption played a huge role in reducing transportation emissions, the City also encourages the use of alternative transportation and is in the midst of installing separated bike lanes to create safer environments and promote bicycling in the community [89].

Increasing renewable energy usage significantly reduces emissions. Another goal the City developed was to increase solar capacity in the community by 1.5 megawatts (MW) by 2020. The City greatly overcame that goal by installing 4MW of solar by 2018. Businesses play a large part in reducing energy emissions and promoting a sustainable community. One of the largest solar installments, not included in the 4MW above, include the installment of 17MW of solar at Apple Park. Businesses in Cupertino time and again showcase their dedication to promoting sustainability. 60 local businesses in the City have achieved California Green Business certification through Cupertino's well renowned Green business program [90]. This further proves that collaboration across sectors are key to creating resilient sustainable cities.

[88] https://www.svcleanenergy.org/
[89] https://www.cupertino.org/home/showdocument?id=25662
[90] https://www.cupertino.org/home/showdocument?id=25662

Through all of these good efforts, Cupertino has been highly awarded through the Institute of Local Governments' Beacon Program. The Beacon Program enables communities to collaborate and implement sustainability best practices. Through this program, cities are awarded based on achievements in the following areas: agency energy and natural gas savings and agency and community greenhouse gas emissions. Awards are tiered with Platinum being the highest level followed by Gold then silver. With all of the amazing greenhouse gas reductions and in renewable energy increases, the City of Cupertino was awarded the Platinum Beacon Vanguard Award for the year 2020. Cupertino has won several Beacon awards in 2016 and 2017, but in 2020, the City was awarded the Platinum Beacon Vanguard Award for its remarkable emission reductions and energy savings [91]. The City of Cupertino has time and time again proven itself to be a leader striving for innovation and increasing sustainability. The City will continue to lead California and the Country in climate action as it strives to align with the Paris Agreement and zero in on global emission reduction.

[91] https://www.ca-ilg.org/beacon-participant-profile/city-cupertino

Brisbane, CA

Brisbane is a small bay area city just south of San Francisco. While small in size and population, the city stands out by achieving exceptional climate mitigation success. Brisbane and its residents are sustainability-driven and have been for quite some time. This is evident through their 2019 Platinum Beacon Award bestowed by the Institute for Local Government. The ILG recognized Brisbane's 20% reduction in community GHGs and 24% reduction in agency GHGs. ILG also recognized the city for the impressive 21% energy savings and 24% in natural gas savings.

These reductions and savings come from several years of exceptional sustainability efforts pursued by the city, its residents, and supporting entities. A prime example of this communal support for sustainability is their high participation in Community Choice Aggregation. Currently, the city has the lowest opt-out rate for Peninsula Clean Energy in the county. PCE provides a 50% and 100% renewable energy option, with the former option having 90% of sources greenhouse gas free [92, 93, 94]. The low opt-out rates and low-carbon generation sources help Brisbane continue on a path to a carbon-free future.

City residents also participated in SunShares. SunShares is a bulk buy solar program that allowed Brisbane residents to get solar and battery storage equipment and installation at discounted rates. For small cities, group-buy programs like Bay Area SunShares help make a dent in residential sector emissions because of their significant cost incentives and their influence on solar adoption momentum. The city has also pursued a series of solar installations for municipal buildings, including the city administration building. This solar installation offsets all city administration power usage with approximately 16,690 kWh of solar energy produced [95]. Prior to the solar install, the city installed energy-efficient lighting and windows in the same building.

Photo Credit: Scott Mucci

[92] https://cal-cca.org/cca-impact/
[93] https://www.peninsulacleanenergy.com/for-residents/
[94] https://www.peninsulacleanenergy.com/energy-choices/
[95] https://sunterrasolar.com/case-study/rooftop-solar-for-brisbane-city-hall/

Brisbane, CA

Brisbane is also a leader when it comes to establishing local ordinances and energy efficiency building codes. Supporting the notion of a sustainability-focused city, Brisbane's city council unanimously passed some of the most rigorous and robust reach codes in California [96]. Specific EV reach codes mandated EV-ready circuits in residential buildings, and 25% to 50% EV spaces within commercial building parking lots. Brisbane followed neighboring communities by prohibiting natural gas for all uses with limited exception. Along with EV and electrification requirements, Brisbane mandated that new commercial buildings install a minimum of 3 to 5 kilowatt solar systems [97]. While not all actions impacted 2019 reductions and savings, many were implemented recently and will profoundly affect the city's sustainability goals for years to come.

