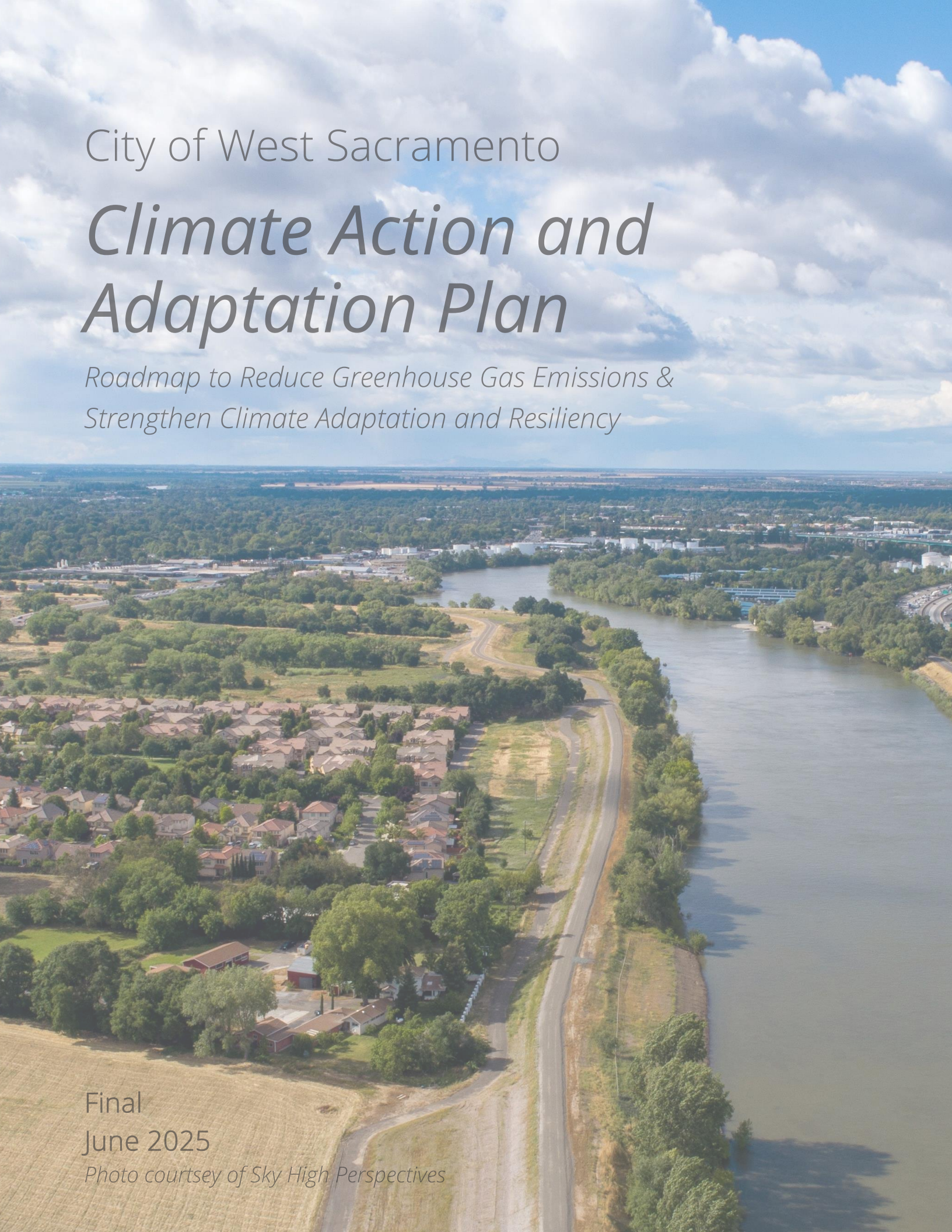
City of West Sacramento

Climate Action and Adaptation Plan

Roadmap to Reduce Greenhouse Gas Emissions & Strengthen Climate Adaptation and Resiliency



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Preface

The City of West Sacramento (City)[1] Climate Action and Adaptation Plan (CAAP) serves as the community's roadmap to reduce greenhouse gas (GHG) emissions toward carbon neutrality by 2045 and strengthen climate adaptation and resiliency in an equitable manner. The city's baseline GHG inventory and forecasts show that substantial action is needed to meet these reduction targets, especially in the transportation and building energy sectors. Additionally, California's Fourth Climate Change Assessment shows that the region will experience greater climate risks from hazards such as extreme heat or drought. To address this context, the CAAP includes 7 overarching goals and 26 actions to drive local GHG emissions reductions, support carbon removal and sequestration, and increase local resiliency. The CAAP's GHG reduction actions are primarily focused on meeting the near-term 2030 GHG target of a 25% per capita emissions intensity reduction from 2018, and additional or enhanced actions are likely to be needed in the future to meet the 2045 carbon neutrality target. The climate adaptation actions are primarily focused on reducing the impact presented by local climate hazards. This CAAP is a living document that will benefit from updates over time to reflect new information and future technologies and policies to maximize the City's climate impact and enhance community climate equity. The CAAP serves as a foundation and roadmap to reduce GHG emissions and many of the actions and implementation tactics identified in this document will require follow-on Municipal Code updates with additional public outreach, analysis, and City Council approval.

The Mayors' Commission on Climate Change report *Achieving Carbon Zero in Sacramento and West Sacramento by 2045* set the foundation for creating this Climate Action Plan and provides significant information and other resources that will be helpful in the ongoing CAAP implementation process. West Sacramento's CAAP was also informed by input from residents and interested parties, City staff, and the City Commissions and Council to provide a roadmap toward carbon neutrality that reflects the city's unique local context, opportunities, and constraints.

Equity impacts were considered throughout CAAP development and potential solutions to equity issues are highlighted in the actions and integrated throughout the plan's implementation and monitoring framework. CAAP actions are also anticipated to provide additional community co-benefits when implemented, such as increasing green jobs, reducing costs of living, and enhancing public health. A discussion of how equity was integrated in the CAAP can be found in the *"Equity Considerations and CAAP Development"* section in Chapter 1. In achieving the CAAP goals, West Sacramento is doing its part to combat global climate change and create a more resilient, equitable, and prosperous city.

[1] Capitalized "City" will be used when referring to the City government as an entity. Lowercase "city" will be used when referring to the geographic area that is the City of West Sacramento.

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Acronyms

°C	degrees Celsius
°F	degrees Fahrenheit
AB	Assembly Bill
ACS	American Community Survey
AQI	Air Quality Index
ARCCA	Alliance of Regional Collaboratives for Climate Adaptation
ATP	Active Transportation Program
BayREN	Bay Area Regional Energy Network
BRIC	Building Resilient Infrastructure and Communities
CAISO	California Independent System Operator
CalEPA	California Environmental Protection Agency
CALGreen	California green building standards code
CalSTRS	California State Teachers' Retirement System
CAAP	Climate Action and Adaptation Plan
CARB	California Air Resources Board
CBOs	community-based organization
CCA	community choice aggregation
CEC	California Energy Commission
CEJST	Climate and Economic Justice Screening Tool
CEQA	California Environmental Quality Act
CFCs	chlorofluorocarbons
CH_4	methane
City	City of West Sacramento
CNAP	County Nutrition Action Partnership
CO_2	carbon dioxide
COVID-19	coronavirus disease
CRCRC	Capital Region Climate Readiness Collaborative
CRD	climate resilience districts
DAC	disadvantaged communities
DIY	do-it-yourself
EMFAC	CARB's mobile emissions model
EO	Executive Order
ESG	environmental, social, and governance
ETC	equitable transportation community
EUI	energy use intensity
EVs	electric vehicles
EVSE	electric vehicle supply equipment
FEMA	Federal Emergency Management Agency
GHG	greenhouse gas
GPC	Global Protocol for Community-scale Greenhouse Gas Emission Inventories
GWP	global warming potential
HCFCs	hydrochlorofluorocarbons
HFCs	hydrofluorocarbons
HVAC	heating, ventilation and air conditioning
ICARP	Integrated Climate Adaptation and Resiliency Program

ICE	internal combustion engine
ICLEI	Local Governments for Sustainability
IIJA	Infrastructure Investment and Jobs Act
IPCC	International Panel on Climate Change
IRA	Inflation Reduction Act
ISRF	Infrastructure State Revolving Fund
kW	kilowatt
kWh	kilowatt hours
LRT	light rail transit
MCCC	Mayor's Commission on Climate Change
MT CO_2e	metric tons of carbon dioxide equivalent
MTP	Metropolitan Transportation Plan
MWELO	Model Water Efficient Landscape Ordinance
N_2O	nitrous oxide
NDWA	North Delta Water Agency
NF_3	nitrogen trifluoride
NOx	Nitrogen oxides
OPR	Governor's Office of Planning and Research
PFCs	perfluorocarbons
PG&E	Pacific Gas & Electric Company
PHEV	plug-in-hybrid electric vehicle
RAISE	Rebuilding American Infrastructure with Sustainability and Equity
RECO	Residential Energy Conservation Ordinance
Regional San	Sacramento Regional County Sanitation District
RRGP	Regional Resilience Planning and Implementation Grant
SB	Senate Bill
SCS	Sustainable Communities Strategy
SF_6	sulfur hexafluoride
sq. ft.	square feet
SVI	social vulnerability index
TAC	Technical Advisory Committee
TDM	transportation demand management
TIFIA	Transportation Infrastructure and Innovation Act
TOD	transit-oriented development
TRUE	Total Resource Use and Efficiency
UC	University of California
UHI	urban heat island
USDOT	U.S. Department of Transportation
VCE	Valley Clean Energy
VMT	vehicle miles travelled
VOCs	volatile organic compounds
YCTD	Yolo County Transportation District
YSAQMD	Yolo-Solano Air Quality Management District
ZEV	Zero-emissions vehicle

Chapter 1
Introduction

The City of West Sacramento (City) Climate Action and Adaptation Plan (CAAP) serves as the community's roadmap to reduce greenhouse gas (GHG) emissions and local climate vulnerability and strengthen community adaptation and resiliency in an equitable manner. The CAAP builds upon the collective efforts of local climate champions – the many residents, local businesses, and other community members who have already taken personal action to save and reduce energy consumption in their homes and businesses, install renewable energy systems, reduce their vehicle use, or divert waste from landfills by reusing, recycling, and composting, for example. The CAAP also builds upon the City's broader long-term planning vision for the future, established in General Plan 2035 and other plans, to continue growing a sustainable metropolitan downtown, surrounded by vibrant neighborhoods that provide a range of housing choices and support a regional jobs center with a diverse economy.



This CAAP demonstrates the City's commitment to addressing the threat of climate change and its impacts that are already being felt locally, including extended heat waves, water restrictions from droughts, worsening outdoor air quality from wildfires, increased flood risk from extreme precipitation events, and energy reliability issues due to utility company actions. The CAAP includes a series of local strategies, designed with input from residents, businesses, and elected officials, that when implemented will reduce the community's GHG emissions and climate vulnerability and demonstrate how West Sacramento is doing its part to face this global challenge.

Local Climate Champions

West Sacramento is full of climate champions – residents, local businesses, City departments, agencies and organizations – that are already leading the charge on climate change to reduce emissions, enhance resiliency and build a local green economy. Throughout Chapter 3, readers will find call-out boxes with short stories that introduce different climate champions and highlight their actions and impact.

The CAAP is intended to be useful and actionable to all members of the community because our ambitious targets can only be achieved through collective efforts. These short stories acknowledge the good work that has already occurred and will hopefully inspire others to act.

Mayors' Commission on Climate Change

In 2018, West Sacramento and Sacramento established the Mayors' Commission on Climate Change. The goal of the Commission was to develop recommendations to achieve carbon neutrality in the cities by 2045 and inform development of each city's CAP. The Commission's carbon neutrality goal aligns with the state's 2022 Assembly Bill (AB) 1279 that established a statewide carbon neutrality target by 2045, and with the United Nations International Panel on Climate Change (IPCC) 2018 report that presents multiple pathways to keep global warming levels below a 1.5-degree Celsius (^{o} C) or 2.7 degrees Fahrenheit (^{o} F) threshold.

Through its process, the Commission included participation from local and regional leaders and convened numerous public meetings to develop priority strategies that could achieve carbon neutrality in the region while also building political support for action and advancing social equity and economic prosperity. The Commission's final report, *Achieving Carbon Zero in Sacramento and West Sacramento by 2045*, helped establish a vision for climate action in the region, and West Sacramento's CAAP was designed to implement this vision. The City built upon the framework established by the Mayors' Commission, developing its own detailed actions and implementation steps that demonstrate how carbon neutrality can be achieved within West Sacramento's unique context while remaining aligned with this regional effort.

CAAP Content and Organization

The CAAP is organized into four chapters that present an overview of the CAAP and its planning process, GHG emissions information, the City's actions, and an implementation and monitoring framework to ensure the City is on track to achieve its targets. The contents of each chapter are further summarized below.

- **Chapter 1 – Introduction** gives an overview of the CAAP purpose and relationship to other City planning efforts. It provides background information on climate change and its local impacts and describes the West Sacramento context that informed plan development.
- **Chapter 2 – City Greenhouse Gas Context and Targets** introduces the community's GHG emissions from its 2018 GHG inventory, showing the source and magnitude of emissions in the city. Future emissions projections are included to illustrate how emissions could change if no further local action is taken, and the City's GHG targets for 2030 and 2045 are introduced. The emissions context information is helpful to understand where opportunities exist for GHG reductions and what level of local action is required to achieve the City's targets.
- **Chapter 3 – Climate Action Plan Strategies** presents the set of local GHG reduction and climate adaptation actions the city will implement toward its targets. The actions support the regional and state carbon neutrality framework established in the Mayors' Climate Commission and state legislation while reflecting the local community context and what it will take to implement these actions in West Sacramento. The actions are organized by goal which cover green vehicles, alternative transportation, electric buildings, zero-carbon electricity, waste reduction, carbon removal, and resiliency. The chapter also summarizes how these actions contribute to the GHG targets.
- **Chapter 4 – Implementation and Monitoring** sets a process for consistent progress tracking to ensure that the City is on track toward its GHG targets. The chapter describes the role of regular GHG inventory updates to provide a holistic view of community emissions as well as interim data tracking that can provide annual feedback on the most important emissions sources. A process for evaluating individual action implementation success is also outlined.

The CAAP reflects the City's long-term strategy for how all residents can participate in and benefit from a low-carbon and resilient

COVID-19 Uncertainty

In January 2020, the first case of the novel coronavirus disease (COVID-19) was found in the United States, and a subsequent pandemic was declared in March 2020. The pandemic represented a time of uncertainty, and this Climate Action Plan was written during that uncertainty. COVID-19 had implications to emissions which will not fully be understood for some time. This Climate Action Plan includes the best available data at its creation including emissions data prior to COVID-19. Addressing climate change will require continual evaluation and flexibility.

economy, and highlights the health, social, economic, and environmental benefits of local climate action.

Outreach, Engagement, and Equity

CAAP Outreach and Engagement

CAAP development coincided with the COVID pandemic, causing the City to take a flexible and adaptative approach to engagement based on the continually evolving public health landscape at the time. Ultimately, the CAAP development process included a range of outreach and engagement approaches, including a virtual workshop, an online questionnaire, two Earth Day events (one virtual and one in person), a series of virtual meetings with the Chamber of Commerce, a community-based organization virtual roundtable, and two in-person community conversation events to discuss the draft CAAP actions. CAAP informational materials were printed to share at the second Earth Day event and provided in Spanish, Russian, and English versions. Similarly, advertisements for the community conversations were provided in the same three languages and distributed throughout the community in print and digital formats. Input from each opportunity was incorporated along the way through the plan development process.

As part of the community conversation events, participants were asked to prioritize the draft CAAP GHG reduction actions based on their urgency for implementation following small group discussions about each action and the city's potential opportunities and constraints for implementation; climate adaptation actions had not been drafted at the time and therefore are not reflected in the participants' priorities. The following list reflects the top 8 action priorities from participants, with each action receiving at least 3 priority votes:

- Action 20: Develop and implement an urban forest master plan
- Action 13: Develop and adopt a building electrification program and incentives for existing buildings
- Action 12: Incentivize local solar photovoltaic systems and enhanced energy storage, and promote participation in community solar programs
- Action 11: Enhance utility coordination and advocate for the City's utility provider to provide access to carbon-free electricity and additional building efficiency/retrofit rebates and funding
- Action 7: Prioritize transit-oriented development and center/corridor community growth through land use planning
- Action 4: Establish an electric vehicle carshare program with free or subsidized rates for low-income residents
- Action 18: Expand the food recovery network to collect edible food from businesses
- Action 17: Expand commercial and multifamily organic waste programs

While this input may not define the implementation priorities the City ultimately pursues, it provides useful guidance to City staff about the community's expectations and preferences regarding the CAAP's actions. The full set of CAAP actions are presented in detail in Chapter 3.

Equity Considerations and CAAP Development

The effects of climate change will not be felt equally across all community groups, and historically marginalized communities are likely to bear a disproportionate amount of future impact. These residents may lack adequate resources to adapt to climate impacts like prolonged heat events or to participate fully in the GHG reduction actions identified in this plan without additional support. As part of the CAAP development process, the City leveraged work from the Mayors' Commission on Climate Change Equity Technical Advisory Committee (TAC) to help ground the CAAP implementation approach within the West Sacramento context. The City's goal is to respond to the challenges of climate change in a manner that benefits all residents and community groups while providing the necessary support and safeguards to ensure a just transition toward a lower-emissions future.

The Mayors' Commission on Climate Change TAC was formed to ensure equitable strategies were developed across all sectors. The Equity TAC developed a set of equity recommendations to guide the cities in putting in place principles and practices that incorporate equity in planning and decision-making processes, conducting inclusive community engagement, and building community capacity. These recommendations include:

- Operationalize equity by providing education, ensuring shared decision-making, and allocating resources that address historical and current disparities.
- Authentically and inclusively involve marginalized communities and populations that have been historically left out of the policymaking and governance process as co-creators in all planning and implementation phases to ensure fair, equitable outcomes.
- Expand the capacities of cultural brokers and community-based organization (CBO
- s) that have established relationships with marginalized communities, leveraging existing community engagement efforts when possible.

These recommendations were integrated throughout West Sacramento's CAAP development process through the following steps:

1. Equity considerations for climate strategies in the Mayor's Commission on Climate Change's (MCCC's) Technical

Equity Definition

The Mayors' Commission on Climate Change Equity Technical Advisory Committee defined equity to mean:

"Making decisions and allocating resources in a manner that addresses historical and current disparities and holds the largest greenhouse gases (GHG) emitters accountable."

We use the term "equity" instead of "equality" because equality means everyone is given the exact same resources or opportunities, while equity recognizes that each person has different circumstances and must be given the resources and opportunities needed to reach an equal outcome.

Report were used to inform CAAP action language, identify equity issues and solutions, and develop targeted implementation tactics.

2. Additional equity issues and solutions were identified through research on other city CAPs and current local conditions.

3. To inform the CAAP action development process, the City reached out to 30 CBOs to gather feedback, establish relationships, and identify community leaders. These organizations ranged across the geography of West Sacramento, and included religious organizations, educational institutions, and non-profits. The relationships established or reinforced with these CBOs during the CAAP development process serve as a starting point for community-centered plan implementation that will be based on continued collaboration with the City CAAP team.

4. Community leaders were identified from the CBO outreach process. These leaders were interested in providing feedback on the CAAP, sharing information within their organization and with the communities they serve, and collaborating with the City for future planning processes.

5. Draft CAAP actions were sent to the community leaders to review and distribute to their organizations for feedback. A community leader roundtable was held to discuss feedback, primarily on equity issues and solutions.

6. The CAAP outreach table at the City's 2022 Earth Day event provided outreach and materials in Spanish and Russian.

7. Two in-person CAAP community conversation events were held on different days (one weekday and one weekend) and at different hours (one evening and one lunchtime) to hear resident feedback and CAAP-related priorities. Advertising for the events was provided in Spanish and Russian and free food was provided.

8. Draft actions were posted on the City's website for the community to review and provide feedback on equity considerations. Community leader and other public feedback on equity was integrated into the CAAP.

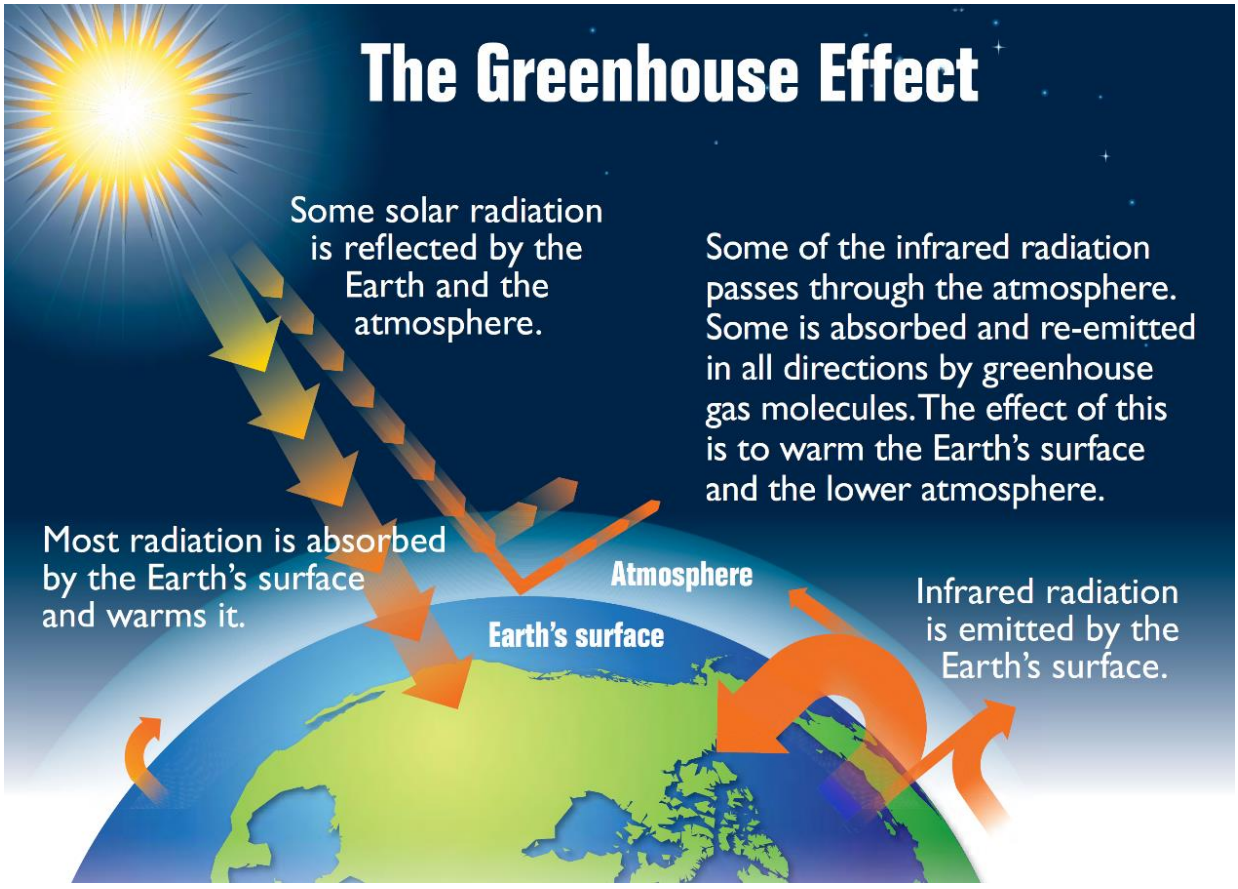
Through this process, the City identified equity considerations for each action, including potential equity issues and solutions, which are included in call-out boxes in the Chapter 3 action descriptions. These potential issues and solutions are not exhaustive lists but will provide early direction to the City team when developing action-specific implementation programs; impacts on and benefits to the city's marginalized communities will remain a primary factor in implementation program development.

Climate Change – Cause and Effect

Climate change is a long-term change in the average global or regional weather patterns. Since the mid-20th century, our climate has been warming at an increasing rate. Scientists attribute this global warming trend to human expansion of the "greenhouse effect" — warming that occurs when the atmosphere traps heat radiating from Earth toward space.

Certain greenhouse gases in the atmosphere, like carbon dioxide (CO_2), block heat from escaping and act like a blanket around Earth, trapping energy in the atmosphere and causing it to warm (see Figure 1.1). Scientific evidence has shown that human activities like burning fossil fuels have greatly increased the amount of GHGs in our atmosphere. These higher GHG levels cause the planet to warm, and also contribute to rising sea levels, extreme weather events, extended droughts, and frequent wildfires. Trend projections estimate that atmospheric concentrations of GHG emissions will continue to increase throughout this century. If these projections become reality, climate change will threaten our economic well-being, public health, and environment. This CAAP presents the city's GHG reduction strategies designed to help mitigate West Sacramento's contribution to climate change.

Figure 1.1 – Greenhouse Effect



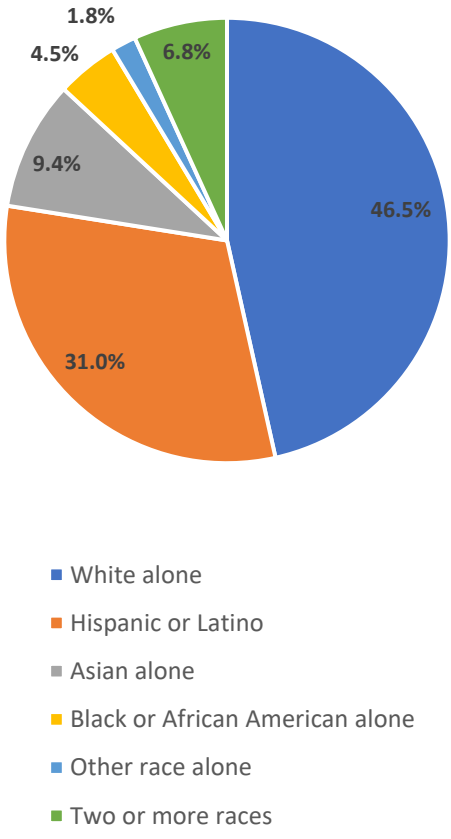
Source: Wikimedia Commons. (August 6, 2015). Earth's Greenhouse Effect *[Online].*
Available: https://upload.wikimedia.org/wikipedia/commons/8/8e/Earth's_greenhouse_effect_(US_EPA,_2012).png

West Sacramento Context

Community Context

West Sacramento is defined by its diverse collection of neighborhoods and communities, and this diversity informed plan development to help make the plan actionable for all residents. As of 2018, there were approximately 52,800 residents in the city within 18,174 households. Approximately 25% of the city's residents were born outside of the United States, and greater than 40% speak a language other than English at home. Figure 1.2 shows the city's 2018 population breakdown by race.