Because reach codes address newly constructed buildings, Brisbane wanted to ensure they also addressed existing buildings' efficiency. This initiated its Brisbane Building Efficiency Program, a program that aims to measure, monitor, and improve energy and water efficiency in commercial buildings. This program involved an ordinance requiring owners of 10,000 square feet buildings or larger to prepare for benchmarking and reporting protocols by 2021. For now, a voluntary compliance pilot program was initiated recently to test the program. The pilot program currently provides valuable one on one guidance to residents building owners, who in return, offer helpful feedback to city staff. Ultimately, the program will enter a "Beyond Benchmarking" stage, which will require buildings achieve performance thresholds or perform audits or efficiency improvements.

Photo Credit: Claire Treyz

[96] https://sustainablesanmateo.org/home/awards/reach-awards/
[97] https://www.brisbaneca.org/building/page/renewable-energy-and-reduction-ghg-emissions

Brisbane, CA

The city's passion for sustainability is reflected through its city council and other branches of the local governments. In recent years, the city expanded its part-time sustainability staff to a full-time employee and supplemental staff members. The sustainability department also brings on college interns every summer who perform a series of outreach activities, such as creating educational videos and creating social media. This type of engagement and outreach is crucial for Brisbane. Being a small city, it relies on its residents to do their part, whether it's an individual action or collaboration through groups like Brisbane's citizen Open Space and Ecology Committee.

Sustainability-oriented decisions are not new for Brisbane. More than ten years ago, the city established ordinances mandating various green building requirements for new commercial and residential buildings.

These requirements include Leadership in Energy and Environmental Design (LEED) Silver ratings for various newly constructed commercial and city-sponsored buildings. The ordinance also requires single-family dwellings and multi-family buildings to acquire a Green Home rating from the respective New Home and Multifamily GreenPoint Checklists. These requirements promote energy efficiency, sustainable materials and disposal, renewable energy, sustainable land use, and much more.

Like Brisbane, many communities, big and small, are pursuing mitigation actions more than ever. The city is a prime example of constant advancement in climate actions and the importance of a combined sustainability focus from the government and community. Along with Brisbane, many other cities will continually set a precedent for local action, and pave the way for a sustainable future.

Photo Credit: Ken Johnson

Truckee, CA

Truckee is a town of 16,700 people just north of Lake Tahoe [98]. As the corridor to the North Tahoe area, Truckee prides itself on providing the ultimate mountain-town experience. From the plentiful outdoor activities to the mainstreet life, Truckee truly represents the local Californian community experience. However, the town represents more than just the California local experience, it represents the robust approach local communities are taking in pursuit of climate mitigation. Because of Truckee's exceptional efforts of reducing community/agency greenhouse gases and increasing energy savings, The Institute for Local Government awarded the town a Silver Beacon Award [99].

While it's essential to highlight mitigation action, it's also important to identify the foundation in which the action was established.

Local climate mitigation is often centered around an institutional response to varying pressures of climate change. This warrants approaches solely formulated by a local government, without the residents' input who are impacted by government decisions. However, as communities expand and diversify, their residents experience climate change impacts differently. The Town of Truckee reacted to this ongoing transformation by pursuing a multitude of collaborative measures that opened the door to synergistic climate action. This synergistic climate action concept allowed the town to develop an equitable plan based on concrete climate data and the significant desires and issues of the diverse Truckee locals.

Photo Credit: Troy Corliss

[98] https://www.census.gov/quickfacts/truckeetowncalifornia
[99] https://www.ca-ilg.org/post/beacon-award-winners

Truckee, CA

Aside from known approaches based on data, Truckee wanted to craft actionable strategies based on key stakeholders and the community's input. This collaborative engagement between city officials, key stakeholders, and community members took several months but resulted in constructive outcomes fundamental in vulnerability identification and strategic planning.

Truckee initially focused on key stakeholder groups of 35 agency and organization leaders [100]. Paired with data and model projections from Truckee consultants, the stakeholders utilized their diverse professional backgrounds to prioritized specific vulnerabilities they thought Truckee residents, businesses, and the town as a whole would face in the upcoming years. Months later, the key stakeholders joined for a strategic planning workshop guided around the previously identified vulnerabilities.

While the stakeholders are essential members of the community, Truckee's entire population is critical in their climate action planning process. Like many Californians, many Truckee residents are disproportionately affected by climate change, along with structural injustices. This is the very reason the town ensured residents of color, Lower-income residents, residents with preexisting conditions, and more were properly represented in their climate action efforts.

To ensure these vulnerable residents were included, the town engaged in residents through a series of community workshops and surveys. The workshops allowed residents to communicate their own experiences and solutions and offered residents a unique experience to connect through musical and poetry performances, language interpretations, art activities, and more. This outside-the-box approach facilitated community engagement during a difficult discussion. Community Members also prioritized personal and communal climate change vulnerabilities through surveys. Similar to the stakeholder engagement, the community engagement played a vital role in strategic planning and vulnerability identification.

Photo Credit: Kyle Railton

[100] https://www.climatewise.org/images/projects/truckee/truckee-climate-adaptation-plan-final.pdf

Truckee, CA

The town took numerous other approaches in 2019 to accelerate towards their Climate Action Plan, Climate Adaptation Plan, and sustainability goals. They established a General Plan Advisory Committee (GPAC) Climate Subcommittee, which spearheaded Climate Action Plan development and strategic planning around community-wide greenhouse gas reduction. Truckee's town council also approved $2 million to be spent on local sustainability projects, in addition to the $16 million already spent over the last five years [101]. While the town has made dramatic improvements to its public transportation, bicycle, and pedestrian areas, they have also made strides in the energy sector.

Within the last year, Truckee initiated $240,000 in energy efficiency retrofitting improvements for municipally-owned facilities [102]. These energy efficiency improvements enhanced lighting systems and building mechanical systems, which reduced electricity and natural gas consumption and reduced utility costs.

While not directly associated with Truckee's sustainability efforts, Truckee's' public utility has been extremely proactive in transitioning to cleaner energy sources. Truckee Donner Public Utility District (TDPUD) operates with just under 70% of renewable energy sources, which is well above the mandatory state minimum [103]. Relying on a utility that continually adds renewable energy sources to their grid allows a city like Truckee to reduce the electricity emissions factor and reduce indirect emissions associated with electricity generation.

Californian cities must remember that the mitigation action is most robust when it's equitable, supporting all community members. Communities can learn from Truckee, as it serves as a symbol for progressive, collaborative climate action. This is because the environment and its residents are at the forefront of Truckee's holistic sustainability goals. We must follow in their footsteps to pursue synergistic solutions, because now, more than ever, climate change is fighting back.

Photo Credit: Michelle Erskine

[101] https://www.sierrasun.com/news/environment/a-sustainable-truckee-town-working-toward-100-percent-renewable-energy-goal/
[102] https://www.ca-ilg.org/sites/main/files/file-attachments/truckee_bp_final.pdf?1566948813
[103] Conversation with Nicholas Martin of Truckee

Where to Next?

With the climate crisis the world is grappling with, efforts to reduce large sources of greenhouse gas emissions have been brought to the forefront. These greenhouse gas emissions have been a root cause of climate change and exacerbating climate hazards and vulnerabilities experienced by communities. For many California communities, the burning of fossil fuels, used to power buildings and vehicles, constitutes the largest GHG emission source. California local governments are focusing efforts on reducing these emissions to foster a sustainable community for all.

With climate hazards drastically increasing in 2020, many California communities are feeling the effects of climate change now. Local governments around the state declare climate emergencies to escalate attention to the crises and call governments at every level to take action and negate GHG emissions.
In order to combat the climate crisis, California communities continue to expand the amount of Community Choice Aggregators, implement energy efficiency strategies, increase renewable and carbon free energy usage, electrify transit and passenger vehicles, and work collectively with the community to reduce emissions.

Increasing funding and regional planning opportunities will have a large impact on California climate action, and although the SEEC program is coming to an end, the SEEC NGOs, utilities and many California jurisdictions will continue to work to provide resources and collaborate to reduce emissions and reverse climate change.

State of Local Climate Action Report

Statewide Energy Efficiency Collaborative