Figure 1.2 – City of West Sacramento 2018 Population by Race



Source: 2018 ACS Demographic and Housing Estimate, 5-Year Estimates, Table DP05

The city's residents live in approximately 19,200 housing units, of which 55% are owner-occupied and 45% are renter-occupied, according to the 2018 American Community Survey. Nearly 71% of West Sacramento's housing units are single-family residential homes, followed by 12% in buildings with 10 or more units, 11% in buildings with 3-9 units, and 6% mobile home units. More than one-third of the city's housing units were constructed prior to the 1970's and the enactment of California's building energy code, and nearly 70% of the city's housing uses natural gas for space heating, while most of the remainder uses electricity (27%).

West Sacramento is also bifurcated by the Deep-Water Ship Channel, I-80/US 50, and Union Pacific Railroad, with most of the neighborhoods north of the channel identified as Disadvantaged Communities by the state. At the time of CAAP development, the annual median household income north of the ship channel was $50,424 with a median net worth of $30,346. In comparison, the median household income in Southport was $106,888 and the median net worth was $270,790.

Understanding the city's resident and building stock profiles is important when developing CAAP actions to ensure the city's strategies address the local sources of emissions and opportunities for reductions, and that successful implementation programs can be designed for diverse audiences.

Local Climate Hazards

According to California's Fourth Climate Change Assessment - Sacramento Valley Regional Report, impacts from climate change are already occurring in the Sacramento Valley



and are projected to worsen throughout this century. Local climate change impacts are wide ranging, from agricultural productivity to infrastructure and transportation, energy reliability to human health and natural ecosystems.

As part of the CAAP development process, the project team developed a Climate Adaptation Analysis and Policy Recommendations memo to:

- summarize results from the Delta Stewardship Commission's regional vulnerability assessment and Draft West Sacramento Vulnerability Report,
- review the City's existing General Plan and related documents for policies that address key climate vulnerabilities to identify policy gaps, and
- recommend actions that could be included in the General Plan update to address those gaps.

During CAAP development, the Delta Stewardship Council was simultaneously undertaking an initiative called Delta Adapts: Creating a Climate Resilient Future, which included a climate change vulnerability assessment and adaptation plan for the Sacramento-San Joaquin Delta and Suisun Marsh. A CivicSpark Climate Fellow at the Delta Stewardship Council synthesized results from the Delta-wide project to provide information on vulnerability and climate change specific to the City of West Sacramento. Based on that report, climate projections for West Sacramento primarily anticipate:

- Higher temperatures and a greater average number of extreme heat days per year
- Decreased snowpack
- More frequent and severe droughts
- Increased risk of smoke and air quality impacts due to an increase in size, frequency, and intensity of wildfires.
- Increased risk of catastrophic flooding
- Increased variability in precipitation
- Increased intensity of extreme storms

The vulnerability assessment also included a social vulnerability index (SVI) to identify concentrations of residents who have a heightened sensitivity to climate change impacts. Based on the Climate Adaptation Analysis and Policy Recommendations memo, a summary of the city's key impacts and vulnerabilities are presented below:

- Extreme heat – consequences include direct health impacts, wear and tear on infrastructure, increased energy bills from air conditioning demand, and power outages from energy demand spikes. Exposure to extreme heat will be greater in areas that have concentrations of impervious surfaces, which have a strong overlap in the city with sensitive populations.
- Poor air quality during wildfire seasons – wildfires in other areas of the state will result in periods of poor local air quality. Populations that are especially sensitive include those with pre-existing respiratory conditions, those who live in substandard housing or lack the resources to purchase air filtration systems, and outdoor agricultural workers and other workers who do not have the option of remaining indoors.
- Threatened water supply – changing snowpack and precipitation patterns in the Sacramento River watershed will threaten the city's water supply, which will impact the local environment and regional agricultural economy. This vulnerability applies throughout the city uniformly, though vulnerable populations, especially agricultural workers, are more sensitive to the economic impacts.
- Increased risk of flooding – climate change will likely result in an increased frequency of severe storms and increases in sea level which increases stress on levees and stormwater drainage systems that can result in flooding. Though recent levee system upgrades reduce risks in near- and mid-term, increased water levels increase the potential consequences of levee or pump failure. Impacts may initially manifest as local flooding, ponding, or increased pumping costs and energy requirements due to groundwater table rise. The SVI identified concentrations of populations that are more sensitive and are less likely to have the resources to cope with potential flood impacts.

For further information on the results of the vulnerability assessment, see the full Climate Adaptation Analysis and Policy Recommendations memo included as an appendix.

While anybody can be impacted by the adverse effects of climate change, the effects will likely not be felt equally among the city's different communities because certain

populations are more sensitive to these outcomes. The relationship between a community's socio-economic characteristics and sensitivity to climate impacts is due to many factors, such as access to transportation options, access to economic resources, linguistic or cultural isolation, historic and current structural racism, and preexisting physical or mental health conditions. The CAAP considers climate inequality in its implementation approach with the goal of providing a balanced approach to local action that allows benefits of the plan to be shared equitably. While the CAAP does include several actions that can help reduce local climate hazards (see Chapter 3), the City's primary approach to addressing climate change impacts is expressed through the various General Plan Elements and corresponding goals and policies.

Timeline of Climate Action

This CAAP is not the City's first step toward addressing the causes and impacts of climate change, nor is the city acting alone. Both the City of West Sacramento and the state of California have developed a framework of supporting policy regulations that address GHG emissions sources and climate threats. The overarching frameworks are developed to reduce GHG emissions and are aligned with AB 1279[2], which sets the state's 2045 carbon neutrality target; many other local governments are now also planning for their own carbon neutrality pathways. The following timelines identify major milestones in climate planning at the local, state, and federal levels.

Timeline of Local Climate Action

- 1993 – City urban planning efforts to deindustrialize the Sacramento River waterfront and create a walkable, urban mixed-use district (Triangle Specific Plan, now Bridge District Specific Plan)
- 2007 – City of West Sacramento joins ICLEI – Local Governments for Sustainability, an international association of local governments that have made a commitment to sustainable development
- 2008 – City undertakes levee improvement project(s) to increase future flood protection
- 2008 – I Street levee rehabilitation project completed through state and local funds
- 2009 – City develops its first Draft Climate Action Plan



[2] AB 1279, https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=202120220AB1279

- 2016 – West Sacramento Levee Project is Authorized by Congress
- 2016 – General Plan 2035 is adopted and designed to be consistent with Sacramento Area Council of Governments (SACOG's) regional planning framework Metropolitan Transportation Plan/Sustainable Communities Strategy (MTP-SCS)
- 2018 – CARB updates regional GHG reduction targets for passenger vehicles. Metropolitan planning organizations must prepare a sustainable communities strategy (SCS) to reach targets every four to five years
- 2018 – City introduces new programs to increase community-wide mobility options (Jump, Via)
- 2018 – WSAFCA completes Southport Setback Levee Project
- 2018 – Mayors' Commission on Climate Change, including City of West Sacramento, launches to identify strategies for carbon neutrality in West Sacramento and Sacramento
- 2018 – City establishes a residential food waste collection program
- 2019 – City begins CAAP update process
- 2020 – Mayors' Climate Commission adopts regional carbon neutrality target for 2045
- 2021 – Mobility Action Plan is adopted
- 2025 – West Sacramento CAAP is adopted
- 2030 – West Sacramento GHG target year – 5.28 metric tons of carbon dioxide equivalent (MT CO_2e) per capita
- 2045 – West Sacramento and California carbon neutrality target year

Timeline of State and Federal Climate Action

- 2006 – Assembly Bill (AB) 32 Global Warming Solutions Act sets California's first statewide GHG target – return to 1990 emissions levels by 2020. CA adopts first-in-the-nation mandatory statewide green building standards code (CALGreen) in response.
- 2007 – Senate Bill (SB) 97 required Governor's Office of Planning and Research (OPR), now the Office of Land Use & Climate Innovation, to develop, and the California Natural Resources Agency to adopt, amendments to the California Environmental Quality Act (CEQA) Guidelines addressing the analysis and mitigation of greenhouse gas emissions.
- 2008 – SB 375 directs California Air Resources Board (CARB) to set regional targets for reducing GHGs
- 2016 – SB 1383 adopted to address short-lived climate pollutants including reducing statewide organic waste disposal by 75% by 2025 and rescuing 20% currently disposed edible food by 2025
- 2016 – SB 32 Global Warming Solutions Act establishes California's second statewide GHG target – 40% below 1990 levels by 2030
- 2018 – SB 100 establishes a goal of 100% renewable and zero-carbon electricity by 2045
- 2018 – AB 178 requires solar panels for newly constructed low-rise residential buildings

- 2021 – Federal Infrastructure Investment and Jobs Act (IIJA) authorizes funding for transportation and infrastructure spending
- 2022 – Title 24 California Building Standards Code updated
- 2022 – CARB approves Advanced Clean Cars II rule for 100% of new cars and light trucks sold in California will be zero-emission vehicles (ZEVs) by 2035
- 2022 – AB 1279 codifies state's 2045 carbon neutrality target
- 2022 – SB 1020 sets interim renewable and zero carbon electricity targets of 90% by 2035 and 95% by 2040
- 2022 – CARB Scoping Plan update presents a pathway to achieving carbon neutrality no later than 2045
- 2022 – Federal Inflation Reduction Act invests $370 billion in spending and tax credits in low-emission forms of energy to fight climate change

Relationship to General Plan

West Sacramento's General Plan 2035 is a long-term planning framework that guides the city's future development by specifying locations for different land uses, transportation improvements, and other public infrastructure. General Plan 2035 was developed based on sustainability concepts, such as complete streets that are safe and accessible to different modes of travel, green buildings that reduce resource consumption and improve building occupant health and comfort, and transit-oriented high-density development along the city's riverfront that helps reduce car dependency in the community. Importantly, these concepts also reinforce the CAAP's objectives to reduce GHG emissions and climate risk, and implementation of both plans support goals of the other.

Various policies and programs address GHG emission reduction and climate adaptation concerns throughout General Plan 2035. The Safety Element specifically addresses climate issues with an outline for GHG reduction targets and policy goals, including Goal S-4.3 that states the City, in collaboration with interested parties, shall implement policies and measures to reduce GHG emissions from the community consistent with their established reduction targets. Additionally, Goal S-4.7 states that the City should monitor the local impacts of climate change and use adaptive management techniques in response to those impacts. The City has prepared this CAAP to provide a comprehensive strategy for reducing local GHG emissions, adapting and building resileincy to climate change, and achieving the objectives of General Plan Goals S-4.3 and S-4.7. Since GHG emissions and adaptation are cross-cutting issues addressed by many General Plan elements, the CAAP is generally considered an implementation measure for the General Plan. This structure allows the City to update the CAAP on an ongoing, as-needed basis to ensure that its climate protection efforts reflect current legislation and emerging best practices.

During CAAP development, the City completed the Housing Element update and was in the process of completing the Environmental Justice and Safety Element to comply with SB 379, which requires all cities and counties to include climate adaptation and resiliency

strategies in the Safety Element. For further information on the climate vulnerability policy -gap analysis, see the full Climate Adaptation Analysis and Policy Recommendations memo included as an appendix.

Relationship to CEQA

Local governments may prepare a greenhouse gas reduction plan that can be used for CEQA review of subsequent plans and projects that are consistent with the GHG reduction strategies and targets in the plan.

This approach allows jurisdictions to:

- Address GHG emissions at a community-wide level to determine the most effective and efficient methods to reduce GHG emissions,
- Identify the reduction measures that would promote the goals of the General Plan, and
- Implement the reduction measures that have the most co-benefits (for example, improving mobility and access, local economic development, reducing household and business utility and transportation costs, improving public health, etc.).

This CAAP was developed consistent with state guidelines that pertain to local plans "for the reduction or mitigation of GHG emissions" (pursuant to SB 97 and CEQA Guidelines Section 15183.5). West Sacramento's CAAP has been developed consistent with CEQA Guidelines Section 15183.5, allowing the City to use the CAAP rather than project-level analysis for GHG emissions impact assessment for future projects. CEQA Guidelines Section 15183.5 establishes the criteria for GHG reduction plans, which in general must:

- Quantify GHG emissions within a defined area,
- Establish a level where GHG emissions are not cumulatively considerable,
- Identify emissions from activities covered by the plan,
- Specify measures to achieve the emissions reduction goal,
- Monitor progress and amend if necessary, and
- Be adopted in a public process following environmental review.

Section 15183.5(b)(1)(B) establishes that a GHG reduction target will "[e]stablish a level, based on substantial evidence, below which the contribution to [GHG] emissions from activities covered by the plan would not be cumulatively considerable." The CAAP describes development of the City's 2030 and 2045 reduction targets, detailing their consistency with state legislation and executive orders and establishes that meeting the reduction targets would avoid cumulatively considerable effects.

Chapter 2
City Greenhouse Gas Context and Targets

The primary purpose of the CAAP is to reduce the city's GHG emissions, which contribute to global climate change. To identify local GHG reduction strategies, the city evaluated what causes GHG emissions in the community using data from 2018 to show the sources and scale of community GHG emissions. The city then estimated how emissions could grow in the future if no further action is taken to limit their growth. These forecasts also help to frame opportunities for local actions to ensure the CAAP addresses the most important future emissions sources. Near-term GHG targets were then set to serve as a steppingstone on the path toward achieving the City's commitment to carbon neutrality by 2045. This chapter presents the results from these various analyses and sets the stage for CAAP actions that are introduced in Chapter 3.



2018 GHG Inventory

A GHG inventory estimates the amount of GHG emission generated in a community during the chosen analysis year. There are many different GHGs, but community GHG inventories typically focus on three important and relevant ones: CO_2, methane (CH_4), and nitrous oxide (N_2O).

In an inventory, the amount of each greenhouse gas is converted into a common unit of measurement called carbon dioxide equivalent (CO_2e). This reflects the fact that greenhouse gases contribute differently to global warming depending on how powerful each gas is at trapping solar radiation and heating the atmosphere.

To make this conversion, each GHG pollutant is multiplied by its relative heat-trapping ability factor, called "global warming potential." For example, methane (CH_4) is 28 times more potent than CO_2 in its heat-trapping ability; therefore, a unit of CH_4 has a CO_2e value 28 times greater than that of a unit of CO_2. The common standard for expressing GHG emissions in an inventory is MT CO_2e.

In climate action planning, a baseline inventory is typically established for which the key GHGs are calculated and reported according to their generation source or emissions sector. West Sacramento's 2018 baseline emissions inventory provides a snapshot of the sources and amount of GHG emissions over the 2018 calendar year. Baseline inventories can serve as a reference point to help determine appropriate emissions reduction targets and indicate the types of actions to pursue to make meaningful progress toward those targets.

The baseline inventory organizes emissions into categories, or sectors, based on the source of emissions. The sectors and subsectors included in West Sacramento's baseline inventory are listed in Table 2.1.

2018 was selected as the CAAP inventory analysis year because it represented the most up-to-date and complete set of inventory data at the time of CAAP development. It also represents pre-pandemic community activity levels, providing a more accurate baseline for local GHG emissions analysis than an inventory from 2020 or 2021 would have due to COVID-19 pandemic impacts on important emissions sectors, such as on-road travel or non-residential building energy use.

The GHG inventory was completed following current best practices and in alignment with the Global Protocol for Community-scale Greenhouse Gas Emission Inventories (GPC).

Table 2.1 – West Sacramento's GHG Emissions Sources and Causes

Emissions Sector	Emissions Subsector	What Causes These Emissions?
Transportation	On-Road Transportation	Fuel consumption from vehicle travel within the city (includes all trips that start and end in the city, one-half of trips that start or end in the city and excludes pass-through trips)
	Waterborne Navigation	Fuel consumption from harbor craft and ocean-going vessels operating at and visiting the Port of West Sacramento, including at-berth emissions from vessels' auxiliary engine and boiler use
	Off-Road Transportation	Fuel consumption from vehicles that are designed for travel on unpaved terrain (e.g., construction machinery and agricultural equipment)
Energy	Residential Buildings	Natural gas and electricity consumption for heating, cooling, cooking, appliances, etc.
	Commercial Buildings	
	Institutional Buildings	
	Natural Gas Fugitive Emissions	Natural gas leaks from the distribution system
Waste	Solid Waste	Decomposition of landfilled waste
	Compost	Decomposition of composted waste
	Wastewater	Treatment and discharge of wastewater

Note: No individual facilities operating in West Sacramento in CY2018 reported GHG emissions more than 10,000 MT CO_2e/yr per CARB's GHG Mandatory Reporting Rule; sources emitting 10,000 MT CO_2e/yr or more would have been listed in CARB's annual GHG Emissions Data reports. The City will continue to monitor these reports over time as listed facilities/entities can change from year to year.

The City's 2018 emissions totaled approximately 395,800 MT CO_2e. As shown in Figure 2.1, most of this came from the transportation sector (64%), followed by the energy sector (30%). The remaining 6% of the city's GHG emissions came from the waste sector. This shows that local GHG actions need to focus heavily on transportation and building energy use to achieve the City's ambitious goal.

Figure 2.2 provides detail on the 2018 GHG emissions showing the results by emissions subsector. On-road vehicles are the single largest contributor, generating 58% of total GHG emissions. The on-road vehicle emission inventory model showed that passenger vehicles traveled roughly 87% of total vehicle miles in the region with the remaining 13% primarily traveled by light- and heavy-duty commercial trucks. On-road vehicles emissions are followed by commercial building (18%), and residential building (12%) emissions. These three sources produce 88% of the city's GHG emissions and therefore receive most of the focus for CAAP action within this plan so that the city can make meaningful progress on its targets in the near-term. Table 2.2 shows the numerical results of the 2018 GHG inventory.

Though most of West Sacramento's GHG emissions are directly occurring within the city's boundaries (e.g., combusting natural gas to heat buildings), some of the city's emissions occur outside the city boundary because of activities taking place within the boundary, such as electricity use. While residents and businesses may use electricity within the city's boundaries, the emissions associated with that electricity come from power plants outside of the city boundary. Because PG&E provides electricity to the city, they have developed a CO_2 emissions factor that reflects the mix of energy sources used to generate this electricity. The emissions factor, along with the total amount of electricity used in the city, was used to calculate city-wide electricity emissions.

Additionally, transportation emissions were estimated by using vehicle miles traveled (VMT) estimates from SACOG. West Sacramento VMT includes 100% of all trips that start and end in the city and 50% of all inbound or outbound trips (pass-through trips that do not stop in the city are excluded). For any inbound or outbound trips, only the portion of the VMT inside the SACOG planning area is counted (this area includes the counties of Yolo, Sacramento, Sutter, Yuba, Placer, and El Dorado but excludes the Tahoe basin).

Emissions calculations were completed following guidance in the GPC inventory protocol. Further discussion of how electricity, transportation, and other sector emissions were calculated is in Appendix B: Greenhouse Gas Inventory and Forecast Data.

Figure 2.1 – 2018 GHG Emissions by Sector

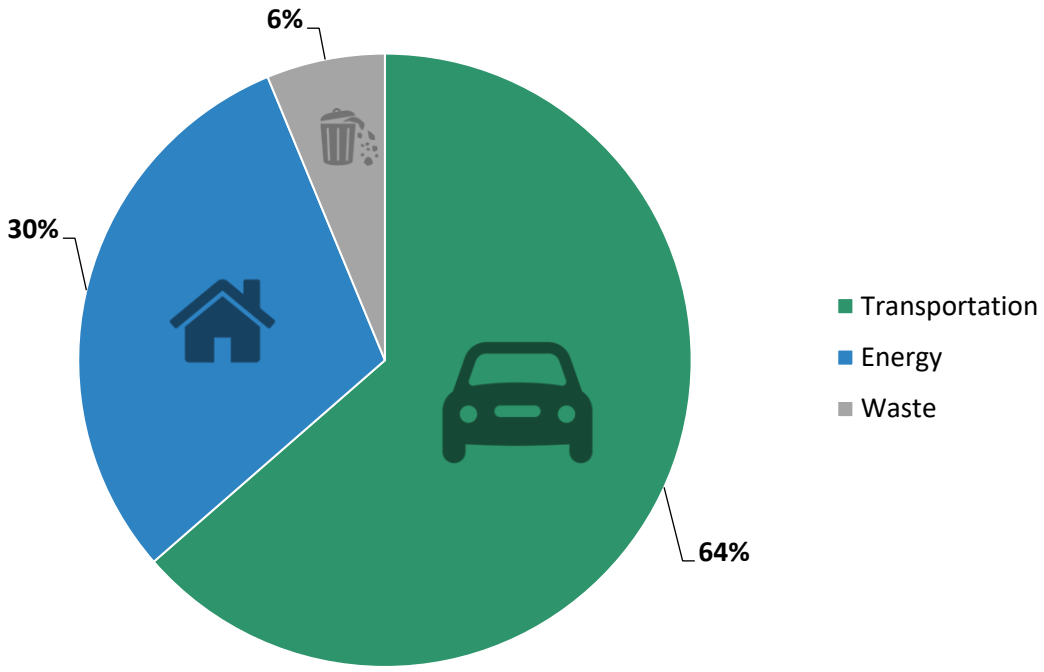


Figure 2.2 – 2018 GHG Emissions by Subsector

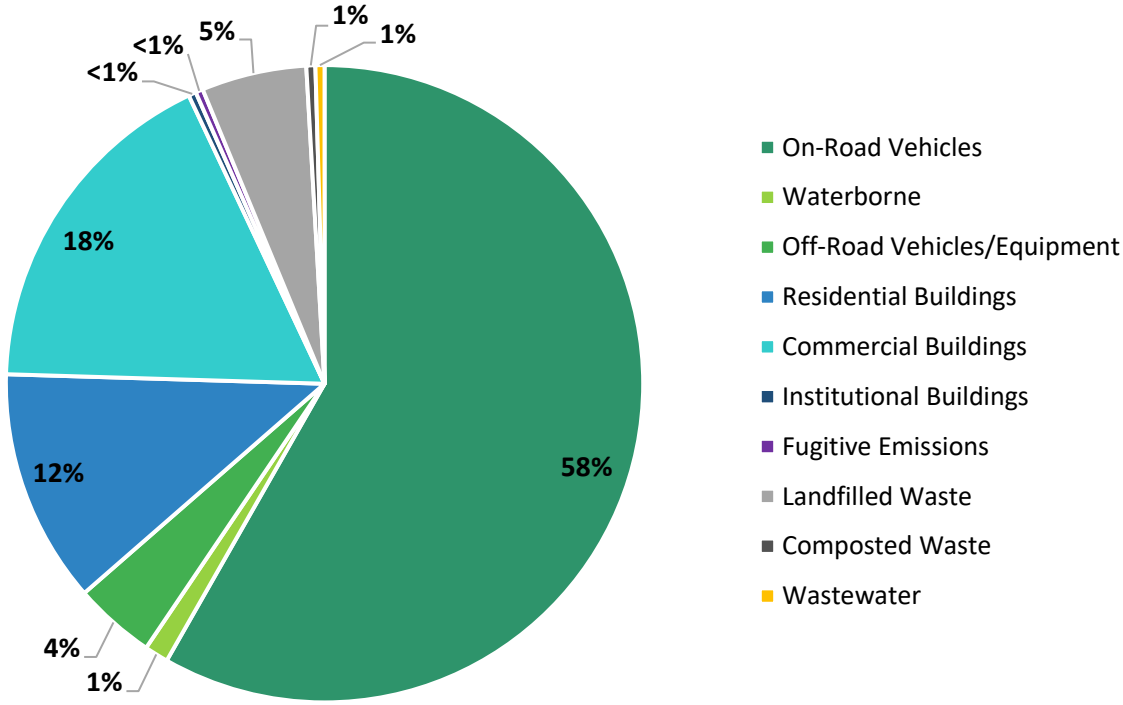


Table 2.2 – 2018 Greenhouse Gas Inventory

Sector	MT CO_2e/yr	%
Transportation	**251,712**	**64%**
On-Road Transportation	230,552	58%
Waterborne Navigation	4,796	1%
Off-Road Transportation	16,364	4%
Energy	**119,377**	**30%**
Residential Buildings	47,038	12%
Natural Gas	*36,331*	*9%*
Electricity	*10,707*	*3%*
Commercial Buildings	69,337	18%
Natural Gas	*44,599*	*11%*
Electricity	*24,738*	*6%*
Institutional Buildings	1,517	<1%
Natural Gas	*520*	*<1%*
Electricity	*997*	*<1%*
Fugitive Emissions (natural gas)	1,485	<1%
Waste	**24,727**	**6%**
Solid Waste	21,103	5%
Composting	1,811	<1%
Wastewater	1,813	<1%
Total	**395,815**	**100%**

Note: Columns do not sum to totals and/or sub-totals shown due to rounding.

Emissions Forecasts – 2030 and 2045

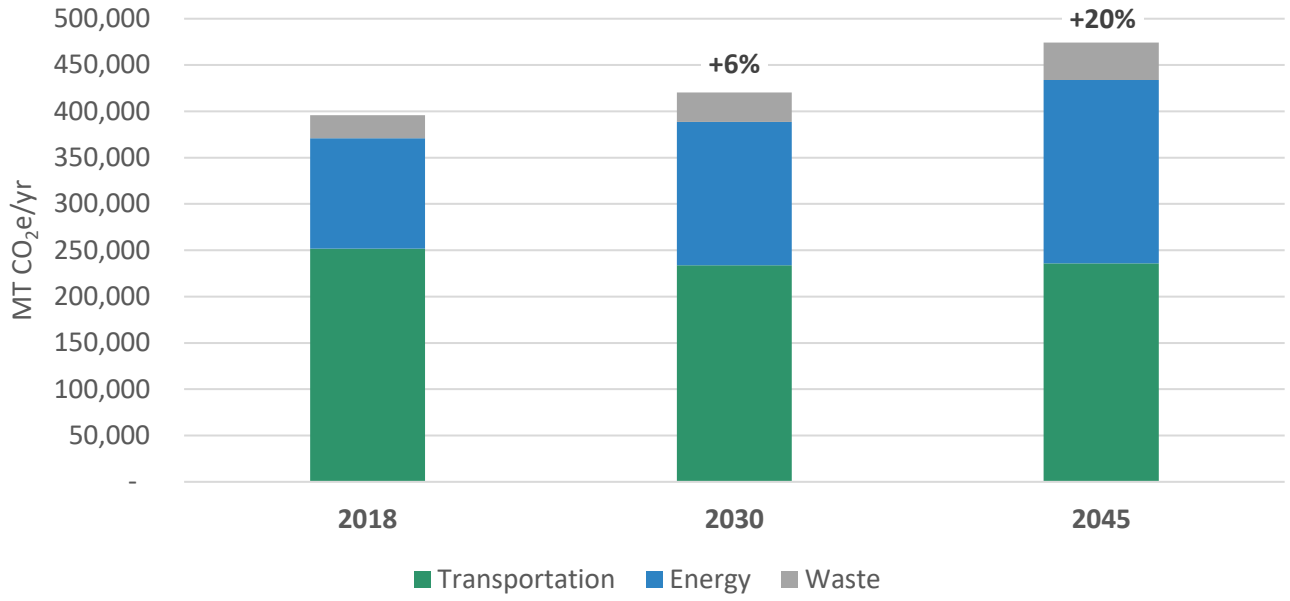
The 2018 base year inventory was used to estimate future GHG levels for 2030 and 2045. Forecasting emissions provides insight about the scale of GHG reductions needed to achieve the City's targets. The 2030 forecast year corresponds with the state's 2030 GHG target from SB 32 while the 2045 forecast year corresponds with the City's carbon neutrality goal as well as the state's 2045 carbon neutrality target established in AB 1279.

These forecasts represent a "business-as-usual" scenario, or a scenario in which emissions will change over time in the absence of any further mitigation actions beyond those in place as of the 2018 base year. Emissions-producing activities (fuel consumption, waste generation, etc.) were forecasted using anticipated growth in population, employment, and local vehicle miles traveled to reflect how a growing West Sacramento contributes to increased GHG emissions. SACOG's MTP/SCS was the primary source for growth indicators used to develop the city's GHG emissions forecasts. Importantly, the on-road vehicle emissions forecasts were developed using SACOG's travel demand forecasts for West Sacramento with future vehicle emission factor estimates from the CARB mobile emissions model (EMFAC). These future vehicle emissions factors assume implementation of important statewide programs affecting vehicle fuel efficiency and a shift toward electric vehicles.

Perfectly forecasting GHG emissions is not possible given the many underlying variables that influence them, so the city will need to periodically update its GHG inventory and forecasts to compare progress against GHG targets and revise estimates of what future changes may occur. Regularly monitoring GHG inventory sectors and subsectors will also help the City stay on track toward its GHG targets and illustrate opportunities for future CAAP strategy revisions too.

Figure 2.3 illustrates West Sacramento's "business-as-usual" GHG emissions forecasts from 2018 through 2045. Emissions are forecast to increase by approximately 24,500 MT CO_2e/yr (+6%) between 2018 and 2030 and increase by about 78,300 MT CO_2e/yr (+20%) between 2018 and 2045. The forecasted increase in emissions is a result of population and employment growth within the city, which in turn impacts building energy use, solid waste generation, and wastewater treatment demand. Off-road and waterborne emissions are also expected to increase based on CARB models. Only on-road emissions are forecasted to decrease during these timeframes due to statewide actions to improve transportation efficiency.

Figure 2.3 – GHG Emissions Forecasts 2018-2045



GHG Targets and Reductions Needed

GHG targets serve as aspirational metrics to help focus local actions to achieve emissions reductions goals. Establishing clear and attainable targets can also motivate the community, help guide long-term strategies and increase transparency and accountability regarding the CAAP's objectives.

GHG Target Options

GHG targets can be expressed as mass emissions or emissions intensity targets. Mass emissions targets establish an absolute emissions level to be achieved by a target year, such as 100,000 metric tons of carbon dioxide equivalent per year (MT CO_2e/yr) by 2030. Typically, mass emissions targets are expressed as a percent below the emissions level of some base year, such as 80% below 1990 emissions by 2050. Emissions intensity targets set a target level of emissions per capita, for example, such as 4.0 MT CO_2e per capita per year (MT CO_2e/capita/yr) by 2030. Intensity thresholds demonstrate a community's ability to grow population and employment, while emissions shrink on a per-unit basis.

This CAAP establishes a mass emissions target of becoming carbon neutral by 2045, consistent with state targets. Carbon neutrality means that the net GHG emissions associated with the City are zero. Under this scenario, some residual emissions may be produced by the community each year, but they can be fully balanced through investing in activities and partnering with other organizations outside the community for carbon removal and sequestration, or the purchase of carefully selected carbon offsets. This goal aligns with AB 1279 that established a statewide carbon neutrality target by 2045.

West Sacramento's interim target was selected to align with the SB 32 GHG reduction target of 40% below 1990 levels by 2030. The City's 2030 target is based on guidance from the CARB 2017 Scoping Plan that recommends "local governments evaluate and adopt robust and quantitative locally appropriate goals that align with the statewide per capita targets" and that "emissions inventories and reduction goals should be expressed in mass emissions, per capita emissions, and service population emissions." The Scoping Plan also states that local governments should develop a community-wide GHG emissions target consistent with the accepted protocols as outlined in the Office of Land Use & Climate Innovation's General Plan Guidelines, which also recommend choosing multiple target years and analyzing both mass emissions and emissions intensity to support a fuller understanding of the issue.

The 2017 Scoping Plan identifies a 2030 emissions intensity target of 6.0 tons per capita per year, based on the full statewide GHG inventory, the state's 2030 GHG reduction target, and statewide population forecasts. Based on the CARB 2017 Scoping Plan guidance, the city derived its own locally appropriate per capita GHG target using a

comparison of the GHG emissions evaluated for the city and those included in the statewide inventories. Since West Sacramento does not include all statewide emissions sources in its local GHG inventory, the CAAP's actions are only designed to address a sub-set of statewide emissions. Therefore, the city's local GHG emissions intensity target is lower than the overall statewide per capita target.

West Sacramento's 2030 GHG target is **5.28 MT CO_2e/capita/yr.** This represents a 25% emissions intensity reduction from 2018 levels of 7.0 MT CO_2e/capita. This is also equal to an absolute GHG target of 392,070 MT CO_2e/yr in 2030 based on the population forecasts that underpin the city's GHG emissions forecasts. This target was selected in a manner consistent with CEQA Guidelines Section 15183.5(b)(1)(B) to demonstrate the city's fair share contribution toward statewide GHG reduction targets and support future project CEQA streamlining as described in Chapter 1. However, the city has an ambitious carbon neutrality target for 2045 and following an evaluation of the impact of potential CAAP actions, including community and other collaborator input on draft actions, the city is setting a secondary ambitious interim target to achieve GHG emissions levels of 4.0 MT CO_2e/capita/yr by 2030. This would represent a 43% emissions intensity reduction from 2018 levels (see Table 2.3).

Table 2.3 – West Sacramento GHG Targets

Year	Emissions Intensity Target	Mass Emissions Target
2030	Minimum: 5.28 MT CO_2e/capita/yr (25% emissions intensity reduction from 2018 levels)	Minimum: 392,070 MT CO_2e/yr (1% mass emissions reduction from 2018 levels)
	Ambitious: 4.0 MT CO_2e/capita/yr (43% emissions intensity reduction from 2018 levels)	Ambitious: 297,023 MT CO_2e/yr (25% mass emissions reduction from 2018 levels)
2045	Carbon neutrality	Carbon neutrality

2045 Carbon Neutrality Outlook

The focus of this CAAP is on achieving the 2030 target of 5.28 MT CO_2e/capita/yr, at a minimum, and making progress toward the secondary and more ambitious target of 4.0 MT CO_2e/capita/yr by 2030 to set the city on a path toward long-term carbon neutrality. However, it is important to keep the 2045 carbon neutrality context in mind when implementing this CAAP, including the likely barriers to achievement and how future CAAP updates should re-evaluate the path to carbon neutrality.

Potential Barriers to Carbon Neutrality

The CAAP strives to directly reduce GHG emissions to the maximum feasible extent by focusing on the largest emissions sources through policies, incentives, and partnerships. However, there are currently technological, regulatory, and financial barriers that will inhibit the City from directly reducing all emissions by 2045. These barriers, as well as potential solutions the city can pursue are presented in Table 2.4.



Table 2.4 – Carbon Neutrality Barriers Table

Barrier	Barrier Description	Potential Solutions
Building natural gas use	Unlike other emissions sources, there are currently no industry commitments to decarbonize natural gas use in existing buildings from things like space and water heating or cooking. Further, incentives currently primarily come from utility companies and not all providers offer the same incentive values.	Continue to evaluate the city's utility provider options considering a range of factors, including their commitment to supporting communitywide decarbonization in the building sector. Mirror the efforts of local government leaders in the state, including the City of Sacramento, regarding their building decarbonization policies.
Owners versus renters	Roughly 50% of homes in West Sacramento are owner-occupied while 50% of homes are rented. Renters typically do not have control over their unit's major energy-consuming systems (e.g., HVAC) but are stuck paying the utility bills. This limits the ability of renters to make energy- or emissions-efficient upgrades and provides little incentive for landlords to act.	Develop a dialogue with landlords and homeowners to understand their needs and promote climate action. Evaluate policy options that would require landlords or homeowners to make upgrades to their units.
Public transit authority	West Sacramento does not control the Yolobus or Sacramento Regional Transit District (SacRT) transit systems.	Continue to collaborate with the Yolo County Transportation District and SacRT to expand and optimize transit within the city and make transit-supportive land use planning decisions through the City's General Plan.
Zero emission vehicle (ZEV) purchasing	West Sacramento has no regulatory power over private vehicle purchasing decisions. Additionally, industry forecasts do not anticipate 100% electric vehicle (for example) adoption by 2050.	Tailor outreach around implementation of the CARB Advanced Clean Cars II rule that mandates all new cars and light trucks sold in California to be ZEVs by 2035. Additionally, aim to reduce single occupancy vehicle use through increased transit and supportive land use development patterns to help reduce the total number of vehicles that would need to be electrified in the future.
Off-road vehicles/ equipment use	Like ZEVs, West Sacramento cannot mandate that residents and local businesses use zero-emissions off-road vehicles and equipment. Additionally, new statewide programs are not currently estimated to achieve 100% decarbonization from these emissions sources by 2045.	Advocate for CARB to adopt and implement GHG standards in new Tier 5 emissions regulations for off-road engines and develop aggressive supporting programs to convert the full inventory of off-road equipment statewide by 2045.

Barrier	Barrier Description	Potential Solutions
Wastewater treatment	Wastewater treatment processes are out of the City's direct control and wastewater emissions only generate 0.5% of total emissions in 2018. Further, fully reducing all process-related emissions from wastewater treatment is technologically challenging and potentially cost prohibitive. No actions have been included to address wastewater emissions in this current version of the CAAP.	Continue to advocate for high-efficiency wastewater treatment processes and statewide programs aimed at helping local wastewater treatment facilities in their decarbonization efforts.
Sunk Costs in Transportation Network and Urban Form	The transportation network and urban form make driving single-occupancy vehicles more convenient at the expense of convenience, comfort, and safety of all other transportation modes. The investments in infrastructure will not depreciate to needing replacement before the plan horizon, so changing the form will mean removing vehicle lanes, parking lots, gas stations, and garages before their expected end of life.	Change regulations on the built environment to accommodate population growth within the existing developed area. Plan based on "retrofitting suburbia" and "sprawl repair" concepts developed by the real estate development industry on how to profitably turn obsolete car-oriented space into human-oriented places. Other solutions include creating a network of EV charging infrastructure, implementing parking fees, and utilizing joint use agreements to allow for efficient use of resources.

Achieving Carbon Neutrality

As described above, carbon neutrality means that emissions are reduced as much as possible and any remaining emissions are removed through processes such as natural sequestration from tree planting or regenerative agriculture, industrial carbon removal and storage practices, or purchasing carefully selected carbon offsets from a verified global marketplace. Due to the barriers previously mentioned, reaching carbon neutrality will be difficult for the city to achieve in 2045 without additional support at the regional, state, and national level. Future CAAP monitoring and updates as described in Chapter 4 will be critical to maintaining a trajectory toward this overarching target. If these barriers cannot be overcome, and the city cannot fully reduce its GHG emissions, carbon removal or offsetting practices would be necessary for the city to demonstrate carbon neutrality by 2045 at the local level.

Through this CAAP update, the city has prioritized actions that directly reduce local GHG emissions as much as possible while setting a framework to explore future carbon removal opportunities. As presented next in Chapter 3, local sequestration options like tree planting (see Action #20) and regenerative agriculture will be the primary focus in the short term. Action #21 outlines the first steps to tracking and implementing industrial carbon removal options as this industry continues to develop. Purchasing carbon offsets will be considered as a "last resort" to meeting the City's carbon neutrality goal if the city cannot directly remove emissions. Future CAAP updates will include revised emissions forecasts demonstrating the magnitude of carbon removal needed and re-evaluate industrial carbon removal feasibility, sequestration, and offset options, considering the City's and state's ongoing efforts.



Chapter 3
CAAP Actions

The city has established seven overarching climate goals that outline the CAAP's vision of a sustainable, resilient, and carbon-neutral community. There are 26 climate actions that will help meet these goals, contribute toward meeting the 2030 and 2045 GHG reduction targets, and enhance community quality of life. The actions were informed by the Mayors' Commission on Climate Change Report, feedback from interested parties, and research on effective local climate actions (see Chapter 4 for more on the CAAP action development process). Each action is intended to support a CAAP goal and address the city's primary emissions sources as described in Chapter 2.



The CAAP's 26 actions are organized within the 7 overarching goals illustrated in Figure 3.1. The GHG reduction actions are intended to work together to enable the emissions reductions necessary to meet the city's GHG targets. The climate resiliency actions are intended to reduce the impact of local climate hazards. Some actions provide both GHG reduction and climate adaptation benefits. Most of this chapter presents the details of each action, and the sections below on "How to Read Actions" and "Action Co-benefits" provide helpful information about what readers will see throughout this chapter.

A GHG summary table is also provided to show the estimated GHG reductions from each quantified GHG reduction action and how those totals compare to the 2030 and 2045 targets. Finally, the chapter includes interviews featuring some of West Sacramento's climate champions to demonstrate actions already taken to help reduce GHG emissions and provide other important climate and community benefits.

Figure 3.1 – Overarching CAAP Goals



How to Read Actions

Each action was assessed for its GHG reduction potential, climate hazard addressed, co-benefits, and equity impacts. The climate actions presented throughout this chapter include information describing:

- GHG Reductions / Climate Hazard Addressed – estimated potential GHG emissions reduced in target years and/or climate hazard addressed by the action
- City's Authority Level – the level of authority the City has in implementing the action, including:
    - Direct: The City can directly implement the action through ordinances or policies that require the action to take place.
    - Indirect: The City can encourage the adoption of the action through education, outreach, and incentives.
    - Partnership: The City must partner with an external entity to implement the action.
- Co-benefits – additional beneficial outcomes from action implementation are indicated with icons; see section below for co-benefits list and definitions
- What You Can Do – ideas for actions you can take in your home or business to reduce GHG emissions or increase climate resiliency are listed in colored call-out boxes
- Equity Considerations – potential equity issues and solutions are listed in gray call-out boxes and will be used to inform the action implementation design phase
- Action Description – context information about the proposed action
- Implementation Tactics – high-level strategies for approaching action implementation
- Implementation Metrics – potential options for tracking action implementation success in the future

Where relevant, implementation tactics and equity considerations were leveraged from the Mayors' Commission on Climate Change to provide support for a regional approach to climate action.

Action Co-Benefits

Each action was also analyzed for the potential co-benefit associated with its implementation. Action pages show the relevant co-benefit icons, including:



Public Health: Improves public health through improved air quality (indoor and outdoor), increased resilience to heat, reduced local pollution, increased healthy food/nutrient access, or active transportation



Environmental Stewardship: Considers impacts on natural resources, improving the environment, and/or promoting greenspace conservation, creation, or regeneration



Local Economy: Increases opportunities for local businesses and/or increases the number of local jobs



Cost of Living: Reduces upfront costs and provide savings (e.g., utility costs, travel costs, etc.) to residents



Racial Equity and Social Justice: Addresses historical and current disparities and holds the largest GHG emitters accountable



Regional Approach: Serves as a model for regional municipalities to follow to ensure that the policies adopted, and strategies implemented become part of a larger regional effort



GHG Reduction & Adaptation: Reduces GHG emissions and climate risk

Table 3.1 lists all 26 actions and illustrates the co-benefits provided by each action.

Table 3.1 – Action List with Co-benefits

	Public Health	Environmental Stewardship	Local Economy	Cost of Living	Racial Equity & Social Justice	Regional Approach	GHG Reduction & Adaptation
Action 1: EV charging network	○		○			○	
Action 2: Warehouse and distribution centers ZEVs	○		○			○	
Action 3: Low-/zero-emissions off-road equipment	○		○				
Action 4: EV carshare	○		○	○	○	○	
Action 5: ZEV municipal fleet	○		○				
Action 6: Telecommuting	○		○	○		○	
Action 7: Transit-oriented development	○		○	○	○	○	
Action 8: Active transportation	○		○	○	○	○	
Action 9: Enhanced public transit	○		○	○	○	○	
Action 10: Freight rail impact reduction			○			○	
Action 11: Utility coordination	○		○	○	○	○	
Action 12: Local solar and storage			○			○	○
Action 13: Building electrification program	○		○	○			○
Action 14: Energy performance standard	○		○				
Action 15: All-electric new construction	○		○	○			○
Action 16: Home energy audit program	○		○	○			
Action 17: Organic waste programs			○	○		○	
Action 18: Food recovery network	○		○	○	○	○	
Action 19: Unnecessary material consumption		○				○	
Action 20: Urban forest master plan	○	○	○		○	○	○
Action 21: Carbon removal			○			○	
Action 22: City processes & response	○				○	○	
Action 23: Extreme heat	○	○		○	○	○	○
Action 24: Flooding		○			○	○	
Action 25: Drought		○		○		○	
Action 26: Air quality	○				○		

GHG Summary Table

Table 3.2 lists the estimated annual GHG reductions from each action in 2030 and 2045. It was not possible to separately estimate reductions from all actions for various reasons. Some actions support implementation of others, and these connections are identified. Another set of actions are presumed to already be included within the travel demand forecasts provided by SACOG and have not been separately quantified in this CAAP to avoid double counting emissions reductions. A final category of actions has not yet been quantified because the details of the action are currently unknown (e.g., Action 21 carbon removal processes). The total GHG reductions in each target year are tallied at the bottom of Table 3.2 with a comparison to the city's GHG targets and a summary of the resulting GHG metrics after CAAP implementation.

Table 3.2 – CAAP Actions GHG Reductions Table

	Action	2030 GHG Reductions ($MTCO_2e$/year)	2045 GHG Reductions ($MTCO_2e$/year)
Goal 1: Promote cleaner vehicles and equipment in our community			
1	Expand the electric vehicle charging network through zoning code requirements and installations of public charging infrastructure	29,600	77,850
2	Partner with warehouse and distribution centers to facilitate a ZEV transition	1,100	37,600
3	Specify low- or zero-emissions off-road vehicles and equipment in City contracts	2,700	8,600
4	Establish an electric vehicle carshare program with free or subsidized rates for low-income residents	*Included in Action 1*	*Included in Action 1*
5	Establish ZEV targets for the municipal fleet	*Included in Action 1*	*Included in Action 1*
Goal 2: Reimagine how we move people and goods			
6	Provide more telecommuting opportunities for City staff	1,800	3,100
7	Prioritize transit-oriented development and center/corridor community growth through land use planning	–[a]	–[a]
8	Allocate funding to expand and connect the active transportation and micro-mobility network	–[a]	–[a]
9	Extend regional transit services and allocate funding to increase the accessibility, frequency, and reliability of public transit	–[a]	–[a]
10	Reduce the impact of the freight rail system	–[b]	–[b]
Goal 3: Design a future with zero carbon power sources			
11	Enhance utility coordination and advocate for the City's utility provider to provide access to carbon-free electricity and additional building efficiency/retrofit rebates and funding	41,850	67,400
12	Incentivize local solar photovoltaic systems and enhanced energy storage, and promote participation in community solar programs	450	0[c]
Goal 4: Plan for all-electric buildings city-wide			
13	Develop and adopt a building electrification program and incentives for existing buildings	4,300[d]	77,400[d]
14	Establish energy performance standards and GHG emissions limits for existing commercial buildings	2,300	42,900
15	Mandate all-electric new construction in a phased approach to eliminate on-site fossil fuel use	10,150	39,450
16	Create a home energy audit program and minimum efficiency thresholds	2,000	34,500

Action		2030 GHG Reductions ($MTCO_2e$/year)	2045 GHG Reductions ($MTCO_2e$/year)
Goal 5: Create a waste-free city			
17	Expand commercial and multifamily organic waste programs	14,050	19,100
18	Expand the food recovery network to collect edible food from businesses	*Included in Action 17*	*Included in Action 17*
19	Reduce unnecessary material consumption	–[e]	–[e]
Goal 6: Build carbon negative and livable communities			
20	Develop and implement an urban forest master plan	700	5,600
21	Evaluate carbon removal opportunities from industrial processes and direct air capture	0	–[f]
Total Emissions Reductions below Target Year Forecasts		106,700	336,100
Remaining Emissions		313,598	138,002
MT CO_2e/capita Target		5.28	0.0
MT CO_2e/capita with Actions		4.22	1.45
Per Capita Emissions Reduction below 2018 Levels		40%	79%

[a] Vehicle travel reduction that would occur from implementing this action are conservatively assumed to be included within SACOG's regional travel demand model which informed the city's GHG emissions forecasts; no additional GHG reductions are stated here to avoid double counting the impacts of this action.

[b] Potential GHG reductions from this action are not included because the CARB off-road model did not assign any rail GHG emissions to Yolo County in 2018 and therefore the city should not include GHG reductions from rail actions in its CAAP accounting; co-benefits that could still result from action implementation are shown in the Action 10 summary page.

[c] Local solar development shows zero GHG reductions in 2045 because the electric grid will be 100% zero carbon based on California's Renewables Portfolio Standard; this action would still contribute the other co-benefits identified in the Action 13 summary page, but no additional GHG reductions would accrue.

[d] Reductions from Action 13 cannot be combined with Actions 14 or 16 since they offer overlapping implementation pathways; Action 13 represents the total reductions estimated from this action, but the city's specific implementation approach could include a combination of Actions 13, 14, and/or 16.

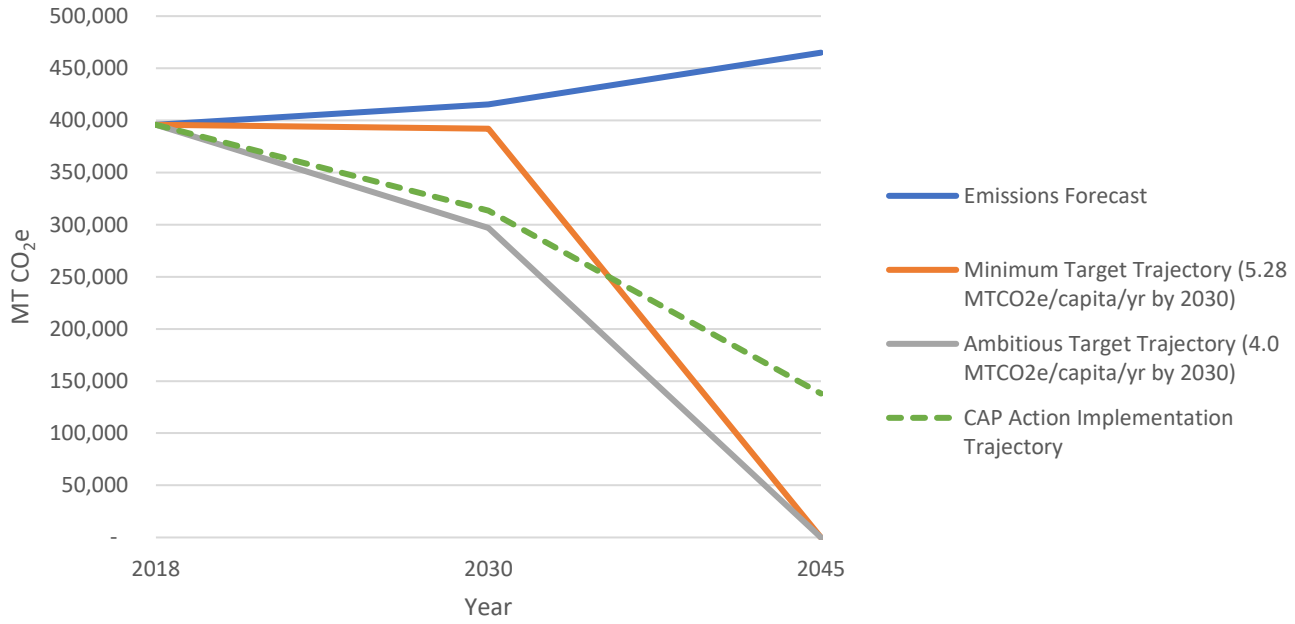
[e] Reductions from Action 19 are not quantified in the CAAP because the action addresses the upstream and/or lifecycle GHG emissions from goods/services consumed in the community, which are not represented in the 2018 GHG inventory based on the standard community GHG inventory methodologies followed during its development. However, this action supports important environmental benefits, such as upstream GHG reductions.

[f] Potential GHG reductions from this action are not included because further research is needed into carbon removal opportunities the city might pursue to demonstrate carbon neutrality in 2045, including monitoring and participating in discussions for carbon removal programs in Yolo County and elsewhere in the region.

While it is the City's goal to achieve carbon neutrality by 2045, the current set of CAAP actions are unlikely to achieve that goal on their own without additional implementation support, development of new technologies, etc. (see Figure 3.2). AB 1279 aims to directly reduce statewide emissions by 85% and remove the remaining 15% of emissions to reach carbon neutrality by 2045. Following the state's lead, the City's 2045 emissions reduction gap could be partially addressed through carbon removal strategies. The state

is currently developing a program to evaluate, demonstrate, and regulate carbon removal strategies that can contribute toward claiming carbon neutrality. In future CAAP updates, the City will evaluate how to fully address remaining emissions following state guidance. Additionally, it is difficult to accurately predict what the City's GHG emissions could be in 2045, which is why the implementation and monitoring framework presented in Chapter 4 is important to track long-term progress toward the carbon neutrality goal and identify opportunities for improved action, where possible.

Figure 3.2 – West Sacramento GHG Emissions Forecast, Targets, and Action Implementation Trajectories



Goal 1: Promote cleaner vehicles and equipment in our community

Though many West Sacramento residents and businesses will be able to shift to active and public transport modes, some trips may still require a vehicle. For these remaining trips, ZEVs should be used as much as possible. ZEVs, such as battery electric vehicles (EVs) and hydrogen fuel cell vehicles, produce zero tailpipe pollution and reduce GHG emissions compared to conventional gas vehicles. If the electricity used to charge a ZEV is produced by 100% carbon-free sources, then operating that vehicle will produce zero GHG emissions. To achieve the city's carbon neutrality goal, all public, private, and shared fleet purchases will need to be ZEV starting in approximately the 2030 interim target year. Currently, the CARB Advanced Clean Cars II rule stipulates that all in-state sales of new passenger cars and light trucks will be ZEVs by 2035. Exceeding this timeline will be challenging for West Sacramento as the City has no regulatory power over private vehicle purchasing decisions. However, the City can promote the transition to ZEVs by building charging and fueling infrastructure, promoting the use of ZEVs for residents and businesses, and switching municipal fleets to ZEVs.

The CAAP references many important pieces of legislation, information sources, programs, and collaborators in the climate planning space, but is not an exhaustive reference document. Therefore, each Goal introduction page also includes a short, bulleted list of additional resources relevant to the topic area that readers can explore.



Supportive programs, policies, and potential partners for vehicle decarbonization include:

- Plug-In Partnership Program
- Federal IIJA funding
- Federal EV and plug-in-hybrid electric vehicle (PHEV) Tax credits
- California ZEV Incentives and Financing
- Pacific Gas & Electric Company (PG&E) EV Fleet and EV Fast Charge Program
- CARB Advanced Clean Truck Program: ZEV medium and heavy-duty trucks by 2045
- CARB Advanced Clean Cars II rule: ZEV cars and passenger trucks by 2035
- EO-B-16-12: State agency employee ZEV charging stations

Action 1: Expand the electric vehicle charging network through zoning code requirements and installations of public charging infrastructure

GHG Reductions

- 29,600 MT CO_2e/yr (2030)
- 77,850 MT CO_2e/yr (2045)

City's Authority Level: Direct

Co-benefits



What You Can Do

- Ensure your home is EV-Ready.
- Advocate for your workplace or landlord to install EV chargers.
- Purchase a ZEV when you are considering buying a new vehicle

Equity Issues

- EV charging equipment can be costly for building owners to install, especially if they must update their electrical panel or integrate extensive wiring—and can be even more costly if construction of an access point, driveway, or apron within the property is needed.

Equity Solutions

- Ensure public EV charging is distributed throughout the city in an equitable manner.
- Focus on vulnerable groups that may need full or partial subsidies, especially households whose income depends on driving (for example, taxi drivers).
- Explore mechanisms to facilitate sharing residential charging equipment by groups of neighbors to help bring down installation costs.
- Provide information on rebates, utility programs, and other EV infrastructure financing resources.

Action Description

A large barrier to transitioning to EVs is the lack of convenient and regular access to charging infrastructure. Increasing the accessibility and speed of both private and public charging stations will help reduce range anxiety and encourage the use of EVs in the community. By creating a strategic network of affordable public charging stations, including the installation of chargers at workplaces, multifamily housing developments and community hubs, West Sacramento can build confidence among drivers to purchase EVs instead of internal combustion engine (ICE) vehicles. The City can continue to expand the Plug-In Partnership Program, where they have committed to install public EV chargers across the city. Additionally, the City previously amended the zoning code to require 20% of new parking spaces on a building site to include access to a charging station. As a large barrier to residential EV adoption is the lack of proper charging infrastructure in multi-unit or rental properties, this code could be enhanced to require the installation of additional EV charging equipment at rental properties in the future. As marginalized people are more frequently located in areas of

high tailpipe emissions, increasing EV uptake can reduce negative air quality impacts on these communities.

Implementation Tactics

- Develop public-private partnerships and accelerate public deployments to expand the city's network of affordable public charging and hydrogen fueling stations. Prioritize public EV chargers in areas of the city where residents (on average) do not have the economic means to buy a private charger and provide funding to subsidize charging rates for those in vulnerable households with lower incomes.
- Develop an EV-Readiness Master Plan to identify how to overcome barriers to broad installation of electric vehicle supply equipment (EVSE), including expanding grid capabilities and strategies to incentivize EVSE installation, setting targets for the number of public and private charging stations, and coordinating with utilities.
- Prioritize EV charging stations to increase connectivity to other clean transportation options, including near transit hubs, mobility hubs, community centers, and multifamily housing complexes. This can help to address first/last mile connection concerns and provide a suite of seamless options for travelers to meet their daily needs in a cost-effective manner.
- Coordinate with adjacent cities and counties to ensure that EV charging is available for City residents crossing jurisdictional lines.
- Create charging stations that can be used by shared mobility providers to charge electric bikes and scooters, by residents to charge powered wheelchairs, and by building owners to support energy storage.
- Work with major employers, including the State of California, to encourage ZEV adoption and sustainable commute habits through Transportation Demand Management (TDM) programs, management of parking privileges, and by providing workplace charging options, where possible.
- Continue to support and expand the Plug-in Partnership Program to install more EV chargers.
- Update the Zoning Code to require additional EV chargers at the time of development.
- Consider integrating e-bike charging opportunities.

Implementation Metrics

- EV charging installation permit data (Building Department)
- # of public EV chargers installed
- # of public EV chargers installed in disadvantaged communities
- # of subsidized EV chargers provided and % of public EV chargers used by customers receiving a subsidy
- # of EV chargers installed citywide

- % of new parking spots developed with EV chargers
- % of new developments built with EV chargers
- # of EV chargers installed in new developments
- % registered EVs in the City

Action 2: Partner with warehouse and distribution centers to facilitate a ZEV fleet transition

GHG Reductions

- 1,100 MT CO_2e/yr (2030)
- 37,600 MT CO_2e/yr (2045)

City's Authority Level: Partnership

Co-benefits



What You Can Do

- Advocate for the transition of local fleets to ZEV options.

Equity Issues

- Providing fleet charging/refueling stations in warehouse/distribution areas would maintain current trucking traffic impacts in these neighborhoods.

Equity Solutions

- Ensure strategic placement of charging/refueling areas to reduce truck traffic impact on marginalized communities.

Action Description

Warehouse and distribution centers can generate a large amount of GHG emissions and local pollutants due to the vehicle fleets serving them. The City can partner with these entities to facilitate the transition to ZEV fleets. Through this partnership, the City can help businesses identify barriers, such as ZEV model availability and space constraints, and offer incentives and assistance to help overcome them, such as by providing charging infrastructure in public areas adjacent to the properties. Implementing ZEV fleets can decrease local air pollution around warehouse and distribution centers for both residents and workers.

Implementation Tactics

- Explore pooling procurement for bulk ZEV purchases across multiple organizations.
- Depending on space limitations at warehouse/distribution areas, evaluate opportunities for off-site ZEV truck charging/refueling yards in locations that do not exacerbate traffic impacts on marginalized communities.
- Align actions with CARB's 2020 Mobile Source Strategy, including the 2025 Transportation Refrigeration Unit emissions regulation, as well as CARB's Advanced Clean Trucks regulation.
- Use utility rebate programs, such as the PG&E EV Fleet Program.
- Continue to implement and expand the Plug-in Partnership Program.

Implementation Metrics

- # of businesses participating in partnership discussions
- # of ZEV fleet vehicles purchased by partners

Action 3: Specify low- or zero-emissions off-road vehicles and equipment in City contracts

GHG Reductions

- 2,700 MT CO_2e/yr (2030)
- 8,600 MT CO_2e/yr (2045)

City's Authority Level: Direct

Co-benefits



What You Can Do

- Replace your fossil fuel off-road vehicles or equipment with low- or zero-emissions options.
- Choose to hire contractors that use low- or zero-emissions off-road equipment (e.g., landscaping, construction, etc.).

Equity Issues

- Off-road equipment electrification requirements may increase operating costs and create logistical challenges around equipment charging, which would be particularly burdensome for small businesses.

Equity Solutions

- Provide subsidies or extended time for compliance for small to medium businesses that fall under specific revenue thresholds to phase in off-road vehicles/equipment – and possibly required landscape equipment – over time.

Action Description

Off-road equipment such tractors, forklifts, landscaping equipment, construction equipment and generators produce 4% of total community emissions. Off-road equipment can be difficult to electrify as it consists of complex machinery and is primarily used for heavy, physical tasks other than transport. The City could require that projects benefitting from public funds use the best commercially available but still financially feasible clean off-road vehicle technologies and adopt the goal of full off-road vehicle decarbonization.

Implementation Tactics

- Incentivize businesses to convert off-road equipment/vehicle fleets to ZEVs and enable employers to use business assistance loans and incentives to purchase ZEV fleet vehicles and install ZEV infrastructure. Identify solutions to address challenges in converting medium/heavy-duty vehicles to ZEVs.
- Partner with the California Mobility Center, Plug-In Partnership, and similar initiatives to incentivize innovation to deploy ZEV pilots for medium/heavy-duty, goods movement, and autonomous vehicles.
- Engage industry to identify the needs and barriers of adopting electrified, automated transportation beyond CARB regulatory requirements.
- Establish medium/heavy- duty ZEV zones to promote accelerated adoption.
- Prioritize an ordinance that requires the use of zero emission landscaping equipment first, followed by an ordinance for zero emission hand tools for municipal,

residential, and private properties, identifying plans for early adoption through education and incentives; include implementation flexibility to minimize impacts on small- and medium-sized businesses.

- Research hydrogen fueling options for large vehicles and pursue federal grant opportunities (e.g., U.S. Department of Transportation's [USDOT's] Rebuilding American Infrastructure with Sustainability and Equity [RAISE] Grants) for hydrogen fuel cell fueling site and vehicle acquisition.

Implementation Metrics

- % of publicly funded projects that use ZEV technologies for off-road vehicles
- Quantity of clean fuel use for publicly funded projects



Action 4: Establish an electric vehicle carshare program with free or subsidized rates for low-income residents

GHG Reductions

- *Included within Action 1 reductions*

City's Authority Level: Partnership

Co-benefits



What You Can Do

- Use car-share and electric car-share programs.
- Advocate for the creation of local/regional EV car-share programs.

Equity Issues

- EV charging infrastructure is scarce, especially in low-income areas.

Equity Solutions

- Ensure public EV charging is distributed throughout the City in an equitable manner.

Action Description

Though transitioning to all-electric or other zero emissions vehicles is essential to reaching the 2045 carbon neutrality target, EVs are currently not accessible to everyone. High upfront costs, limited familiarity in some communities, and limited public charging access and/or charging opportunities at rental properties are all barriers to higher EV adoption. An EV car-sharing program would allow individuals to use EVs on a short-term, as-needed basis, paying only for the time they use the car and the mileage they drive. Gig carshare has electric options but is not currently subsidized for low-income residents. Providing free or subsidized rates for low-income residents would help introduce EVs into communities with very little access to or familiarity with such technology and could encourage future EV purchases as vehicle purchase costs reach parity with internal combustion engine options.

Implementation Tactics

- Partner with Yolo-Solano Air Quality Management District to develop a ZEV car share program like Sacramento Metropolitan Air Quality Management District's Our Community Carshare program – a free, membership-based transportation service where residents can reserve ZEVs.
- Leverage the program to create pathways for ZEV ownership by providing rebates and assistance with financing and insurance.
- Seek funding to support the expansion of ZEV carshare programs, such as California's Clean Mobility Options program.
- Expand carshare "homezones" in disadvantaged and low-income communities.

Implementation Metrics

- # of EVs available
- # of car share parking spots available and location
- # of car share homezones in disadvantaged and low-income communities.
- # of miles driven in EVs
- # of rides in ZEV carshare programs

Action 5: Establish ZEV targets for the municipal fleet

GHG Reductions

- *Included within Action 1 reductions*

City's Authority Level: Direct

Co-benefits



Action Description

A municipal ZEV procurement policy would direct City departments to purchase ZEVs when feasible and develop a plan to transition the City's passenger and light-duty vehicle fleets to ZEVs in accordance with CARB requirements, while forging partnerships to pilot medium/heavy-duty ZEVs (pending technology availability) and promoting school bus electrification. Widespread adoption of medium- and heavy-duty ZEVs can yield substantial air quality benefits, particularly for communities near major goods movement corridors. City garages and refueling facilities will need to be retrofitted with the proper EV charging or other refueling infrastructure to promote widespread decarbonization. The effect on City operations should also be considered with any ZEV requirement.

Implementation Tactics

- Complete a municipal ZEV procurement policy and develop a plan to transition the City's vehicle fleet to ZEVs in accordance with CARB requirements including necessary infrastructure and support facilities.
- Partner with the California Mobility Center, Plug-In Partnership, and similar initiatives to incentivize innovation to deploy ZEV pilots for medium-/heavy-duty, goods movement, and autonomous vehicles.
- Engage industry to identify the needs and barriers of adopting electrified, automated transportation beyond CARB regulatory requirements.
- Research hydrogen fueling options for large vehicles and pursue federal grant opportunities (e.g., USDOT's RAISE Grants) for hydrogen fuel cell fueling site and vehicle acquisition.

Implementation Metrics

- % of vehicle fleet that is ZEV (by fuel type)
- Annual mileage from fossil fuel vehicles and annual mileage from ZEVs

Climate Champion Spotlight
Joe Wood, Resident

As a former middle school science teacher, Joe Wood has always understood the importance of combating climate change, from an environmental perspective and on behalf of the future generations that will inherit the climate consequences of our actions. Fighting climate change also made financial sense to Joe and his husband, Kelly – reducing your energy consumption reduces your GHG emissions and can save a great deal on your energy bills. That's why Joe and Kelly decided to install a 24-panel solar photovoltaic system on their West Sacramento home in 2015. Through SunPower, a California-based solar power company, Joe and Kelly acquired a 20-year prepaid lease for a 7.2-kilowatt (kW) system. This system produces roughly 11,000 kilowatt (kWh) annually, or 80% of their household's typical electricity consumption. It has saved Joe and Kelly roughly $2,500-3,000 a year on their energy bills with a payback period of only 7 years. Additionally, generating their own electricity and saving money on their utility bill was a huge benefit during COVID when Joe and his husband were more frequently at home. The next step for Joe and Kelly is to purchase a battery backup system, which would be advantageous during power outages or if local utility rates go up.

One fact may surprise you about this Climate Champion – he's a huge fan of cars! Joe has always kept an eye out for the latest and greatest in vehicle technologies. When gas prices shot up in 2008, Joe purchased a hybrid vehicle just as they were growing in popularity. He is currently leasing his second EV – a Chevy Bolt. Joe typically saves 13 cents a mile or $1,000 a year on gas from driving an EV (he typically drives 7,800 miles a year). He also saves from avoided vehicle maintenance, oil changes, smog checks, and other services. Joe typically drives 200 miles before he needs to charge his car and has never had issues finding rapid charging stations on longer trips. The overall reduced cost of ownership of the Bolt even has Kelly considering replacing his truck with an electric version in the next year or so. Joe primarily meets all his charging needs at home through a dryer outlet plug in his garage that was installed by a local electrician. Though he has no issue charging his vehicle at home, Joe is a huge supporter of installing more public EV charging stations, especially for people in apartments who cannot install their own charger.

Besides their climate impacts, Joe and Kelly's EV and solar systems are providing local benefits, such as reducing local air pollutants and providing clean energy to the local grid. These systems have worked without fail and they have not identified a downside for anyone pursuing these financially smart climate solutions. As Joe and Kelly were the first in their neighborhood to own an EV and install solar panels, this encouraged their neighbors to follow in their footsteps and ultimately begin writing their own Climate Champion stories.

Goal 2: Reimagine how we move people and goods

On-road vehicle travel generates 58% of the city's total emissions, with the majority coming from single-occupancy vehicle trips. The first step to reducing these emissions involves shifting these trips to accessible, low-emission modes of transport such as walking, biking, and rolling (also known as active transportation), public transit, or shared mobility (such as pooled car sharing or ride hailing). This shift from private vehicle trips to other modes of transport is also known as mode shifting. We can promote mode shifting to cleaner modes of transport through land-use planning, improving the active transportation and public transit network, and promoting telecommuting. Solutions can include both micro-transit, or technology-enabled on-demand service for multi-passenger vehicles, and micro-mobility, or small, low-speed, human- or electric-powered transportation devices, such as bicycles, scooters, and electric-assist bicycles/scooters.

Supportive programs, policies, and potential partners in active transportation, micro-mobility, and travel mode shifting include:

- Federal IIJA funding, Statewide Active Transportation Program (ATP) funding, Caltrans Sustainable Communities Program, and other state and federal programs
- SACOG's 2020 MTP/SCS, Regional ATP, and other regional funding programs



- SACOG sustainable communities strategy (SCS) to meet CARB GHG reduction targets for passenger vehicles
- West Sacramento micro-mobility operators (e.g., shared bikes and scooters)
- Mass transit and micro-transit providers (e.g., YTD, Via, SacRT)
- West Sacramento Bicycle, Pedestrian, and Trails Master Plan (2018) and subsequent updates
- City of West Sacramento Mobility Action Plan (2021) and subsequent updates
- Local business and property owners, private land developers
- Active transportation equity and advocacy groups

Action 6: Provide more telecommuting opportunities for City staff and work with local businesses to increase telecommuting options citywide

GHG Reductions

- 1,800 MT CO_2e/yr (2030)
- 3,100 MT CO_2e/yr (2045)

City's Authority Level: Direct/Partnership

Co-benefits



What You Can Do

- If your employer offers the option of working from home, participate as much as possible to minimize your work-related travel.
- Advocate for your employer to implement telecommuting policies.

Equity Issues

- Low-income residents may not have the at-home home resources to telecommute productively.

Equity Solutions

- Increase access to high-quality internet connectivity for low-income residents/ households and areas of the city where broadband internet is not easily accessible.

Action Description

Telecommuting, also known as "work from home", has become much more commonplace following the COVID-19 pandemic. Allowing for telecommuting can drastically reduce commuting trips, which typically represent a quarter of all vehicle miles traveled. Telecommuting can also lead to greater productivity and company cost savings through reduced office space and operational costs. The City of West Sacramento should reassess its telecommuting policies to allow more staff to work remotely or increase flexible working hours to encourage work-life balance and reduce the need to travel, even as pandemic restrictions are reduced. Additionally, the City should partner with the Chamber of Commerce to encourage local employers to continue or expand telecommuting programs.

Implementation Tactics

- Develop a comprehensive package of incentives, disincentives, and policies to reduce inbound/outbound VMT between neighboring jurisdictions. The savings from these programs should be reinvested in transit and shared mobility.
- Partner with Chamber of Commerce to identify telecommuting potential and resource needs.
- Develop a broadband infrastructure action plan that prioritizes providing broadband to areas of the city that lack high speed internet.

Implementation Metrics

- % of all employees that telework
- % of residents with access to high-speed internet
- % of employees eligible for telework and % of those eligible who are partially or fully teleworking

Action 7: Prioritize transit-oriented development and center/corridor community growth through land use planning

GHG Reductions

- *Included within on-road travel emission forecasts*

City's Authority Level: Direct

Co-benefits



What You Can Do

- Advocate for infill projects.
- If you are planning on moving, prioritize transit-oriented design (TOD) areas.
- Advocate for eliminating parking minimums.
- Advocate for replacing parking lots with homes and walkable villages.

Equity Impacts

- Increased development has the potential to increase property values, rents and displacement of existing residents. Pursuing reinvestment without protections can result in negative outcomes for existing communities if residents can no longer afford to live in the neighborhoods in which they grew up.

Equity Solutions

- Develop a comprehensive anti-displacement strategy with the community and implemented in tandem with neighborhood improvements. Anti-displacement policies must take priority and formal and transparent processes must be implemented to foster and enforce these policies.
- Maintain affordable housing requirements or incentives in TOD areas.
- Review existing inclusionary housing policies and programs to identify opportunities to achieve more equitable results and create racially and economically integrated, inclusive, and diverse communities.
- Ensure equity policies do not hinder housing production.
- Target incentives and low-cost financing to landlords and low-income consumers to overcome capital cost barriers and ensure that all communities receive clean energy benefits.
- Support missing middle housing and a mix of housing types and unit sizes that could provide housing to a balanced range of income levels.
- Promote accessibility and universal design principles in design of communities and buildings that are available to all people, regardless of age, ability, or other factors.

Action Description

Transit-oriented development maximizes the amount of residential, business, and leisure space within walking distance of public transport. Compact, mixed-use TOD spaces reduce the need for passenger vehicles and promote the use of public and active transport options. Residential units in these dense areas also use less energy per square foot than single family homes. Centering development in infill areas can also preserve natural spaces and reduce the amount of energy, materials, and money needed to build and maintain new infrastructure. TOD ordinances can be used to require and/or incentivize quality development near transit hubs to increase transit use, typically within a quarter mile or half-mile radius of transit stops. Examples include decreasing or removing minimum parking requirements, increasing floor area ratio, reducing minimum lot area per unit, and increasing maximum building height. The City can also provide a range of incentives to encourage TOD, such as subsidies, fast track processing, tax abatements, fee waivers, fee reductions, and deferrals. Additionally, through future land use planning and zoning, the City can prioritize more climate-friendly or energy-efficient land uses, such as multifamily developments near transit, over other types of high-emission development types. TOD developments can help increase access to amenities and jobs for low-income populations who cannot afford private vehicles.

Implementation Tactics

- Introduce and advocate for state, regional, and local regulations that clearly limit new development to existing developed areas in the region, while promoting accessibility and adopting anti-displacement policies for residents and small businesses. Work with private sector partners to facilitate and expand infill development.
- Accommodate and facilitate new living wage jobs and construction of new housing units in areas that can be accessed without private automobiles, prioritizing the construction of affordable housing through strategic infrastructure investments, expansion of by-right zoning, TOD ordinances, financial incentives, and modification of single-family dwelling designations, all coupled with accessibility, universal design, and anti-displacement policies with a commitment to affordable workforce housing.
- Explore opportunities to work with the Sacramento Community Land Trust or other organizations to preserve affordable housing in West Sacramento.
- Prioritize public investment in low emission development areas using a locational efficiency metric such as a city average VMT limit, additional building siting and efficiency requirements, and/or others. The public investment will promote accessibility, universal design, and anti-displacement.
- Leverage existing research, best practices, and tools to inform the development of a locational efficiency metric, such as those available through the Center for Neighborhood Technology's Location Efficiency Hub.
- Eliminate parking requirements in TODs and within a half-mile of mobility hubs, fixed transit routes, mixed-use/neighborhood hub/village cores, and Class I trails.

- Allow for missing middle housing (triplexes, fourplexes etc.) in built out single family neighborhoods that are in infill areas (see SB 9 for supporting legislation).
- Utilize the provisions of SB 10 to zone any parcels in transit-rich or urban infill sites for up to 10 units of residential density.
- Continue long-range land use planning through the General Plan and other documents that moves the city toward energy-efficient and climate-friendly development patterns.

Implementation Metrics

- Density of new development
- Walkscore
- # of residences within ½-mile of a transit stop; # of affordable housing units within ½-mile of a transit stop



Action 8: Allocate funding to expand and connect the active transportation and micro-mobility network

GHG Reductions

- *Included within on-road travel emission forecasts*

City's Authority Level: Direct

Co-benefits



What You Can Do

- Use active transportation and micro-mobility such as Lime, Bird, Razor, or others for daily trips.
- Advocate for additional funding for active transportation and micro-mobility infrastructure.

Equity Issues

- Lower-income residents are twice as likely to be killed while walking to their destinations compared to higher-income residents.
- People participating in human-powered and micro-mobility transportation are subject to harm from air pollutants and noise pollution imposed on them by people operating private vehicles.
- Newer and more affluent neighborhoods have better sidewalk and trail access.

Equity Solutions

- Prioritize active transportation infrastructure safety improvements in low-income communities.
- Accommodate the disability community in planning, design, and operations of these bicycle/pedestrian and micro-mobility projects.
- Sidewalk and Transportation Equity Program will identify sidewalk gaps throughout the city and develop a list of priority projects.
- Continue to encourage operations to provide micro-mobility discounts to low-income and underserved populations.
- Provide for longer crosswalk time allowance.
- Provide low-stress bikeways and as many air-filtering, shade-providing trees between active transportation paths and roads as possible.

Action Description

On-road transportation in West Sacramento generates 58% of total community emissions. For many residents, driving alone is the most convenient and feasible option to accomplish daily tasks. Expanding the active transportation and micro-mobility network can transition residents out of cars by providing attractive, convenient, and safe routes to multiple destinations. This can be done through improvements to pedestrian and bicycle infrastructure, such as added or improved sidewalks, pedestrian/bike crossings, protected bikeways, bike storage facilities, efficient street lighting, covered rest areas, drinking fountains and wayfinding signs. Micro-mobility encompasses a range of

shared lightweight vehicles such as bicycles, e-bikes, and e-scooters. Micro-mobility operators in West Sacramento currently include Lime bikes and scooters, Bird scooters, and Razor scooters. Establishing additional bike paths that are separated from vehicular traffic can increase safety and promote the use of active transport and longer trips. Expanding active transport options can also improve public health through reduced air pollution and increased physical activity. As marginalized populations are more likely to use alternative transportation options, improving the active transportation network can increase equity in the community.

Implementation Tactics

- Adopt a policy to prioritize pedestrian travel at the top of the modal hierarchy. Additionally, adopt a policy to prioritize projects that provide connections to commercial/downtown/mixed-use areas. Funding should be proportionally allocated to make possible the mode shift targets.
- As part of the Implement Sidewalk and Transportation Equity Program and in coordination with community leaders and residents, conduct a comprehensive neighborhood-level audit to identify deficient active transportation infrastructure, including sidewalk gaps, and develop and implement a staged plan to address issues. Project priorities should include addressing deficiencies in disadvantaged communities and high injury portions of the network. Pursue Vision Zero measures that make it safer (and more attractive) for residents to walk and roll.
- Adopt a policy to accept traffic congestion for passenger vehicles to prioritize other modes and develop a TDM policy/program with incentives to help drivers shift to walking and rolling for short distance trips. The TDM program should be informed by proven strategies.
- Continue to support the Active Transportation Wayfinding Program where signage will be installed to encourage short, non-discretionary trips.
- Update design criteria and street design standards to prioritize pedestrian-centric design that enable all residents to easily and safely walk or roll to meet their daily needs. Identify at least one area in the city to pilot roadway conversions to support placemaking efforts. Create and promote a standard process to convert on street parking spaces for other public uses and activating uses.
- Develop and implement a green connections strategy to create a seamless network of low-stress, multi-use paths and trails and increase access to parks and open spaces. Implement pilots that promote greater use of active transportation modes and incentivize behavior change.
- Explore car-free districts on weekend nights in areas that offer local commerce, recreation, and arts and culture.
- Prioritize installation of green infrastructure to increase active transportation safety and comfort, such as green center dividers and tree-lined sidewalks.

- Prioritize active transportation infrastructure improvements identified in the Bike, Pedestrian, Trails Master Plan.
- Eliminate parking minimums. Consider parking maximums citywide.
- Expand and support the Safe Routes to School program to include all schools.

Implementation Metrics

- Miles of bike lanes or improved bike lanes citywide and in disadvantaged communities
- Miles of sidewalk or improved sidewalk citywide and in disadvantaged communities
- % of commuting trips by bike (SOURCE: American Community Survey [ACS] 5-year)
- # of micro-mobility vehicles available
- # of micro-mobility trips taken
- # of docking stations
- Bike counts
- Pedestrian counts (automatic camera)
- Private vehicle traffic counts



Action 9: Extend regional transit services and allocate funding to increase the accessibility, frequency, and reliability of public transit

GHG Reductions

- *Included within on-road travel emission forecasts*

City's Authority Level: Partnership

Co-benefits



What You Can Do

- Use public transit whenever possible. Pair with active transport or micro-mobility options for commuting or other daily activities.
- Advocate for dedicating car lanes to buses and for rail service.

Equity Issues

- Transit may not be accessible and affordable to low-income populations.
- Vulnerable communities are typically served by unreliable transportation.

Equity Solutions

- Identify the mobility needs of a specific low-income or underserved community, conduct the mobility equity analysis to prioritize transportation modes that best meet those needs while maximizing benefits and minimizing burden, place decision-making power in the hands of the local community.
- Encourage the use of transit among low-income and underserved populations by working with communities to identify new transit stops, increasing route frequency, providing discounts to low-income riders, seniors, and people with disabilities, and partnering with community organizations to highlight alternative mobility choices.
- Promote expanding bus transit service timing throughout the day to meet the needs of workers with hours outside of the typical 9-5 job schedule.

Action Description

In West Sacramento, only about 4% of total trips are currently completed by transit. For longer trips where active transportation may not be feasible, regional public transit options should be prioritized. Yolobus serves West Sacramento and the surrounding region and is administered by the Yolo County Transportation District. West Sacramento can collaborate with Yolo County Transportation District (YCTD) to help enhance bus services to meet the needs of residents. The City can promote strategies, such as increasing the number of transit stops and frequency of trips, decreasing wait time for transfers, streamlining routes and connections, and increasing bus shelters, benches, and lighting. West Sacramento can offer funding to help

with physical infrastructure improvements, such as at bus stops, and financial incentives, such as with discounted transit passes. Improving transit can also increase access to jobs for those who lack other means of transport. As marginalized populations are more likely to use alternative transportation options, improving the public transit network and alternatives such as Via can increase equity in the community.

Implementation Tactics

- Adopt a transit first policy in arterial corridors and any new highway expansions to direct funding and capacity to expand and electrify mass transit. Funding should be proportionally allocated to make possible mode shift targets.
- Help create integrated mobility hubs near transit stops, prioritizing under-resourced communities, to address first/last mile connections. The pilot hubs can showcase innovative mobility solutions while supporting community placemaking efforts by serving as a destination for travelers and residents to meet their daily needs, incorporating new technology as it becomes available.
- Encourage the use of transit among low-income and underserved populations by working with communities and YCTD to identify new transit stops, increase route frequency, provide discounts to low-income riders, seniors, and people with disabilities, and partner with community organizations to highlight alternative mobility choices.
- Collaborate with SacRT to complete the Downtown Riverfront Streetcar Light Rail Transit (LRT) service expansion into West Sacramento to connect the city with Sacramento Valley Station and Amtrak service, along with other Downtown Sacramento destinations, including Capitol Mall, Golden 1 Center, and Kaiser Permanente Medical Offices.
- Study, plan, and construct fixed-route mass-transit infrastructure, including SacRT LRT service to Southport Town Center; dedicated bus transit priority lanes that allow buses, on-demand rideshare, emergency response vehicles, and paratransit services to pass congested roadways and intersections during peak commute hours; bus bulb-out stops that allow buses to serve a stop without leaving the travel lane so that they do not have to wait to reenter the travel lane and resume their route; real-time passenger information systems; and transit time-saving strategies including timed transfers between Yolobus and SacRT transit stops.

Implementation Metrics

- Transit infrastructure miles constructed
- Transit ridership
- Transit route frequency
- # of transit stops
- Fixed-route transit frequency
- Fixed-route transit ridership
- Fixed-route transit reliability
- Private vehicle traffic counts

Action 10: Reduce the impact of the freight rail system

GHG Reductions

- *Not quantified*

City's Authority Level: Partnership

Co-benefits



What You Can Do

- Contact local, regional, and national elected leaders to advocate for the use of cleaner rail fuels to improve local air quality and reduce GHG emissions.

Equity Issues

- Biofuel combustion, such as biodiesel, produces similar levels of local air pollution as the combustion of its fossil fuel counterpart.

Equity Solutions

- Provide subsidies for air filters, ventilation retrofits, or window upgrades for low-income communities living near diesel-fueled rail lines.

Action Description

West Sacramento is served by freight rail. Though the tracks run through the city, the rail system is outside of the City's control and its emissions are not included in the community GHG inventory. Therefore, West Sacramento cannot directly enforce the use of alternative fuels in the locomotives serving the city. However, more actionable opportunities may arise in the future and the City is interested in understanding where it can influence all emissions sources in the community to develop a holistic response to climate change. The City's immediate opportunity can be advocacy-based through lobbying rail authorities (e.g., USDOT Federal Railroad Administration, California Public Utilities Commission – Railroad Operations and Safety Branch) to transition to cleaner freight fuels such as 100% renewable diesel or hydrogen fuel cells. The City can partner with rail operators to understand their fueling needs and provide the necessary resources locally such as proper fueling stations. Identifying sustainable fuel sources locally could also lead to local or regional job creation.

Freight rail in West Sacramento also frequently uses street crossings, which increases local traffic and vehicle emissions. Through its ongoing land use planning and zoning efforts, the City can support future development patterns that prioritize more climate-friendly or energy-efficient land uses to reduce freight transportation impacts on community travel and connectivity, local air quality, and residents' quality of life.

Implementation Tactics

- Actively pursue implementation of the Yolo Rail Relocation project.
- Work with diesel-fueled rail operators to collect fuel use data.
- Work with the Yolo-Solano Air Quality Management District to evaluate potential air quality impacts in homes and businesses along railway corridors in the city, and identify joint mitigation programs, such as air filter subsidies or ventilation retrofits.

- Establish partners for collaboration, including identifying nearest communities with rail fueling stations.

Implementation Metrics

Data sources for the following implementation metrics are not currently known, however the metrics represent the type of information the City would want to track to evaluate progress toward decarbonizing rail emissions. Alternative tracking metrics or new data sources may be available in the future as CAAP implementation progresses.

- Gallons of alternative fuel supplied to trains traveling through the city
- % of freight cars passing through West Sacramento that use alternative fuels

Goal 3: Design a future with zero carbon power sources



Electricity consumption generates 9% of the city's total emissions. However, as building and transportation electrification increases, the proportion of total electricity emissions will also increase. If the electricity consumed in the city is produced with zero-carbon energy sources, then the GHG reduction impact from electrification can be maximized. California's Renewables Portfolio Standard program mandates 100% zero-carbon electricity statewide by 2045, which would neutralize the city's electricity-related emissions. Meeting this target is essential for both West Sacramento and the state to achieve carbon neutrality. To meet the 2030 interim target, the City can promote a rapid zero-carbon transition by enhancing utility coordination and incentivizing local solar and energy storage installations, furthering strengthening energy resilience in a changing future climate.

Supportive programs, policies, and potential partners for renewable energy development include:

- SB-100: 100% carbon-free electricity by 2045
- AB 178: Residential solar mandate
- Federal Investment Tax Credit for Solar Photovoltaics

Action 11: Enhance utility coordination and advocate for the City's utility provider to provide access to carbon-free electricity and additional building efficiency/retrofit rebates and funding

GHG Reductions

- 41,850 MT CO_2e/yr (2030)
- 67,400 MT CO_2e/yr (2045)

City's Authority Level: Partnership

Co-benefits



What You Can Do

- Utilize utility programs and incentives that promote electrification and energy efficiency.
- Enroll in PG&E's Solar Choice, Regional Renewable Choice, or Green Saver programs, which allow you to purchase up to 100% of your electricity from a community renewable program generating renewable power within California.
- Advocate for climate-friendly utility practices in energy procurement, rebates, and incentives.

Equity Issues

- PG&E green power purchasing comes at a premium cost.

Equity Solutions

- Consider additional ways to offset the cost premium for low-income residents or promote enrollment in the PG&E Green Saver program.

Action Description

As PG&E provides electricity and natural gas to West Sacramento, which combined generate 30% of total emissions, it is essential for the City to collaborate with its utility provider to meet GHG reduction goals. PG&E currently provides rebates for electric heat pump water heaters, smart thermostats, and refrigeration, as well as green power purchasing options that West Sacramento could promote through outreach campaigns. Additionally, the City could work with PG&E to adopt a rate-based fixed infrastructure charge to better incentivize low energy use and solar installations. That revenue could help fund necessary infrastructure improvements to support full-scale electrification.

Alternatively, West Sacramento could participate in a Community Choice Aggregation (CCA) program. CCAs allow municipalities to pool (or aggregate) their community's electricity load to purchase clean energy and develop local projects and programs on behalf of their residents and businesses while still receiving distribution service from their existing utility provider. There are over 20 CCAs in California, which offer varying levels of renewable electricity to customers. Valley Clean Energy (VCE) serves unincorporated Yolo County and the cities of

Davis, Winters, and Woodland, and currently offers 45% and 100% renewable power options, with a goal to provide 100% carbon free electricity to all customers by 2030. Through a CCA, PG&E would still deliver the electricity through their transmission and distribution system, as well as provide the meter-reading, billing, maintenance, and outage response services. Participating in a CCA could help West Sacramento achieve 100% clean electricity sources before the 2045 RPS deadline to further reduce the community's contribution to total global GHG emissions.

Implementation Tactics

- Evaluate how PG&E can address challenges in electricity service, reliability, cost competitiveness, infrastructure, rates, and local climate investments to help the City meet its GHG reduction goals.
- Determine over the long-term how and if the City could transition to another utility service that would help facilitate the City's proposed climate actions and be more equitable to residents and businesses.
- Connect contractors to utility direct-install programs.
- Work with PG&E to incentivize early retirement of gas appliances and to electrify accounts instead of upgrading deficient fossil fuel gas infrastructure.
- Work with PG&E to expand the Green Saver program, which helps some income-qualified residential customers in select communities save 20% on their electricity bill by subscribing to 100% solar energy.
- Coordinate with the California Energy Commission (CEC) and California Independent System Operator (CAISO) to determine the progress of grid modernization.
- Collaborate with neighboring jurisdictions to develop a regional program to provide additional rebates and incentives, like the Bay Area Regional Energy Network (BayREN).

Implementation Metrics

- # of households participating in PG&E Solar Choice, Regional Renewable Choice, and Green Saver programs
- Participation in CCA clean electricity tiers
- % of utility electricity generation coming from clean energy sources

Action 12: Incentivize local solar photovoltaic systems and enhanced energy storage, and promote participation in community solar programs

GHG Reductions

- 450 MT CO_2e/yr (2030)
- 0 MT CO_2e/yr (2045)*

* Local solar development shows zero GHG reductions in 2045 because the electric grid will be 100% zero carbon based on California's Renewables Portfolio Standard; this action would still contribute the other co-benefits identified on this action summary page, but no additional GHG reductions would accrue

City's Authority Level: Indirect/Partnership

Co-benefits



What You Can Do

- Install solar on your property or advocate for your landlord to install solar, while also respecting the existing tree canopy; include battery storage, if possible.
- Enroll in PG&E's Solar Choice, Regional Renewable Choice, or Green Saver programs, which allow you to purchase up to 100% of your electricity from a community renewable program generating renewable power within California.

Equity Solutions

- Create incentives such as tax credits and grants to support small commercial installations and battery storage, focusing on minority-owned businesses and low- and moderate-income households.
- Promote solar installation programs (such as Grid Alternatives) that provide solar panels to low-income homeowners.

Action Description

Electricity consumption in West Sacramento generates 9% of community emissions. As PG&E must comply with SB-100 which calls for 100% zero-carbon electricity by 2045, West Sacramento will ideally be provided with clean electricity by 2045, reducing its electricity consumption-related emissions to zero. However, to support progress toward West Sacramento's ambitious secondary 2030 target, it is necessary for the City to quickly transition to a zero-carbon grid to ensure that buildings and transportation are powered by zero-emission sources. Developing financial and policy incentives for local solar and battery storage installations will help spur this transition. Additionally, local solar with battery storage can support the creation of microgrids, which help to enhance energy resiliency during power outages. The City can also work with PG&E to develop distribution-level solar PV on the customer-side of the meter, including community solar projects. By providing local clean energy resources, West Sacramento can meet its interim targets, enhance local resiliency, increase grid capacity, and help PG&E and the state meet the zero-carbon electricity goals.

Implementation Tactics

- Evaluate remaining potential for solar installation on municipal buildings, facilities, and properties.
- Identify and implement tactics to streamline solar permitting process.
- Identify areas/buildings with high solar potential, engage with property owners.
- Map solar and battery storage installations using permit data to determine where more resources are needed in an equitable manner.
- Develop an outreach campaign for existing solar PV owners to provide information about battery storage.
- Encourage and streamline battery storage with construction of new solar installations.

Implementation Metrics

- Funds dedicated to solar incentives
- # of solar installations, total kW installed, and location of installations in the city from the Buildings Division's solar installation permit data or Project Sunroof
- # of households participating in PG&E Solar Choice, Regional Renewable Choice, and Green Saver programs
- kW of community solar developed and kWh of community solar purchased by residents

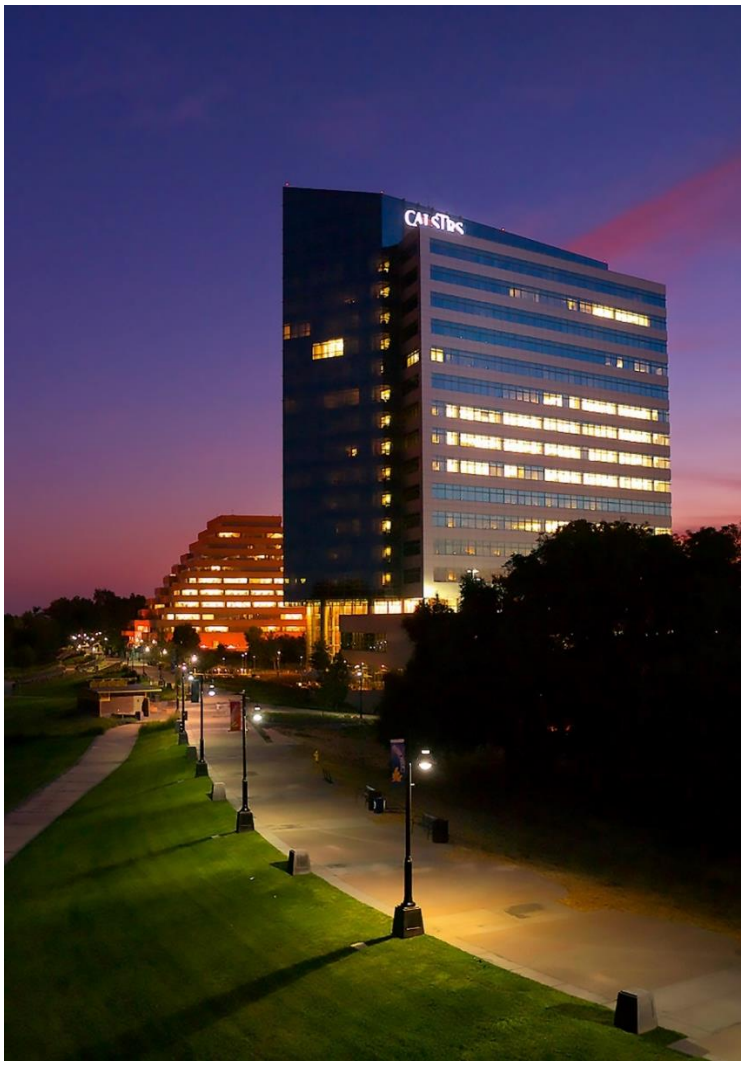
Climate Champion Spotlight
John Bissell, Origin Materials

Origin Materials, headquartered in West Sacramento, is the world's leading carbon negative materials company. When John Bissell and Ryan Smith co-founded Origin Materials in 2008, their vision was to develop a better way of making materials. 45% of global carbon emissions come from material production, with more than ten million barrels of oil per day consumed to create them. Their idea was to replace this oil with non-food feedstocks, like wood residue, and capture carbon in the process. Origin Materials' innovative process begins with collecting sustainable wood residue feedstock. The wood can then be transformed into PET plastic – a strong, lightweight material – that is used in many different consumer and industrial applications like food and beverage containers, fabrics, and automotive textiles. As the plant-based PET is chemically identical to fossil fuel-based PET, it can be used and recycled just like any typical PET material. Origin Materials' product can produce a significantly lower carbon footprint than petroleum-based plastic, reduce dependence on foreign oil, and help to limit supply chain risk that might affect the traditional petrochemical industry given its concentration in relatively few geographic locations.

The company's first manufacturing plant in Canada was recently completed and a larger plant is scheduled for completion mid-2025. In the future, Origin Materials plans to produce a plastics intermediate that can be turned into other products – many of which are expected to be carbon negative when produced at commercial scale. The company's forecasts project that its products can achieve price parity with other fossil-fuel based materials. By 2030, the company's operating plants are expected to avoid 8.3 million metric tonnes of CO_2e per year – equal to using 19,000 barrels of oil or producing 20 years' worth of West Sacramento's greenhouse gas emissions! Origin Materials is disrupting the materials industry with innovative, economical, and climate-forward processes, all right here in West Sacramento.

Goal 4: Plan for all-electric buildings city-wide

Buildings in West Sacramento use a combination of natural gas and electricity to power heating and cooling equipment, lighting, and other appliances. Natural gas generates 70% of the city's total building GHG emissions and is primarily used to provide space and water heating. Converting natural gas equipment and appliances to electric options as well as mandating all-electric new construction will drastically reduce emissions from buildings. Additionally, if the electric grid is powered by 100% carbon-free sources, then any buildings that are fully electric will produce zero GHG emissions. To meet the 2045 carbon neutrality goal, the city will need to replace 100% of gas equipment with electric or other decarbonized technology options, and given the lifespan of this equipment, the city will need to make significant progress by the 2030 interim target. While the state's increasingly stringent building code updates are pushing new construction closer to zero-emissions design, decarbonizing existing buildings presents a significant challenge that requires a combination of public education, incentives, pilot projects, and code requirements to meet the city's GHG targets.



Supportive programs, policies, and potential partners related to building decarbonization include:

- PG&E Energy Efficiency Programs
- California GoGreen Financing for energy efficiency projects
- State Energy Code, including Title 24
- Building Decarbonization Coalition

Action 13: Develop and adopt a building electrification program and incentives for existing buildings

GHG Reductions

- 4,300 MT CO_2e/yr (2030)
- 77,400 MT CO_2e/yr (2045)

City's Authority Level: Direct

Co-benefits



What You Can Do

- Plan ahead to convert to all-electric equipment and appliances at or near end of useful life (e.g., stoves, water heaters, furnaces, etc.). This includes budgeting for equipment replacement and any necessary electric panel upgrades and researching applicable financial incentives.

Equity Issues:

- Electrification requirements may place a disproportionate cost burden on low-income households and small/minority-owned businesses without dedicated funding sources to mitigate new costs.
- Increase in electrification is subject to grid failures, blackouts, and power shut-offs during extreme weather events. Fully electric buildings present no energy alternative other than onsite stored energy via batteries, which comes at an additional cost.
- Households and businesses that cannot afford to electrify may bear increased natural gas costs as wealthier customers transition toward all-electric buildings and the cost to upkeep the natural gas infrastructure is paid for by a decreasing number of customers.
- Rental unit/property electrification costs may be passed on to renters.
- Costs associated with electrification may impact the availability or price of affordable housing.
- Electrification could create additional challenges for restaurants, including small and minority-owned restaurants, regarding preferences and practices associated with gas cooking techniques/ culinary styles.

Equity Solutions:

- Provide financial support (such as partial or full subsidies) for low-income households and small/minority-owned businesses to lead the way in the electrification process; pilot projects focus on these areas first.
- Coordinated action should include steps to prepare low-income households for electrification, such as by expediting the decommissioning of natural gas infrastructure in lower-income neighborhoods to avoid potential utility cost increases associated with a decreasing customer base left to fund the infrastructure.
- Implement training programs/knowledge-sharing opportunities (e.g., demonstration kitchen classes) to facilitate transition to electric cooking equipment.

Action Description

Natural gas use in existing buildings generates 20% of total community emissions. Commercial buildings generate most of the city's natural gas emissions (55%), followed by residential units (45%) and institutional buildings and facilities (<1%). Also, most of the city's residential units (71%) are single family homes, which typically use more natural gas than multifamily homes. Reducing natural gas consumption in these buildings presents a unique challenge.

The city can encourage voluntary building electrification by providing educational and outreach materials that include information on financing and incentive options. The city can develop new incentives for electric equipment such as heat pumps or induction cooktops. PG&E also provides varying levels of incentives for equipment replacements and will be a key partner in promoting widespread electrification.

While it is relatively simple to adopt measures regulating equipment types and fuel sources in new construction, there are relatively few policy mechanisms that can directly influence fuel systems in existing buildings. Examples of such policies include mandating electrification at end of useful life, implementing point of sale/point of lease electrification requirements, and requiring electrification during major renovations. These mechanisms can be further explored if a voluntary electrification program is unsuccessful.

As poor indoor air quality disproportionately impacts low-income households, this action can increase equity by improving indoor air quality through the electrification of combustion appliances.

Implementation Tactics

- Lead by example and implement end of useful life electrification policies for all municipal appliances and equipment.
- Prioritize education and voluntary action in the community prior to establishing any new building electrification mandate.
- Establish a comprehensive electrification and energy efficiency program to reduce the energy burden of low-income residents while expediting the decommissioning process of aging natural gas infrastructure in marginalized communities.
- Advocate for CalGreen to require electric space and water heating in equipment replacements by forming a diverse coalition to lead advocacy efforts.
- Explore opportunities to track and administer fines to heating, ventilation and air conditioning (HVAC) contractors who fail to pull permits, with collected fines used to establish an electrification incentives fund.
- Work with PG&E to conduct a building electrification capacity study and roadmap.
- Coordinate with the California Energy Commission and CAISO to track grid modernization progress and understand current and future potential to expand grid capacity and reliability in a changing climate.

Implementation Metrics

- Building permit data with equipment replacement and fuel switching information

- Average energy use intensity (EUI) or emissions intensity before and after improvements for all participating buildings
- Average energy savings per $ invested over all participating buildings
- Targeted financial support and incentives provided to low-income households and small and minority owned business to address equity impacts

Action 14: Establish energy performance standards and GHG emissions limits for existing commercial buildings

GHG Reductions

- 2,300 MT CO_2e/yr (2030)
- 42,900 MT CO_2e/yr (2045)

City's Authority Level: Direct

Co-benefits



What You Can Do

- Review utility bills to determine areas of high energy consumption.
- Plan ahead to convert to high-efficiency or all-electric equipment and appliances.

Equity Issues:

- Energy performance standard requirements may place a disproportionate cost burden on many small and minority-owned businesses if additional assistance is not provided.

Equity Solutions:

- Target larger buildings/highest emitters first to develop a streamlined compliance process before requiring smaller businesses and buildings to comply.
- Provide financial support (for example, partial or full subsidies) to small and minority-owned businesses to replace fossil fuel appliances with electric options.
- Provide small and minority-owned businesses with information on the availability of grant funding and low-interest financing programs.

Action Description

Commercial buildings in West Sacramento generate 59% of total building emissions. Implementing an energy performance standard would require property owners to track and disclose energy use and GHG emissions using standardized metrics. The program will also require buildings to undergo a periodic energy audit to determine if they meet set energy efficiency or GHG standards. The stringency of the standard could increase over a set time, aligning properties on the path to carbon neutrality by 2045. Property owners not complying with the standard would pay into a fund for energy efficiency and electrification programs. To ease the reporting and compliance burden on smaller buildings or businesses, the standard can target larger commercial buildings at first (e.g., >50,000 square feet [sq. ft.]) with the size compliance requirement decreasing over time.

Implementation Tactics

- Incentivize property owners to install electric appliances when replacing natural gas appliances, prioritizing education and voluntary action prior to establishing a mandate, and begin implementation with larger and/or highest emitting buildings to refine streamlined compliance process.
- Work with building owners to review energy audit results to determine upgrades that can yield the fastest or highest return on investment.

- Partner with manufacturers and developers to identify ways to reduce the cost of materials, such as through joint procurement efforts.
- Engage labor unions and organizations to identify opportunities to increase efficiencies, such as through advanced contractor training.
- Identify CEC-approved certifications to provide clear pathways to help building owners meet performance standards, such as Leadership in Energy and Environmental Design (LEED), Passive House, Living Building and WELL Building.
- Identify implementation point-person, either internally at the city or through a contracted service.

Implementation Metrics

- % commercial square feet participating in program
- % commercial square feet complying with program performance standards
- Changes in energy use intensity of all participating buildings
- Targeted incentives and financial support provided to small minority-owned businesses to address equity impacts



Action 15: Mandate all-electric new construction in a phased approach to eliminate on-site fossil fuel use

GHG Reductions

- 10,150 MT CO_2e/yr (2030)
- 39,450 MT CO_2e/yr (2045)

City's Authority Level: Direct

Co-benefits



What You Can Do

- Advocate for all-electric new construction and supporting utility rebates.

Equity Issues:

- All-electric new construction can increase the initial cost of construction for some building types given the current state of building practices. These costs may be a burden to buyers with limited incomes.
- Electrification could create additional challenges for restaurants, including small and minority-owned restaurants, regarding preferences and practices associated with gas cooking techniques/culinary styles.
- As old building stock is demolished or electrified and new construction is all-electric, there will be fewer natural gas customers and remaining customers will bear increased costs.

Equity Solutions:

- Identify appropriate and effective anti-displacement measures with the community.
- Evaluate the need for financial incentives or financing to help overcome increased initial costs associated with building under an all-electric code when applied to certain building types.
- Implement training programs/knowledge-sharing opportunities (e.g., demonstration kitchen classes) to facilitate transition to electric cooking equipment.

Action Description

As electrification is a primary pathway to reaching net-zero building emissions, an all-electric new construction mandate is essential to minimizing new fossil fuel infrastructure and avoiding "carbon lock-in", or the commitment to emitting GHGs over the lifetime of the installed system. Requiring new buildings to be fully electrified (or otherwise fully decarbonized) enhances energy resiliency by supporting localized energy systems, avoids future retrofit costs, and helps the market mature. Other cities in California have implemented all-electric ordinances or reach codes (i.e., a local building code that requires more stringent standards than those imposed at the state level), including over 50 jurisdictions within PG&E territory as well as Sacramento and Los Angeles. As it is difficult for some building types and associated operations to electrify, many of these communities have exempted affordable housing, commercial kitchens, labs and even restaurants. As poor indoor air quality disproportionately impacts low-income households, this action can increase equity by

improving indoor air quality through the electrification of combustion appliances.

Electrification mandates for new greenfield development would be phased in first as it largely will comprise single-family homes and garden style apartments. Building electrification requirements for infill development in areas of the city that have lower VMT would be in later phases ensuring that the cost of all electric buildings is comparable to traditional construction. In addition, exemptions may be considered for those buildings whose occupants rely on natural gas for critical operations, including laboratory space associated with research and development.

Implementation Tactics

- Implement all-electric requirement in new municipal buildings to demonstrate leadership.
- Prioritize new greenfield single-family, low-rise multifamily, and commercial buildings under 4 stories in the first phase of new building electrification requirements.
- Move to include all new buildings in electrification requirements provided that the costs to go all-electric are cost-effective, including the incremental costs of electrical infrastructure upgrades and technology that has shown to be feasible. Provide flexibility and a phased approach for targeted industries that have a greater need for natural gas such as restaurants, manufacturing, and labs.
- Partner with regional affordable housing advocates, developers, community land trusts, etc. to define anti-displacement tactics while facilitating a community-wide transition to building decarbonization.
- Identify large-scale development projects in progress to encourage electrification and serve as community pilot projects for future development.
- Evaluate and develop legal pathways to impose GHG mitigation fee for emissions associated with natural gas and prohibit gas infrastructure or appliances in development projects subject to CEQA review.

Implementation Metrics

- % of new buildings and square footage that is all-electric; % of new affordable housing units that are all-electric
- # of new natural gas equipment or infrastructure permits
- # of new natural gas equipment permits for affordable housing projects
- Permits for all-electric new construction and permits for mixed-fuel new construction

Action 16: Create a home energy audit program and minimum efficiency thresholds

GHG Reductions

- 2,000 MT CO_2e/yr (2030)
- 34,500 MT CO_2e/yr (2045)

City's Authority Level: Direct

Co-benefits



What You Can Do

- Advocate for utilities to provide home energy upgrade financial assistance.
- Conduct your own energy audit using online tools such as PG&E's Home Energy Checkup or the Department of Energy Home Energy Assessment Guidance.

Equity Issues

- Efficiency upgrade requirements may place a disproportionate cost burden on low-income households.
- Efficiency upgrade costs in rental units may be passed on to renters.
- Costs associated with efficiency upgrades may impact the availability or price of affordable housing.

Equity Solutions

- Targeted incentives for multifamily buildings can also ensure that lower-income residents benefit from energy efficiency and electrification measures.
- Provide financial support (such as partial or full subsidies) to low-income households to replace fossil fuel appliances and equipment with electric options.

Action Description

Residential energy audits can help residents identify areas of energy inefficiency and substantial emissions as well as provide solutions on building upgrades or personal behaviors that can reduce their energy bills and climate impact. The City could create a subsidized home energy audit program for residents and property owners. Subsequently, the City could establish a Residential Energy Conservation Ordinance (RECO) to require that homes meet certain energy and water efficiency requirements and establish a process for verifying that such standards have been satisfied. Property owners can comply with a RECO by meeting a prescriptive checklist of energy efficiency and water conservation measures and undergoing a verification inspection by a certified inspector. A RECO can be designed to establish different actions that initiate the compliance process, such as sale of the property, the rental license inspection process, safety inspection process, or when the property undergoes significant renovation. San Francisco's RECO program requires residential property owners to implement certain energy and water conservation measures for their buildings prior to sale, during major renovations, or during metering or condominium conversions. As the percent of gross household income spent on energy costs is much higher for low-income households, this action can increase equity by reducing household energy burden.

Implementation Tactics

- Incentivize property owners to install electric appliances when replacing natural gas appliances, prioritizing education and voluntary action prior to establishing any new mandates.
- Work with building owners to review energy audit results to determine upgrades that can yield the fastest or highest return on investment.
- Partner with manufacturers and developers to identify ways to reduce the cost of materials, such as through joint procurement efforts.
- Engage labor unions and organizations to identify opportunities to increase efficiencies, such as through advanced contractor training.
- Establish a comprehensive electrification and energy efficiency program to reduce the energy burden of low-income residences while expediting the decommissioning of aging natural gas infrastructure in marginalized communities.
- Identify implementation point-person, either internally at the City or through a contracted service.

Implementation Metrics

- Number of home energy audits and/or RECO inspections
- % of homes that have undergone a home energy audit and/or RECO inspection
- Average EUI or emissions intensity before and after improvements for all participating buildings
- Average energy savings per $ invested over all participating buildings
- Targeted incentives and financial support to low-income households



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Climate Champion Spotlight
CalSTRS

The California State Teachers' Retirement System (CalSTRS) was established by law in 1913 to provide retirement benefits to California's public-school educators from pre-kindergarten through community college. With an investment portfolio market value of more than $320 billion as of November 2021, CalSTRS is the largest educator-only pension fund in the world and the second largest public pension fund in the U.S.

CalSTRS has historically used its influence as a significant global investor to promote long-term sustainable public policies and business practices, including successfully integrating environmental, social, and governance (ESG) principles into its operations and investment strategies. CalSTRS' commitment to be an active investor organization fosters its duty to protect and grow the assets that educators have entrusted to the agency. Accomplishing that means being good stewards of the businesses they invest in, with assurances that those businesses are also focused on risks that could impact their long-term value.

In 2021, CalSTRS adopted a pledge to achieve net zero greenhouse gas emissions across its investment portfolio by 2050 or sooner, aligning with the science-based targets of the Paris Agreement, an international treaty on climate change. CalSTRS also approved an implementation framework to chart its path to net zero, which includes developing a Net Zero Action Plan.

CalSTRS' 17-story, 409,000-square-foot headquarters building was built along the West Sacramento waterfront in 2009 and exemplifies the agency's commitment to sustainability. The building received LEED Platinum certification for building Operations and Maintenance, TRUE (Total Resource Use and Efficiency) Zero-Waste certification, and an ENERGY STAR score of 100 out of 100. CalSTRS sends annual reports on the greenhouse gas emissions of its headquarters building to the Climate Registry and has reduced combined direct (Scope 1) and indirect (Scope 2) emissions every year since 2012.



All new hires receive training on how to operate efficiently within the building, including using window-blind schedules for daylight harvesting and operating underfloor air vents. CalSTRS' Green Ranger program establishes a volunteer ambassador on every staff-occupied floor of its headquarters building to help integrate operational sustainability into the agency's workplace culture.

The building's janitorial staff were the first in the Sacramento area to become certified in the national Green Janitor Education Program. In addition, ten members of the janitorial staff completed the Infectious Disease Certification Program to adapt cleaning and maintenance practices to rapidly evolving health and safety measures. The headquarters building also demonstrates how the broader West Sacramento community can prepare for the impacts of climate change through native and drought-tolerant landscaping, water-efficient irrigation systems, heat-island-reducing materials, and rainwater infiltration design features, such as permeable pavers.

CalSTRS has expanded its headquarters building by adding a 510,000-square-foot tower (a five-level office tower atop a five-story parking structure). To finance this expansion, CalSTRS issued its first tax-exempt green bonds in 2019, which were certified as meeting the vigorous Climate Bond Initiative standard. The bonds were oversold in 20 minutes, demonstrating their high demand. The goal for the new tower is to meet Zero Net Energy standards and receive LEED Platinum, Living Building Challenge, and WELL Building Standard certifications. The tower features an activated pedestrian plaza with public amenities, including a café, childcare center, and assembly space.

As a significant international investor with a long-term investment horizon, CalSTRS' success is linked to global economic growth and prosperity. Focusing on climate change issues and increasing global sustainability are integral to CalSTRS' mission. Also of great importance to the agency is its commitment to be a positive presence in the West Sacramento community—now and for many years to come.

Learn more at CalSTRS.com.

Goal 5: Create a waste-free city



Solid waste generates 6% of total community emissions, primarily due to organic waste sent to landfills. West Sacramento can reduce waste by decreasing unnecessary material consumption, recycling appropriate waste materials, redirecting edible food from landfills, and composting non-edible organics. SB 1383 requires local governments to implement food recovery and organic waste collection programs, which will greatly reduce waste-related emissions if enforced. Redirecting edible food will not only reduce landfill and food-related transport emissions but also address food insecurity in the region. Additionally, compost can be used as a soil amendment or a natural fertilizer, which can reduce the need for synthetic fertilizers. By implementing SB 1383 and helping the community reduce unnecessary purchasing, West Sacramento can reduce waste while enhancing community health and resiliency.

Supportive programs, policies, and potential partners for waste reduction, recycling, and organic material diversion include:

- SB 1383: Reduce statewide disposal of organic waste 75% by 2025; rescue 20% currently disposed edible food by 2025
- Yolo Food Security Coalition
- County Nutrition Action Partnership
- West Sacramento Urban Farms Program
- Center for Land-based Learning
- West Sacramento Environmentally Preferable Purchasing Policy

Action 17: Expand commercial and multifamily organic waste programs

GHG Reductions

- 14,050 MT CO_2e/yr (2030)
- 19,100 MT CO_2e/yr (2045)

City's Authority Level: Indirect

Co-benefits



What You Can Do

- Obtain a compost and recycling bin for your household.
- Educate yourself on what materials can be recycled and composted in your area.
- If you have a garden, create and use your own compost.

Equity Issues:

- Outreach and education materials historically exclude non-English speakers.

Equity Solutions:

- Provide various communication channels and outreach materials in multiple languages.

Action Description

Solid waste disposal, including food waste, generates a large amount of methane emissions in landfills, primarily due to its organic content. In West Sacramento, solid waste generates 6% of total community emissions. SB 1383 requires local governments to provide organic waste collection to all residents and businesses and conduct outreach on organic waste disposal to all affected parties. Some businesses and multifamily housing complexes do not currently participate in organic waste collection programs, and those that do typically end up contaminating their organic waste with other items. By expanding the organic waste collection program to more business and multifamily complexes, providing education on proper composting and recycling practices, and providing resources such as indoor organic waste bins, the city can reduce its waste-related emissions and meet the requirements of SB 1383.

Implementation Tactics

- Conduct a waste audit of multifamily complexes.
- Promote participation in Waste Management's organic and mixed recycling services which are provided to all multifamily properties at no additional cost to trash services through communication materials provided in multiple languages.
- Connect urban farms with local restaurants and food banks to provide local produce and use food waste as compost.

Implementation Metrics

- Tons of waste composted
- # of languages used in communication materials

Action 18: Expand the food recovery network to collect edible food from businesses

GHG Reductions

- *Included within Action 17 reductions*

City's Authority Level: Direct/Partnership

Co-benefits



What You Can Do

- Participate in a food recovery network. Donate or purchase edible food waste.
- Support businesses that actively reduce food waste.
- Volunteer with food waste diversion or delivery programs.

Equity Issues

- A mobile app designed to connect residents with donated food would require vulnerable populations to have access to smart phones.
- Restaurants and businesses are afraid of potential legal action for donating contaminated/expired food.

Equity Solutions

- Include a website/phone number for food delivery to supplement a mobile app.
- Investigate the possibility of using a waiver system so that food collectors assume liability for food quality.

Action Description

Food waste is the largest waste stream in California. Yet 11% of Yolo County residents experienced food insecurity at some point during 2019, with the projected 2020 rate rising to 13%. Redirecting perfectly edible food from landfills to feed those in need can help alleviate food security issues and reduce organic waste emissions. A food recovery network connects places with excess food, such as restaurants, grocery stores, and catering companies, to residents and organizations in need of food. SB 1383 required local governments to establish an edible food recovery program that recovers edible food from the waste stream by 2022. Expanding the local food recovery network will help West Sacramento comply with these requirements, avoid emissions related to food transport and landfilling, and increase food security by driving down food costs and enhancing accessibility. Developing a mobile app can support this program by establishing an easy, accessible way for residents to find donated and recovered food.

Implementation Tactics

- Partner with institutions that have existing local food procurement and food waste programs (e.g., Yolo Food Bank) to develop clear metrics and pilot a methodology for gathering data and tracking progress; evaluate barriers to program access based on community communication

preferences (e.g., websites, phone numbers, smart phone apps).

- Create a network of community food hubs that provide food distribution and compost collection services, as well as trainings on composting, reducing food waste, gardening, and healthy cooking. Establish one hub in each neighborhood by leveraging existing community centers and partners, starting first with historically marginalized communities and food deserts.
- Utilize existing food share apps in use locally to connect residents with donated food.
- Collaborate with county departments and other interested parties to develop a food system impact assessment that includes evaluation of emissions tied to the food system and a socioeconomic risk assessment of climate change impacts to the food system.
- Join the Yolo Food Security Coalition and County Nutrition Action Partnership (CNAP).

Implementation Metrics

- Pounds of food recovered
- # of business participating
- # of residents participating



Action 19: Reduce unnecessary material consumption

GHG Reductions

- *Not quantified for CAAP analysis, action reduces upstream GHG emissions*

City's Authority Level: Direct

Co-benefits



What you can do

- Calculate your own personal/household emissions inventory by using tools such as the CoolClimate Network Carbon Footprint Calculator.
- Work to reduce consumption of single-use materials in your daily life with reusable shopping bags, selecting food products with minimal packaging, carrying reusable utensils, etc.
- If you need to purchase goods, shop at secondhand or thrift stores, yard sales, or local online marketplaces to reduce emissions associated with purchasing new products.

Equity Issues

- Increased costs for local businesses to switch to other materials.

Equity Solutions

- Connect businesses to alternative packaging vendors.
- Develop financial incentives for businesses to switch from single use plastic to alternative packaging.

Action Description

Purchasing fewer unnecessary goods can decrease global emissions associated with material production and transport. These emissions occur "upstream" from West Sacramento and are typically not included in a local GHG inventory and are difficult to track and calculate for every resident. To better understand the community's primary upstream emission sources, the City can develop a city-wide consumption-based inventory as better data and tracking tools become available.

The City can also take immediate action to reduce unnecessary material consumption (and avoid the related upstream emissions), while simultaneously providing local benefits to the community. One strategy is to decrease consumption of single-use plastics and polystyrene foam containers. The use and disposal of these materials is not reflected in the city's GHG inventory, but their use does generate upstream emissions from production, transport, and the use of fossil fuels as raw materials. Both materials are also difficult to recycle, do not biodegrade, and can become microplastic pollution that is harmful to people and animals. The COVID-19 pandemic led to increased demand for these materials and other packaging materials as consumption patterns shifted more heavily toward to-go food orders and at-home product delivery. The City had previously surveyed local restaurants to find out how many use polystyrene foam to-go packaging, researched the costs of the alternative

packaging, and consulted with City staff in the Economic Development Department. Building off this previous work to reduce unnecessary material consumption, the City of West Sacramento can follow the lead of other communities to ban single-use plastics and polystyrene foam containers.

Implementation Tactics

- Develop an ordinance to ban single-use plastics and Styrofoam containers in the community with an outreach and education phase providing information on alternative materials to precede ordinance implementation.
- Work with local businesses to determine impact and implementation phasing of single-use plastic and polystyrene foam ban.
- Continue to research affordable packaging alternatives and encourage businesses to voluntarily switch through existing outreach campaign.
- Improve enforcement of the City of West Sacramento Environmental Preferable Purchasing Policy, which bans the use of Styrofoam and encourages staff to reduce single-use items.
- Research methodologies and applications for developing a city-wide consumption-based inventory.
- Investigate materials and processes that contribute to the release of high global warming potential (GWP) gases, such as chlorofluorocarbons (CFCs), hydrofluorocarbons (HFCs), hydrochlorofluorocarbons (HCFCs), perfluorocarbons (PFCs), sulfur hexafluoride (SF_6), nitrogen trifluoride (NF_3), etc., and develop strategies to address these emission sources, such as developing a prohibition on their use in West Sacramento.

Implementation Metrics

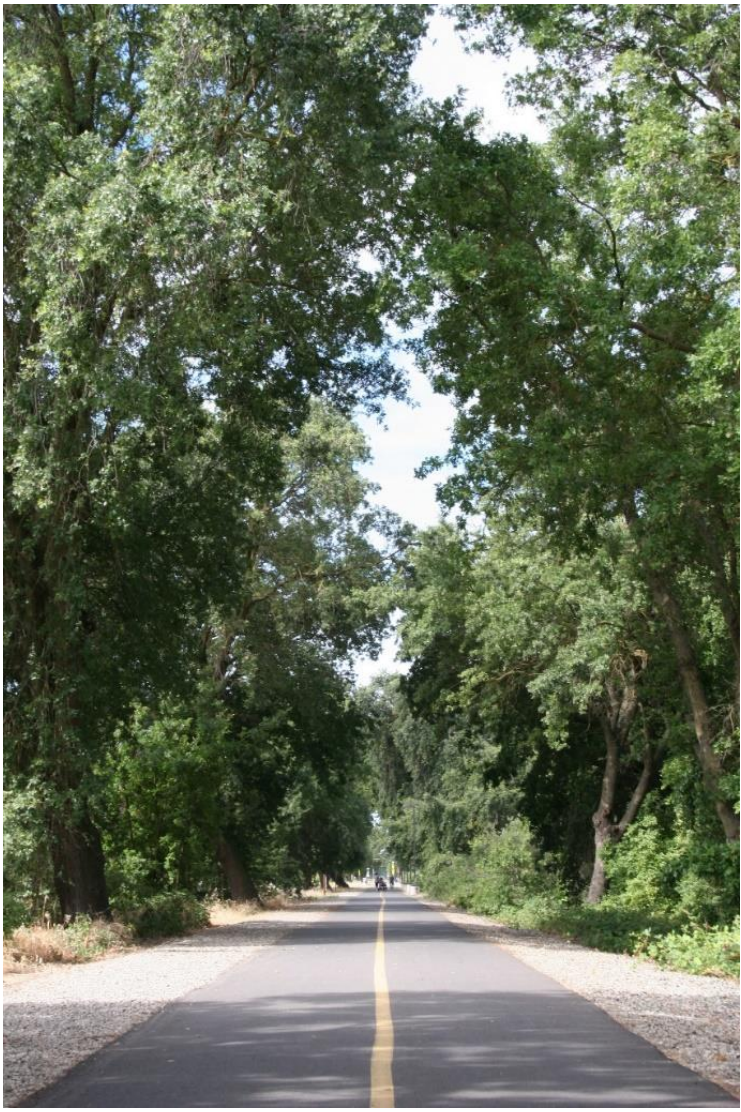
- Recycling rate
- # of local businesses engaged through education/outreach program to advertise alternative materials

Climate Champion Spotlight
Shea Robinson, Nugget Markets

Shea Robinson is the Sustainability Coordinator at Nugget Markets. She directs a team of "Green Gurus," or store-level sustainability specialists, across 16 stores to ensure that the sustainable best practices for waste reduction, water conservation, and energy efficiency are properly implemented. Like many grocery stores, Nugget sees food waste as a major sustainability issue. In the US, food waste is estimated at between 30-40% of the total food supply and, when that food waste is landfilled, it accounts for 14% of the US's total methane emissions – a potent GHG. In addition, nearly 1 in 5 people in California are identified as food insecure or not knowing where their next meal will come from. While non-edible food is composted at Nugget, the company's rigorous quality standards means that not all edible food is fit to be sold, creating an additional source of potential food waste. So, what can be done?

Shea and her team strengthened Nugget's Food Recovery Program in 2018. Through this program, Nugget works with food banks and agencies throughout Northern California, including West Sacramento, to ensure that all edible food that it not sold is donated to community members in need. The team prioritizes food banks within the City or County to ensure Nugget's efforts benefit the local community and reduce vehicle emissions from transporting food long distances. In 2019, the program donated 500,000 pounds of food to area food banks. This increased to 800,000 pounds in 2020 – providing a significant benefit during the COVID-19 pandemic when out-of-work families lacked access to healthy foods. Nugget's Food Recovery Program also contributes to a circular economy in which all edible food is consumed, and any waste is composted to help grow more food. By providing community members with highly nutritious food and keeping food waste out of landfills, Shea and her team at Nugget Markets have become local champions of social responsibility, environmental stewardship, and economic vitality in West Sacramento.

Goal 6: Build carbon negative and livable communities



Though the City may be able to directly reduce most of the community's emissions, some emission sources, such as industrial processes or large equipment, will be difficult to address through electrification or other means. Therefore, the City will need to participate in carbon removal to reach its carbon neutrality goal. Carbon removal is the process of removing carbon dioxide or other GHGs from the atmosphere. This can be done through natural processes such as forest restoration and soil management, or industrial mechanisms such as direct air capture (from the atmosphere). Green infrastructure, such as trees, parks, and natural areas, not only removes or "sequesters" carbon, but can also provide a range of community health and resilience benefits as well as supporting the ambitious CAAP active transportation goals. Other industrial carbon removal mechanisms are still in early phases of development but will most likely be necessary to meet the City's and state's 2045 target, or to become a "carbon-negative" city.

Supportive programs, policies, and potential partners for carbon removal include:

- Yolo County Climate Action Commission

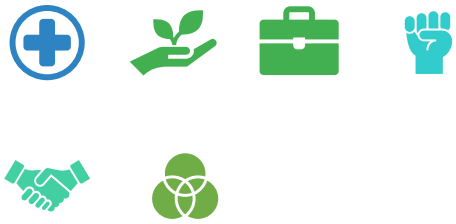
Action 20: Develop and implement an urban forest master plan

GHG Reductions

- 700 MT CO_2e/yr (2030)
- 5,600 MT CO_2e/yr (2045)

City's Authority Level: Direct

Co-benefits



What You Can Do

- Plant trees on your property or encourage your property manager or landlord to plant trees, especially building shade trees to reduce air conditioning demand.
- Educate yourself on tree maintenance and care.
- Advocate for the development of an urban forest management plan.

Equity Issues

- Green infrastructure may lead to increases in property values and rent.
- A lack of space for tree planting in marginalized communities is a challenge in increasing the baseline canopy and helping to ensure green infrastructure benefits communities equitably.
- Trees require maintenance which is an added expense.

Equity Solutions

- Prioritize tree planting in historically marginalized communities and tree-deficient neighborhoods.

Action Description

Maintaining and expanding the urban forest is an effective strategy for the City to directly sequester carbon. In additional to acting as carbon sinks, shade from trees can regulate building temperature, providing thermal insulation to decrease cooling and heating demands for buildings and thereby reducing energy use and associated costs as well as reducing the urban heat island effect which makes active transportation (walking and rolling) more comfortable and pleasurable. Developing and implementing an urban forest master plan would help the City evaluate the ideal locations for tree canopy expansion, considering the added benefits of climate resiliency, air quality improvements, promotion of physical activity, and mental health. As West Sacramento's current tree canopy coverage is approximately 9%, the City could set a goal of achieving higher levels of baseline canopy while prioritizing historically marginalized communities for canopy expansion. As marginalized communities typically suffer disproportionately from poor air quality and the urban heat island effect, increasing strategic tree plantings can increase community equity.

Implementation Tactics

- Prepare an urban forest master plan.
- Update tree preservation ordinance.
- Engage with property owners to encourage tree planting on private property along sidewalks and connecting

them to tree planting incentives and stewardship resources.

- Guide investments to retrofit streetscapes that lack parkways for tree planting, such as reclaiming currently paved spaces for trees and green space, which may allow for additional residential density.
- Identify communities without access to green space within a quarter mile and expand green infrastructure to ensure that all neighborhoods, starting with historically marginalized communities, have access to parks and open space.
- Partner with organizations to plant trees in front yards and along key transportation corridors. Prioritize planting trees in marginalized communities and leverage workforce development programs, such as community college urban forestry programs.
- Maintain the health of existing trees by promoting community stewardship programs that support tree management, care, and removal through education, volunteerism, and workforce development.
- Implement water conservation measures that prioritize tree growth and survival, including leak detection programs and guidelines for mulching of all city street and park trees. Partner with local organizations to host educational workshops and develop and implement a comprehensive greywater ordinance for residential landscapes and gardens.
- Enforce parking lot shade ordinances and retrofit existing barren parking lots with shade trees, or with solar shading where trees are not feasible, to meet urban heat island reduction goals and stormwater quality goals.
- Implement Complete Streets Plans to increase street trees to shade roads, transit stops, and active transportation corridors, prioritizing tree-deficient areas with transit-dependent populations and locations in need of safety improvements.
- Collaborate with regional agencies to create and adopt a Regional Open Space and Biodiversity Plan that establishes shared goals and a funded program to preserve, restore, expand, and maintain open space.

Implementation Metrics

- # of trees planted
- Square footage of green space created
- Tree canopy cover citywide and improvement in historically marginalized communities

Action 21: Evaluate carbon removal opportunities from industrial processes and direct air capture

GHG Reductions

- *Not quantified*

City's Authority Level: Direct/Partnership

Co-benefits



What You Can Do

- Advocate for local/regional industrial carbon capture and removal projects.

Equity Issues

- Using carbon removal allows polluters to maintain operations, and these large emissions sources are often in at-risk communities.

Equity Solutions

- Prioritize direct carbon reduction in at-risk communities before implementing carbon removal.

Action Description

For the City to reach carbon neutrality, it will likely need to participate in some type of carbon removal processes. Carbon removal is the process of removing carbon dioxide or other GHGs from the atmosphere. This can be done through natural processes, such as forest restoration and soil management, or industrial mechanisms, such as direct air capture (from the atmosphere). Captured carbon from industrial mechanisms can be used by industries as a feedstock or geologically stored. Industrial carbon removal is still in its early phases of development, and there are currently few examples of commercial-scale deployment to serve as roadmaps for local communities. However, the technology is rapidly developing, and the CAAP's long timeframe suggests a potential role for this option in the future. On an annual basis, the City can monitor the progress of industrial carbon removal processes, reach out within the region on collaboration opportunities, and promote local implementation where politically and economically feasible.

Additionally, as Yolo County is aiming to achieve a carbon negative footprint by 2030, its efforts could promote regional collaboration where the City might identify ways to help the County implement its strategies for carbon removal and share in the carbon accounting benefits from reductions. Such a program could also create local jobs and establish the region as a leader in carbon capture and removal.

Implementation Tactics

- Identify potential future partners including capture technology companies and industry that may be interested in use of captured carbon.
- Continue to monitor state and regional actions around carbon capture opportunities.
- Partner with regional agencies, such as the Yolo County Climate Action Commission, to track technology development.

- Partner with the Yolo-Solano Air Quality Management District to evaluate permitted operations within the city to determine their on-site GHG emissions sources (if any), and work with facility operators to identify best management practices and/or low-GHG alternatives.

Implementation Metrics

- # of local firms working in industrial carbon capture
- Metric tons of CO_2e removed



Climate Champion Spotlight
Alfred Melbourne, Three Sisters Gardens

Alfred Melbourne exemplifies what it means to be a climate and community champion. Born and raised in West Sacramento, Alfred is a community advocate, artist, and the Founder and Director of Three Sisters Gardens, a non-profit urban farming organization. Something that may surprise you about Alfred – he was incarcerated for 18 years of his life. Having spent most of his youth behind bars, Alfred knew he had to do something to prevent other youth in his community from falling into the criminal justice system. As a Native American, Alfred looked toward his roots for guidance. His solution came in the form of Mother Earth and the Three Sisters legend. The Three Sisters, or corn, beans, and squash, are the main agricultural crops of various indigenous peoples and act as companion plants that support each other's growth. This practice would form the foundation for Alfred's non-profit: the Three Sisters Gardens.

Founded in 2018, the Three Sisters Gardens is an urban farm program that aims to give back to the community by inspiring and empowering youth through gardening. Like the Three Sisters legend of companionship planting, Three Sisters Gardens believes that communities can begin to heal and thrive when all components, the youth, adults, and elders are working together as one. The Gardens' program takes in youth on probation or with experience in the criminal justice system and mentors, trains, and pays them to care for the urban farms, connect with the community, and enhance local resiliency. Their work supports the Gardens' Community Supported Agriculture (CSA) program where subscribers receive a box of freshly harvested seasonal vegetables from the farms each week. Additionally, as there are multiple food deserts in West Sacramento, or places with limited access to affordable and nutritious food, the Three Sisters Gardens holds weekly farm stands to provide free fruits and vegetables to the community. The program also donates hundreds of pounds of food to the Yolo County Food bank weekly. Through these services, the Three Sisters Gardens aims to provide a food oasis to increase the community's physical and mental health and allow residents to reach their full potential.

Alongside supporting the community, the Three Sisters Gardens also aims to enhance its positive impact on the climate and environment. The Gardens only use organic farming methods with no chemicals or pesticides, water-efficient irrigation systems, cover crops for soil enrichment, and compost its green waste. Most of their work, including low till gardening, is done with manual garden tools to minimize impact on the land. Such practices enhance carbon sequestration of the soil – allowing it to pull carbon emissions out of the air for storage in the earth. These local urban farms reduce the carbon footprint of foods we purchase – whether it be from plastic packaging, long-range transportation, or the chemicals used.

Three Sisters Gardens is a participant in the West Sacramento Urban Farm, a program of the Center for Land-Based Learning, California Farm Academy Farm Business Incubator. There are currently four Three Sisters urban farms in West Sacramento, but Alfred's vision is to extend the Gardens to 50 small farms. The COVID-19 pandemic highlighted the need to expand such a program. When shelves went bare in stores, people panicked. Residents withdrew to their homes and were shut off from their neighbors. Programs like Three Sisters Gardens help the city become self-sustainable, provide open spaces for people to gather safely, and form a community safety net to ensure all residents are cared for. By establishing local farms for nutritious food production and providing spaces for the community to connect, grow, and heal, the Three Sisters Gardens increases community resiliency to both physical and emotional hazards.

The Three Sisters Gardens has many goals: promoting urban farming, enhancing local food security, providing education, developing youth leadership, and reforming the criminal justice system. An old proverb says, "a society grows great when people plant trees in whose shade they know they shall never sit." The Three Sisters Gardens has planted not just seeds but ideas, and the City of West Sacramento will benefit from the fruits of its labor for generations to come.

Goal 7: Create a resilient community and protect our most vulnerable residents from climate hazards

Climate change is already affecting life in West Sacramento, with hotter summers, warmer winters, drought, reduced air quality from wildfires and stronger storms. These impacts are likely to grow in severity through at least mid-century, and possibly the end of the century without significant reductions to global GHG emissions. To protect its residents, the City must adapt and increase resiliency to climate change by taking action to reduce current and future damage, impacts, and risks from climate change. Climate *adaptation* includes physical adjustments (such as strengthening levees or opening a cooling center) and changes to operational practices or processes (such as developing a heat response plan and alert system). Adapting to climate change means anticipating future hazards, but it can also present opportunities to address past inequities, uplift under-served communities, and increase overall resilience. A *resilient* community can prepare for, anticipate, respond to, and recover from climate impacts and other hazards. Through an inclusive, science-informed process, West Sacramento can enhance its resilience and readiness to face the future.

The key climate impacts likely to affect West Sacramento include extreme heat, drought, flooding, and wildfire smoke. Actions to address these hazards are presented here.

Supportive programs, policies, and potential partners for enhancing resiliency include:



- Governor's Office of Planning and Research's Integrated Climate Adaptation and Resiliency Program (ICARP) grants, technical assistance, guidance – including the Adaptation Planning Guide – and the Adaptation Clearinghouse.
- Strategic Growth Council
- California Climate Adaptation Strategy
- California's Fifth Climate Change Assessment
- SB 852 (2022)
- AB 2645 (2022)
- Yolo Climate Compact
- Capital Region Climate Readiness Collaborative (CRCRC) and the Alliance of Regional Collaboratives for Climate Adaptation (ARCCA)

Action 22: Integrate climate adaptation actions across City operations, processes, and policies

Climate Hazard Addressed: Extreme heat, flooding, drought, wildfire smoke & air quality

City's Authority Level: Direct/Partnership

Co-benefits



What You Can Do

- Volunteer with local community groups and get to know your neighbors.
- Check on vulnerable neighbors during climate events.
- Sign up for emergency alerts from Yolo County.
- Advocate for utility practices that increase grid resiliency, such as undergrounding electrical infrastructure, preventative tree maintenance, and other grid-hardening projects.

Equity Issues:

- Across all hazards, climate change is likely to have a greater toll on disadvantaged, low-income, and unhoused communities, who will have fewer resources to respond and recover.
- Indirect consequences, such as higher food prices, will also be a more significant financial burden for low-income families.

Equity Solutions:

- Develop an equity-first approach across all climate adaptation programs and strategies that evaluates adaptation strategies through an equity lens to understand how they may benefit or impact disadvantaged communities (DAC), works with community groups to develop community-driven strategies to address specific needs of DACs, and/or lowers barriers for DAC participation in programs.

Action Description

Climate change is likely to have increasingly profound impacts on all aspects of life in West Sacramento, and city departments will need to be prepared to respond to a range of simultaneous and interrelated hazards (e.g., extreme heat will exacerbate drought, wildfire smoke, and accelerate pavement deterioration). By integrating climate adaptative actions and considerations across City operations, processes, and policies, the City can develop a comprehensive, holistic response to climate hazards. This can include evaluating all City operations to understand their exposure to climate risks and how they can be improved to address climate impacts proactively and increase community and infrastructure resilience (e.g., providing robust battery backup at city facilities and building additional shade structures or water fountains in parks and bike trails). This can also include updating policies and processes to incorporate climate adaptation strategies (e.g., all road maintenance and construction projects should consider additional stormwater management features and high reflectivity pavement options) and identifying and mitigating climate

vulnerabilities for new capital projects and investments.

Additionally, the City can continue to update the Emergency Operation Plan to address acute climate hazards and safeguard the health and safety of residents, especially underserved and disadvantaged communities. The plan can streamline and coordinate the City's response for heat waves, wildfire smoke events, flooding, and other climate hazards, and enable the City to develop a shared strategy for community outreach and CBO partnerships across all hazards. It can also identify key departments, staff, and resources to be activated for each hazard. For heat and smoke, the plan should outline specific actions and communication strategies at various temperature and air quality thresholds, which can be determined in coordination with the local public health department and the Yolo-Solano Air Quality Management District (YSAQMD). To prioritize equity, the plan should consider the needs of disadvantaged and low-income communities and the unhoused.

Finally, the plan can help coordinate the development of resilience centers to provide refuge across all hazards, in partnership with CBOs and other trusted community groups. Existing cooling centers are often under-utilized, due to their limited hours, lack of programming and activities, restrictions against pets, and for residents, a distrust of government services. CBOs, schools, and faith-based organizations may serve as trusted organizations to host resilience hubs in locations already familiar to and frequented by members. At a minimum, resilience hubs should be equipped with efficient cooling and heating systems and air filters or air cleaners; they can be further enhanced with back-up power (e.g., solar and storage) to provide services during power outages.

The City can also partner with neighboring communities in Yolo County and the greater Sacramento region to approach climate resilience from a regional perspective. Senate Bill 852 (2022) allows cities, counties, and special districts to establish climate resilience districts (CRD) to raise and allocate funding for eligible climate mitigation, adaptation, or resilience projects. CRDs are a relatively new tool in climate financing and implementation for local governments, and the City will monitor other instances of their use and evaluate for local application during CAAP implementation. Additionally, the City can participate in and coordinate regionally with cross-jurisdiction partnerships such as the Capital Region Climate Readiness Collaborative and the Yolo Climate Compact.

Implementation Tactics

- Evaluate City operations, policies, and guidance to identify areas where climate adaptation strategies can be incorporated to increase resilience of city assets or provide additional protections for residents and businesses.
- Dedicate City staff and resources for long term climate adaptation and resiliency needs and pursuing and managing grant funding opportunities.
- Assess and mitigate climate vulnerabilities of planned capital projects, including roads, City facilities, and other infrastructure.
- Work with the County Office of Emergency Services and County Department of Public Health to update a community hazard response plan (e.g., the City's Severe

Weather Hazard Annex and the Yolo County Hazard Mitigation Plan) that will be activated during climate hazard events. The plan should address resilience needs of people who are elderly or low-income, speak a language other than English, live alone, have access and functional needs, face mobility challenges, or have other conditions that increase their vulnerabilities.

- Develop resilience hubs serving disadvantaged communities in locations that are accessible and already utilized by residents, such as schools or places of worship. Resilience hubs can provide clean filtered air, cooling, heating, and power during heat waves, wildfire smoke events, power outages, and other emergency events. Resilience hubs should be developed in conjunction with community groups to create attractive spaces where residents feel comfortable and safe.
- Create a "one-stop-shop" to help residents find and access community resources, such as programs, community events, workshops, and funding and incentives. To support equity, consult with CBOs and community representatives to understand how community members would use the platform and how it can be designed to maximize accessibility.
- Track and apply for state, federal, and local funding to support the development of resilience hubs, including upgrading heating and cooling systems, purchasing air cleaners, installing solar and battery storage, and conducting energy efficiency updates.

Implementation Metrics

- Number of policies, operational areas, and processes updated to incorporate climate adaptation actions and considerations
- Number of capital projects that have mitigated their climate vulnerabilities
- Number of resilience hubs serving disadvantaged communities

Action 23: Adopt a comprehensive approach to reduce effects of extreme heat

Climate Hazard Addressed: Extreme heat

City's Authority Level: Direct

Co-benefits



What You Can Do

- Check on elderly neighbors or people living alone during heat waves, as they are more vulnerable to heat-related health impacts.
- Understand the symptoms of heat exhaustion and heat stroke – which requires immediate emergency care – and learn ways to protect you and your family from extreme heat.
- Install a cool roof on your house or paint exterior walls with special cool paints that reflect heat.
- Plant shade trees on the west- or south-facing sides of your home.
- Make energy efficiency and building envelope upgrades to your home to reduce building cooling demands.

Equity Issues:

- Disadvantaged and low-income communities are more vulnerable to extreme heat due to housing conditions, lack of healthcare access, lack of air-conditioning, and electricity costs.
- People who work outdoors or in unconditioned spaces (e.g., warehouses) are more vulnerable to heat impacts.
- Vulnerable populations such as the elderly, unhoused, infants and children under five, and those on medical equipment or with a disability are more vulnerable to heat impacts.
- Disadvantaged communities, such as people with mobility challenges or who are linguistically isolated, may be reluctant or unable to access cooling centers and resilience hubs. People who rely on public transit or active transportation are also at greater risk to heat.
- Extreme heat worsens air quality by accelerating ozone formation, which is likely to have a greater impact on disadvantaged community members, who are likely to have higher asthma rates and greater exposure to air pollution in their work, travel, and homes.

Equity Solutions:

- Prioritize implementation strategies in disadvantaged and vulnerable communities.
- Partner with CBOs to provide outreach and education to enhance reach and effectiveness.
- Identify and address barriers that prevent people from accessing cooling centers.

Action Description

Extreme heat is one of the most serious climate impacts for West Sacramento and is already affecting residents today. As climate change intensifies, West Sacramento will experience a growing number of extreme heat days, heat waves, and warm nights each summer, posing risks to public health and infrastructure. Extreme heat is typically defined as the 98th percentile of historical temperatures, which is 103.4 degrees Fahrenheit (°F) for West Sacramento based on the 1961-1990 period. However, people can experience health impacts at lower temperature thresholds depending on humidity and their age, level of activity, existing health conditions, and access to cooling, water, and rest.

The City will develop a comprehensive program to address extreme heat that includes strategies to cool neighborhoods and protect public health. Increasing the urban tree canopy in West Sacramento can lower temperatures and reduce the urban heat island (UHI) effect – in which urban areas are hotter than their nearby rural areas. Implemented at scale, cool roofs reduce heat islands, and for individual buildings, they lower electricity costs by reducing indoor temperatures. Replacing dark pavements – which absorb and radiate heat – with green infrastructure (landscaping, bioswales, urban gardens, urban greening) and cool pavements can also help to cool neighborhoods. By reducing air-conditioning needs, many of these strategies may also help to reduce GHG emissions and reduce utility costs.

Additionally, as part of Action #22, the City will update the Emergency Operation Plan and Severe Weather Annex to guide its response during extreme heat events, such as opening cooling centers and activating emergency response staff. Partnerships with CBOs will be critical to develop community-driven, non-traditional strategies to protect residents from extreme heat impacts, such as do-it-yourself (DIY) workshops, or the development of mutual aid networks to support vulnerable residents. For example, workshops can provide toolkits and tutorials to help residents to weatherize their homes and seal doors and windows, reducing air leaks and improving energy efficiency. This can also protect against air pollution, which is exacerbated by extreme heat.

Implementation Tactics

- Develop an urban forestry management plan and strategy to increase urban tree canopy, including a pilot program focusing on disadvantaged communities and neighborhoods with low existing tree canopy, high climate vulnerability, and high percentages of paved surfaces. Work with community groups and tree foundations to develop community-initiated tree-planting projects and provide tree education. Develop options and programs for existing businesses with high pavement percentage to plant more trees. During the critical initial 1-to-5-year establishment phase, provide City-led tree care and maintenance and coordinate and train community members (e.g., youth groups) to provide ongoing tree care.

- Reduce pavements, dark roofs, and other surfaces that increase urban heat islands by updating building codes to require the use of cool roofs and/or cool pavements in new and existing development. Provide educational outreach to builders, developers, and residents on the benefits

of cool roofs and pavements. Enforce the City's existing Heat Island Reduction requirement in its Parking Area Design Standards (Zoning Code Section 17.27.090).

- Update pavement design and maintenance manuals to address increased pavement deterioration due to extreme heat (e.g., update binders and coatings used, pilot cool pavements).
- Explore opportunities to increase cool surfaces, green spaces, urban gardens, shade structures, tree canopy, and water fountains in places like parks, school yards and parking lots or neighborhoods with high amounts of paved surfaces.
- Provide support and technical assistance to help residents apply for state, federal, and other funding for heat pumps, air conditioners, cool roofs, and other building upgrades. Host workshops to teach DIY strategies for simple home repairs and staying cool.
- Amend the Severe Weather Hazard Annex and partner with CBOs to develop and open cooling centers in accessible, inclusive locations that residents are comfortable accessing. Expand cooling center and public pool hours into the evening to allow for outdoor temperatures to drop. Partner with Yolobus and Via to provide free or low-cost transportation to cooling centers and the public pool.

Implementation Metrics

- Number of urban trees planted and maintained annually
- Area of tree canopy coverage
- Number or square footage of cool roofs permitted each year
- Square footage of paved surfaces converted to parks, green space, or cool pavements each year
- Number of workshops and incentive applications supported annually
- Number of cooling centers opened and users annually

Action 24: Reduce vulnerability to flooding

Climate Hazard Addressed: Flooding

City's Authority Level: Direct

Co-benefits



What You Can Do

- Understand your flood risk by looking up your address online at Federal Emergency Management Agency's (FEMA's) Flood Map Service Center.
- Prepare for storms by clearing gutters and storm drains around your home and on your street.
- Create electronic copies of important documents, and store them in a waterproof box or, if possible, on the second floor.
- Identify evacuation routes and prepare a backup emergency kit.
- Share warnings, evacuation orders, and other information with neighbors who may lack car access or are linguistically isolated.

Equity Issues:

- Low-income and disadvantaged communities are more likely to live in neighborhoods exposed to localized flooding. Manufactured homes are more vulnerable to flooding.
- Residents who are linguistically isolated may be unaware of flood warnings, while residents with access or functional needs and those who lack transportation access may face challenges in evacuating.
- Flooding will have a more significant impact on low-income residents, who are likely to have fewer resources to support evacuation and recovery.

Equity Solutions:

- Prioritize flood protection improvements (e.g., storm drains, pump stations, green infrastructure, and berms) in disadvantaged communities and around manufactured home parks.
- Ensure that emergency warning systems are set up to provide warnings in multiple languages across all media and have accessibility options. Provide or coordinate evacuation assistance for people facing mobility challenges, including coordination with transit providers, such as Yolobus and Via.
- Work with CBOs to make sure resources and assistance can reach communities with the greatest need.

Action Description

Flooding is a familiar risk for West Sacramento, which is protected by levees on all sides. The 2018 Yolo Operational Area Multi-Jurisdictional Plan ranks riverine and tidal flooding as the top hazard for West Sacramento. Climate change is likely to exacerbate flood risk further by increasing the intensity and frequency of extreme precipitation events and raising sea levels. Increasing temperatures could also accelerate the rate and timing of spring snowmelt and result in more rain-on-snow events. These factors can increase the risk of levee failure or overtopping.

The City of West Sacramento is protected by an extensive system of levees, pump stations, weirs, and bypasses. To meet updated state requirements by 2025, the City, the West Sacramento Area Flood Control Agency, and the Army Corps of Engineers have completed multiple levee improvement projects to achieve a 1-in-200-year level of flood risk protection, with more projects planned or underway. Additional strategies can help to supplement this system and reduce the city's vulnerability to short- and long-term flooding. Green infrastructure and low-impact development, for example, can help to manage stormwater and improve drainage within the city, which will be critical with increasing urbanization and development. These solutions can also help to recharge groundwater, reduce heat islands, and support biodiversity. Similarly, long-term studies should evaluate the impact of flooding and sea level rise on critical infrastructure, such as pump stations.

Implementation Tactics

- Develop green stormwater infrastructure, permeable pavements, and other low-impact development features to manage and reduce stormwater run-off, focusing on areas that have experienced poor drainage or localized flooding and neighborhoods with high percentages of paved surfaces. In locations where the stormwater system has known capacity issues, update system to handle higher flows.
- Regularly inspect and maintain pump stations and evaluate their capacity to handle severe precipitation events.
- Convert under-utilized publicly owned spaces and empty lots to interim green spaces to increase permeability and support stormwater management and groundwater recharge.
- Develop a study to evaluate long-term resilience to flooding, sea level rise, and a 100-year storm event for critical infrastructure, the Port of West Sacramento, and the Sacramento River Deep Water Ship Channel.
- Develop and implement a robust levee inspection and management program in conjunction with the Sacramento Area Flood Control Agency and Army Corps of Engineers.
- Evaluate the vulnerability of critical City-managed infrastructure to flooding, such as the water treatment plant.
- Map and assess vulnerability to sea level rise through various "what-if" scenarios to estimate potential vulnerability to develop sea level rise mitigation priorities.

Implementation Metrics

- Square footage of green infrastructure, permeable pavement, and other projects implemented
- Number of parks, gardens, and green spaces created
- Number of levees and pump stations inspected and maintained
- Completion of study on long-term flood resilience

Action 25: Increase water resilience and prepare for extended drought

Climate Hazard Addressed: Drought

City's Authority Level: Direct/Partnership

Co-benefits



What You Can Do

- Inspect home for water leakages and install low-flow water fixtures.
- Collect graywater from showers or precipitation in rain barrels for irrigation.
- Only run dishwashers and washing machines when full and take shorter showers.
- Replace landscaping with native drought tolerant landscaping.

Equity Issues:

- Drought-related water rate surcharges are likely to be a greater financial burden for low-income residents.
- Renters and low-income residents may not have resources or ability to upgrade their water fixtures/appliances or irrigation systems or convert their landscaping to low-water designs.
- The Bryte-Broderick neighborhood, one of West Sacramento's disadvantaged communities, has no backup surface water supply.

Equity Solutions:

- Prioritize water conservation rebates and programs for disadvantaged communities.
- Partner with CBOs to provide outreach and technical assistance on drought-related incentives, rebates, and other programs.
- Explore backup water supply options for the Bright-Broderick neighborhood.

Action Description

Climate change is likely to increase periods of severe, multi-year droughts for the Sacramento Region. During these periods, the City's water allocation from the Sacramento River may be curtailed, and the City would rely instead upon backup water from the North Delta Water Agency (NDWA). However, the NDWA service area does not cover the entire city and excludes the Bryte-Broderick neighborhood, leaving this area without reliable surface water backup. Although the City has access to groundwater wells, their use is currently limited to conserve groundwater as future backup. Adopting actions to reduce water use will help West Sacramento and its residents and businesses integrate water conservation into long-term practices and reduce reliance on groundwater.

A study of long-term climate impacts on hydrological conditions in the Sacramento River and Delta can help the City to understand the availability and reliability of its future water supply. This study can then inform planning and coordination around actions such as water banking, groundwater recharge, and recycled water use. These projects will likely be more efficient when planned at the watershed or groundwater basin-scale in partnership with

the Regional Water Authority, Water Forum, or Yolo Subbasin Groundwater Agency.

By offering incentive and design assistance programs, the City can help residents and businesses convert their lawns to drought-tolerant or native-plant landscaping that can benefit biodiversity while reducing water use. The City can explore partnerships with the University of California (UC) Master Gardener Program, for example, to give out free drought-tolerant plants or develop a demonstration garden. Outreach and communications on water conservation should continue to emphasize the importance of continuing to water trees due to their significant environmental benefits and provide tips and strategies on best ways to water and care for trees during droughts. Additionally, incentives to support water-efficient appliances and low-flow irrigation systems and fixtures can help to automate water-savings, without significant changes in user behavior. Finally, encouraging developers to exceed requirements for water use can help to limit water use in new developments and lock-in conservation best practices.

Implementation Tactics

- Partner with the Bureau of Reclamation or other agencies to conduct a study to evaluate how reduced flows from a diminishing Sierra Nevada snowpack could affect surface water supply for Sacramento River water users. The study should consider extended drought scenarios and saltwater intrusion into groundwater supplies.
- Partner with the Regional Water Authority on projects to increase local water storage and improve water supply reliability, such as the Sacramento Region Water Bank program.
- Explore options to bring recycled water from the Sacramento Regional County Sanitation District (Regional San) for non-potable uses, such as irrigation for city parks.
- Explore potential back-up water supplies for the Broderick-Bryte neighborhood, which is outside of the North Delta Water Agency's service territory, such as through an intertie to bring in purchased water or water transfers.
- Develop an incentive and design assistance program to support graywater installations and lawn conversion to drought-tolerant landscaping.
- For indoor and outdoor water use, provide rebates for low-flow fixtures, water-efficient appliances, and low-flow irrigation systems, and develop a program to assist with water leakage inspections. Prioritize incentives and rebates for appliances and fixtures for disadvantaged and low-income communities.
- Support developers to exceed the Department of Water Resources' Model Water Efficient Landscape Ordinance (MWELO) for new development.

Implementation Metrics

- Completion of long-term study on water reliability
- Participation in regional water supply reliability project
- Completion of study on back-up water supplies and recycled water
- Number of incentives and rebates provided

- Number of homes/businesses that receive inspections/assistance
- Number of developments that exceed MWELO
- Number of incentives and programs provided in disadvantaged communities

Action 26: Protect residents from wildfire smoke and poor air quality

Climate Hazard Addressed: Wildfire smoke and air quality

City's Authority Level: Indirect/Partnership

Co-benefits



What You Can Do

- Minimize outdoor activity during wildfire smoke events. Consult 'Spare the Air' for air quality forecasts and guidance, keeping in mind that some people (e.g., children, seniors) are more vulnerable to poor air quality.
- Upgrade air filters on central air systems to a MERV-13 equivalent or higher, or the highest that the system will accept, and replace filters regularly.
- During wildfire smoke events, close all windows and, if possible, run a portable air cleaner or the central air system on fan mode.
- Reduce sources of indoor air pollution by replacing natural gas stoves and heaters with an induction stove and heat pump system, respectively. Additionally, electrify water heaters.
- Weatherstrip windows, doors, and the building envelope to reduce leaks and prevent polluted or smoky air from entering the home.

Equity Issues:

- Low-income residents are more likely to live in buildings that are not well sealed or lack a central air system able to accept higher-grade air filters. Those without car access are more exposed to wildfire smoke while they walk, bike, and/or wait for public transit outside.
- Agricultural and outdoor workers have greater exposure to wildfire smoke.
- Disadvantaged communities have higher rates of asthma, which exacerbates health impacts from wildfire smoke.

Equity Solutions:

- Work with partners to provide air cleaners, DIY air filter workshops, and resilience hubs for disadvantaged communities.
- Provide education and training on occupational safety and hazards for workers.
- Provide subsidies, training, and toolkits to help residents improve building envelope seals, and assist with applications for federal and state incentive programs for energy efficiency improvements and appliance electrification.

Action Description

West Sacramento is not at risk to wildfires due to its location outside the wildland-urban interface but is likely to face near-annual occurrences of wildfire smoke events. Because wildfire smoke is driven by local wind and climate patterns, it can be difficult to predict in advance. Smoke may come from nearby fires in Yolo County, or much farther away, such as the Sierra Nevada mountains or Oregon. Preparing

in advance of the wildfire season can help West Sacramento reduce impacts from wildfire smoke. Opening resilience hubs can help protect vulnerable residents during wildfire smoke events and providing workshops and training can help residents with simple changes to reduce wildfire smoke impacts at home.

Additionally, extreme heat is likely to worsen air quality by accelerating ozone formation, also known as smog. Reducing fossil fuel combustion also reduces emissions of ozone precursors, such as oxides of nitrogen (NO_X) or volatile organic compounds (VOCs), critical to improving air quality. Programs and policies that facilitate residents replacing natural gas stoves with induction ranges can directly reduce NO_X exposure inside the home, which can also lead to childhood asthma and irritate respiratory systems. Electrifying other appliances, such as furnaces and water heaters, can also help to reduce air pollution in or near the home.

Implementation Tactics

- Partner with the YSAQMD to develop a program that provides education and resources to residents on air quality improvements at home, including during wildfire smoke events. Possibilities include workshop and materials for residents to build their own air filtration devices, training and resources for simple home energy-efficiency retrofits, and funding.
- Partner with CBOs, the YSAQMD, and the County Office of Emergency Services to update resilience hubs with high-quality air filtration systems, prioritizing disadvantaged communities. Track potential funding programs from the State of California or air districts to fund the necessary upgrades.
- Work with air districts and the California Air Resources Board to develop a program to fund air purifiers and air filter replacements for low-income and disadvantaged communities.
- Provide outreach materials in multiple languages, workshops, and training on incentives and financing for appliance electrification available through the Inflation Reduction Act. Streamline the process or reduce costs to permit electric appliances and provide technical guidance.
- Partner with Yolobus and/or Via to establish a program and secure funding to facilitate free or discounted transportation during days when the air quality index (AQI) in West Sacramento exceeds 200 (very unhealthy). Work with CBOs, schools, religious organizations, neighborhood associations, and direct service organizations (e.g., Meals on Wheels) to outreach the service to residents, including in multiple languages.

Implementation Metrics

- Number of trainings and events offered to residents to reduce wildfire smoke at home
- Number of resilience hubs with air filtration systems or air cleaners
- Number of air cleaners provided to disadvantaged communities
- Number of electric appliances permitted
- Number of free or discounted rides provided by Yolobus and Via during high-AQI days

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Chapter 4
Implementation and Monitoring

The CAAP is a living document that reflects community GHG emissions, local vulnerabilities, and relevant actions at a specific moment in time. The success of these actions will depend on a variety of factors, including community support, participation, available funding, market forces, and state and national policies. To help maximize climate impact and enhance equity, the City will monitor action implementation, update the CAAP periodically, and continue to receive community feedback through ongoing open dialogue.



Phase 1 and 2 Recommendations

The pace and scale of climate change and the worsening impacts upon our communities demand urgent action. Table 4.1 lists initiatives the City can pursue in the first two-years of CAAP implementation (Phase 1) and the first five years (Phase 2) to maximize the GHG, climate resilience, and co-benefit impact of climate action.

Table 4.1 – Phase 1 and Phase 2 Recommendations

Actions	Goal	Recommendations
Phase 1 (Years 1-2)		
Action 1: Expand the electric vehicle charging network through zoning code requirements and installations of public charging infrastructure	Goal 1: Promote cleaner vehicles and equipment in our community	• Continue to implement and expand the Plug-in Partnership Program. • Develop an EV-Readiness Master Plan to identify how to overcome barriers to broad installation of EVSE, including expanding grid capabilities and strategies to incentivize EVSE installation, setting targets for the number of public and private charging stations, and coordinating with utilities.
Action 5: Establish ZEV targets for the municipal fleet	Goal 1: Promote cleaner vehicles and equipment in our community	• Complete a municipal ZEV procurement policy and develop a plan to transition the City's vehicle fleet to ZEVs in accordance with CARB requirements including necessary infrastructure and support facilities. • Research hydrogen fueling options for large vehicles and pursue federal grant opportunities (e.g., USDOT's RAISE Grants) for hydrogen fuel cell fueling site and vehicle acquisition.
Action 8: Allocate funding to expand and connect the active transportation and micro-mobility network	Goal 2: Reimagine how we move people and goods	• Conduct a comprehensive neighborhood-level audit to identify deficient active transportation infrastructure, including sidewalk gaps, and develop and implement a plan to address issues. Project priorities should include addressing deficiencies in disadvantaged communities and high injury portions of the network. • Prioritize active transportation infrastructure improvements identified in the Bike, Pedestrian, Trails Master Plan. • Expand and support the Safe Routes to School program to include all schools.

Actions	Goal	Recommendations
Action 18: Expand the food recovery network to collect edible food from businesses	Goal 5: Create a waste-free city	• Convene a roundtable with interested parties to share best practices. • Partner with institutions with existing local food procurement and food waste programs (e.g., Feeding America) to develop clear metrics and pilot a methodology for gathering data and tracking progress.
Action 20: Develop and implement an urban forest master plan	Goal 6: Build carbon negative and livable communities	• Prepare an urban forest master plan. • Update the City's tree preservation ordinance. • Identify communities without access to green space within a quarter mile and prioritize those areas in the plan.
Action 22: Integrate climate adaptation actions across City operations, processes, and policies	Goal 7: Create a resilient community and protect our most vulnerable residents from climate hazards	• Dedicate City staff and resources for long term climate adaptation and resiliency needs and pursuing and managing grant funding opportunities. • Develop resilience hubs serving disadvantaged communities in locations that are accessible and already utilized by residents, such as schools or places of worship. Resilience hubs should be developed in conjunction with community groups.
Phase 2 (Years 1-5)		
Action 15: Mandate all-electric new construction in a phased approach to eliminate on-site fossil fuel use	Goal 4: Plan for all-electric buildings city-wide	• Develop a new building electrification ordinance with implementation timing; refer to the City of Sacramento ordinance for lessons learned and example approach.
Action 13: Develop and adopt a building electrification program and incentives for existing buildings	Goal 4: Plan for all-electric buildings city-wide	• Develop an end-of-useful life electrification policy for municipal building appliances/equipment. • Develop a framework for incentivizing existing building electrification/decarbonization; consider collaboration with regional communities on this framework development.

Actions	Goal	Recommendations
Action 11: Enhance utility coordination and advocate for the City's utility provider to provide access to carbon-free electricity and additional building efficiency/retrofit rebates and funding	Goal 3: Design a future with zero carbon power sources	• Evaluate how PG&E can address challenges in electricity service, reliability, cost competitiveness, infrastructure, rates, and local climate investments to help the City meet its GHG reduction goals. • Long-term, determine how and if the City could transition to another utility service that would help facilitate the City's proposed climate actions and be more equitable to residents and businesses.
Action 9: Extend regional transit services and allocate funding to increase the accessibility, frequency, and reliability of public transit	Goal 2: Reimagine how we move people and goods	• Work with low-income and underserved communities to identify transit gaps. • In partnership with YCTD, conduct a study of potential for further reduced or free bus fares for all, or for segments of the population.

The City is committed to providing the necessary resources and technical support to ensure successful CAAP implementation, including the following items:

- GHG Inventory Updates: The City will prepare a complete GHG inventory every five years to support top-down monitoring toward the GHG targets. The City will also monitor primary inventory activity data sources (e.g., electricity use, natural gas use, solid waste disposal) on a bi-annual basis to identify emissions trends.
- CAAP Action Progress: The City will track and report on CAAP action implementation progress based on individual metrics for each action. Comprehensive action-level updates will be conducted periodically and included in future CAAP updates.
- CAAP Reviews and Updates: The City will perform a comprehensive review of the CAAP every five years, at most, to determine if updates are needed to reflect new information and/or revise the local approach to GHG reductions, as needed, based on implementation monitoring results. A comprehensive CAAP update will also be required following the 2030 target year and would likely be developed to align with the state's next adopted GHG target.
- Communication Channels: The City will build upon the initial CAAP engagement with local CBOs and other interested parties and maintain communication with the public to help facilitate collaboration and accountability on plan implementation with residents and other interested parties. The city website will continue to serve as the City's central hub for updates on all climate plans: https://www.cityofwestsacramento.org/climate

Implementation Monitoring Approach

When monitoring GHG reduction action implementation, two evaluation considerations are important: total community GHG emissions trends, or a "top-down" approach, and individual action performance, or a "bottom-up" approach, summarized in Table 4.2.

Table 4.2 – Plan Monitoring Approaches

Monitoring Approach	Task	Timeframe
Top-Down	Develop new GHG inventories	Every five years
Top-Down	Collect primary activity data associated with GHG inventories and evaluate emissions trends	Every year or every other year
Bottom-Up	Monitor CAAP action effectiveness based on implementation metrics	Every year

Top-Down Monitoring Approach

Future GHG inventories will provide "top down" information about the City's overall emission changes to understand if the City is on track for its 2030 and 2045 GHG targets. Full inventories will be completed every five years to help the City understand which CAAP goals are showing progress and which emissions sectors or activities are facing challenges.

Top-down monitoring includes tracking activity data and emissions factors needed to develop future GHG inventories. If the emissions inventory is not following the target trajectory, it will alert City staff that an adjustment or enhancement of CAAP actions may be necessary. Table 4.3 shows the data needed and availability for top-down monitoring. Even though the inventory will be updated every five years, certain data, such as electricity and natural gas use, should be collected annually to better monitor emissions trends and more quickly identify potential shortcomings in implementation.

Table 4.3 – Top-Down Emissions Monitoring – GHG Inventory and Activity Data

Emissions Source	Data Needed	Data Source	Data Availability
Electricity	Electricity consumption by sector and emissions factor	Energy utility company	Annually
Natural Gas	Natural gas consumption by sector and emissions factor	Energy utility company	Annually
Transportation	Vehicle miles traveled and emissions factors	VMT: Sacramento Area Council of Governments (SACOG)* Emissions Factors: CARB EMFAC model	VMT: 4-5 years (based on SACOG travel model updates) Emission Factors: Annually
Waste	Tons of waste sent to landfills and composted	City of West Sacramento	Annually
Wastewater	City population and treatment method	Population: California Department of Finance Treatment Method: City of Sacramento	Annually
Off-road Vehicles / Equipment	County-level off-road emissions and city-scaling factors	County-level emissions: CARB EMFAC model City-scaling factors: SACOG and other sources	County-level emissions: Annually City-scaling factors: Varies

*The VMT values come from the SACOG regional travel model, which is updated on an approximately 4- to 5-year cycle, so the frequency of monitoring based on this top-down approach will be limited to the frequency of model updates. Alternatively, Google Environmental Insights Explorer (EIE) VMT data is updated annually and has been identified as an alternative source of on-road transportation data by ICLEI USA, though it does not offer forecasting information included in the SACOG model. West Sacramento could decide to replace SACOG VMT data with Google EIE data in the future due to its consistency or collect Google EIE data annually to identify directional changes in the community's vehicle travel volume (i.e., VMT) and travel mode (e.g., transit, driving, biking).

Bottom-Up Monitoring Approach

While GHG inventories show high-level GHG progress, using a "bottom-up" evaluation approach by tracking the impact of each CAAP action can demonstrate the efficacy of the City's planning process. Evaluating action progress will improve the City's ability to manage and implement the CAAP, highlight opportunities to reinforce successful actions, reevaluate or replace under-performing ones, or develop new actions altogether. The action descriptions in Chapter 3 include implementation metrics that can be used to track action progress (see examples in Table 4.4 below). When tracking individual actions, the City will consider what the primary goal of the action is intended to be as it relates to GHG reductions and will then select one or more performance metrics to monitor that outcome. If top-down monitoring demonstrates that an emissions source is not on track for target achievement, bottom-up action metric tracking can help demonstrate where actions in that specific sector are underperforming.

Table 4.4 – Bottom-Up Emissions Monitoring Examples – Action Progress

CAAP Action	Implementation Metrics	Data Sources
Action 1: Expand the electric vehicle charging network through zoning code requirements and installations of public charging infrastructure	• # of public EV chargers installed • % of registered EVs in the City	• Buildings Division – EV charger installation permit data • CA DMV/EV Hub Registration Data
Action 12: Incentivize local solar photovoltaic systems and enhanced energy storage, and promote participation in community solar programs	• kW of solar PV installed • # of solar installations	• Buildings Division – solar permit data • Google Project Sunroof
Action 17: Expand commercial and multifamily organic waste programs	• Tons of waste composted	• Environmental Services and Sustainability Division

CAAP Reviews and Updates

The CAAP will be comprehensively reviewed every five years to evaluate the City's overall GHG emission progress, action implementation impact, and consider the need for revisions to the emissions forecasts. This review process will consider new regional, state, or national legislation that could result in local GHG reductions, as well as any new science-based guidance on target setting. The review process will also consider new state legislation, guidance, and research on climate adaptation, including California's Fifth Climate Change Assessment, and available state grant programs. Results of the CAAP review will be summarized and shared publicly as a progress report on CAAP implementation. Comprehensive CAAP updates, which include substantial edits to the plan itself, can be performed as needed, noting that a CAAP update will be needed after the 2030 target year to align with the state's next adopted target.

CAAP Implementation Support

Institutionalizing Sustainability

In addition to tracking and implementing the CAAP actions, the City will aim to institutionalize sustainability throughout its operations, standards, and culture. The following strategies were identified as best practices to integrate climate considerations throughout municipal processes:

- Hire a CAAP staff lead to help implement the CAAP and provide sustainability support services.
- In the interim, appoint a City staffer to act as the point person for information on financing, grant funding, and application assistance.
- Coordinate regionally with Yolo County/neighboring City staff to identify resources for CAAP implementation. This could include assigning a point person to regularly identify relevant incentives and

update an educational CAAP action resource webpage for residents and businesses in the region.

- Include climate and sustainability support language in job descriptions.
- Invest in continuous climate and equity education for city staff and elected officials.
- Implement regular CAAP public reporting at City Council meetings.
- Address the climate impact of all City Council agenda items.

The City will continue to evaluate and pursue these strategies during CAAP implementation.

Workforce Development and Transition

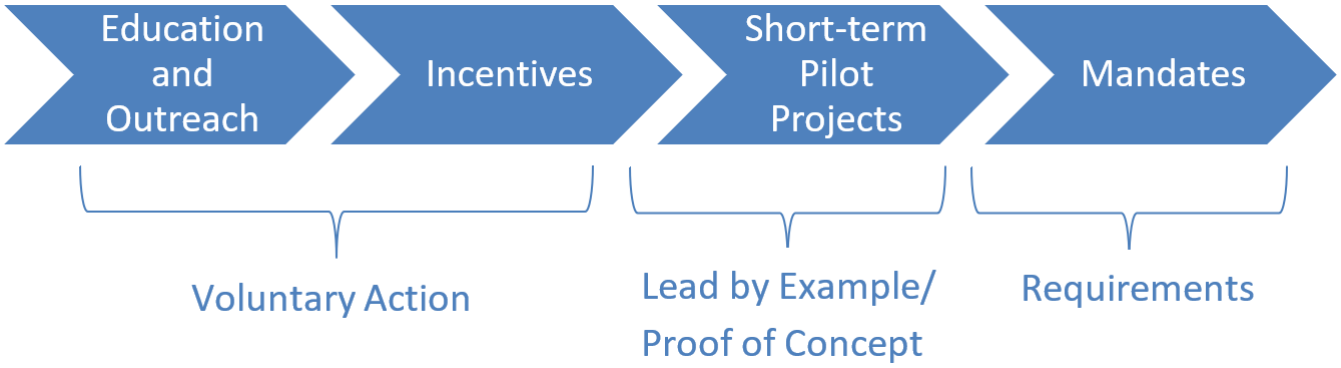
CAAP implementation can also create employment opportunities by supporting the emergence of new industries and providing pathways for the existing workforce to transition toward more sustainable practices. Retrofitting buildings, maintaining ZEVs, planting and maintaining an urban forest, installing solar, and coordinating recovered food distribution – all these actions have the potential to create a significant number of new jobs. However, many of these jobs exist in emerging sectors where a trained workforce is not readily available. Additionally, some of these actions can be challenging for the existing local workforce to adopt without specialized training. For example, installing an electric heat pump in the place of a natural gas heater may present extra challenges that are not typical during a gas-to-gas replacement, such as changing the electrical wiring.

To promote a just transition, the City may invest in green, innovative, entrepreneurial and inclusive workforce development and transition programs, with priority enrollment given to marginalized populations. Through these programs, the City can help engage, train and certify local contractors, offering adaptable curricula to meet current demands and prepare for future jobs. The City can also connect with community colleges, workforce development boards, and youth development programs to promote their offerings. Creating local living wage jobs will also contribute to the cities' tax base, providing a sustainable source of revenue in the future.

Prioritizing CAAP Actions

Ideally, action implementation will follow the timeline demonstrated in Figure 4.1, with an immediate focus on promoting voluntary action through education, outreach, and incentives. Concurrently, the City can implement proof-of-concept pilot projects that demonstrate the feasibility of such actions (e.g., existing building electrification, ZEV fleets, etc.), followed by new requirements, as needed. When prioritizing action implementation, the City will consider the criteria presented in the CAAP, such as GHG reduction potential, co-benefits delivered, equity impacts, and community input. The City will also identify the actions that would benefit most from focused educational campaigns, such as Action 12 for installing solar or Action 1 for promoting the adoption of EVs citywide.

Figure 4.1 – Action Implementation Approach



One consideration when prioritizing GHG reduction actions is the action's total GHG reduction potential. Prioritizing such actions ensures the City is progressing on its most impactful opportunities. Table 4.5 lists the top five CAAP actions with the largest 2045 GHG reduction potential (see Table 3.1 for the full list of CAAP actions and GHG reduction estimates).

Table 4.5 – Actions with Greatest 2045 GHG Reduction Potential

CAAP Action	2030 GHG Reductions (MT CO_2e/yr)	2045 GHG Reductions (MT CO_2e/yr)
Action 1: Expand the electric vehicle charging network through zoning code requirements and installations of public charging infrastructure	29,600	77,850
Action 13: Develop and adopt a building electrification program and incentives for existing buildings	4,300	77,400
Action 11: Enhance utility coordination and advocate for the City's utility provider to provide access to carbon-free electricity and additional building efficiency/retrofit rebates and funding	41,850	67,400
Action 14: Establish energy performance standards and GHG emissions limits for existing commercial buildings	2,300	42,900
Action 15: Mandate all-electric new construction in a phased approach to eliminate on-site fossil fuel use	10,150	39,450

CAAP Funding and Financing

To successfully implement the key actions identified in the CAAP[3], the City needs a strategic approach to mobilize funding and financing for climate investments. This section discusses key considerations for the City based on its current administrative capacity and a growing recognition of the importance of climate investment in disadvantaged communities. The funding and financing matrix, included as Appendix D, identifies 31 federal grants and 19 state grants that can potentially fund the CAAP actions, and describes each grant's important considerations such as award amount, cost share requirement, eligibility, and funded activities grouped by planning and implementation.

When tying the funding and financing strategies to climate actions, the City should distinguish between actions that are directly under its control and policy-oriented actions that require the City to invest further on behalf of residents and businesses. For example, actions such as requiring compliance with building energy performance standards (Action #14) or creating a minimum energy efficiency threshold for households (Action #16) may necessitate the City to offer financial assistance for entities to meet the new requirements and thresholds. Thus, this section and the matrix provide additional strategies for the City and opportunities directly available to residents, business owners, and developers.

Key Considerations for West Sacramento

Capacity Considerations for West Sacramento

Deciding how to prioritize funding programs is complex and should consider West Sacramento's overall capacity to submit a grant application and manage different grant programs.

- Staff Capacity: Given the amount of staff time involved in managing grants and the compliance and reporting requirements, staff's capacity for future grant applications should be considered. Factors such as the complexity of application requirements, availability of technical assistance, grant timeline, and ongoing reporting requirements should be considered to evaluate various funding alternatives for the City.
- Financial Capacity: Before committing to a grant, the City must thoroughly assess the financial viability of meeting the grant program's requirements. Important considerations when prioritizing grants are the cost share requirement, cost of meeting the technical requirements such as a benefit-cost analysis, and the cost of compliance.

For instance, while the Building Resilient Infrastructure and Communities (BRIC) program has a maximum award amount of $2 million and is applicable for several actions under Goal 7, its cost share requirement of 25%, benefit-cost analysis requirement, and the Build America, Buy America Act compliance guidance may place a burden on the City's current resources. Thus, the City's

[3] CAAP actions considered include the initial GHG reduction actions presented in the Administrative Draft CAAP and the working draft adaptation and resilience actions reviewed by City staff on June 21, 2023.

grant managers and specialists should weigh the potential award against the award's impact on their current capacity.

Equitable Community Engagement

Federal and state grant programs have introduced various ways to encourage investments in disadvantaged communities. Many federal grant programs fall under the Justice40 initiative, a federal effort that requires 40% of the overall benefits of federal investments flow to disadvantaged communities. To make a stronger case for federal funding, the City can leverage the Climate and Economic Justice Screening Tool (CEJST), which identifies disadvantaged communities. In addition, the City may consider employing tools developed by different federal departments and the State of California to identify disadvantaged communities. For instance, the USDOT introduced the USDOT Equitable Transportation Community (ETC) Explorer, an interactive map that complements the CEJST by providing insights on transportation insecurity; USDOT grant applicants have been strongly encouraged to utilize the ETC Explorer for grants administered by the USDOT.

State-level grants also incorporate equity in guidance and reporting requirements. The ICARP's Regional Resilience Planning and Implementation Grant (RRGP) prioritizes actions that promote equity, foster community resilience, and protect the most vulnerable communities. The RRGP allocates at least 51% of overall grant funds to projects that directly benefit disadvantaged communities and requires applicants to use state-level definitions to identify disadvantaged communities, such as the California Environmental Protection Agency (CalEPA) designation represented in CalEnviroScreen. The City of West Sacramento is in a competitive position to qualify for this requirement since a large portion of the city is designated as a disadvantaged community.

Given the importance of meaningful engagement with disadvantaged communities, the City can prioritize funding opportunities according to the following factors:

- the proposed project's ability to leverage existing activities (e.g., community and interested party engagement, existing proposed projects, studies) that align with the funding opportunity objectives;
- the proposed project's likelihood to meaningfully involve and/or partner with nonprofits and CBOs that represent key collaborators, such as community leaders, residents, and businesses; and
- the proposed project's potential impact (benefits and burdens) on disadvantaged communities.

Evaluation of Funding and Financing Tools

Common funding and financing sources for climate action projects and programs are categorized as (1) grants from state and federal agencies, (2) taxes, value capture, fees, and assessments, and (3) loans, bonds, and investments. The sections below summarize these options, with additional information provided in Appendix D.

Grants

Successful implementation of West Sacramento's climate action priorities will

require a strategy for securing grants that considers staff capacity, financial capacity, community engagement, the competitive landscape (i.e., other entities from the region that may be pursuing the same grants), opportunities to collaborate across jurisdictions and bundle projects, and annual funding priorities of each grant program.

The IIJA and the Inflation Reduction Act (IRA) have increased the amount of climate funding available for federal and state programs. The State of California and SACOG currently offer a variety of grants that align with the City's CAAP goals. Compared to federal grants, state and local grants usually have a lower award amount and requirements that are less demanding. Given this, federal grants are generally better suited for higher price projects. The City can further evaluate grant programs through analyzing successful grant awardees and identifying opportunities for regional collaboration with other local governments and organizations. Table 4.6 summarizes the number of identified grants applicable for each CAAP goal.

Table 4.6 – Summary of Grant Totals by CAAP Goal

Goal	Number of Grants
1. Promote cleaner vehicles and equipment in our community	11
2. Reimagine how we move people and goods	20
3. Design a future with zero carbon power sources	9
4. Plan for all-electric buildings city-wide	9
5. Create a waste-free city	4
6. Build carbon negative and liveable communities	10
7. Create a resilient community and protect our most vulnerable residents from climate hazards	12

Taxes, Value Capture, Fees, and Assessments

In addition to securing federal, state, and regional grants, the City could finance climate actions through a variety of revenue-generating instruments such as sale taxes, ad valorem property taxes, parcel taxes, community facilities districts, and assessment districts. Each of these tools is associated with opportunities and challenges that impact applicability to actions. While introducing new taxes may provide a consistent funding source for infrastructure projects, they are often difficult to levy. For one, new sales taxes, which are typically used to support transit service operations, require a two-thirds supermajority to be passed in the State of California and are often not pursued. Some tools, like community facility districts, consist of specific charges imposed on property owners in specified geographic areas to fund specific projects but may limit the types of projects that can be funded. Other tools, such as development impact fees, have the potential to generate significant revenue in the presence of new development but would be dependent on and linked to the impacts of that new development. Additionally, Senate Bill 852 (passed in 2022) authorizes cities, counties, and special districts to form CRDs for the purpose of raising and allocating funding for eligible projects, which include those that address sea level rise, extreme heat, extreme cold, wildfire risk, drought, and flood risk. These districts, which SB 852 deems as enhanced infrastructure financing districts, can levy benefit assessments, special taxes, property-related fees, and other service charges or fees.

In addition to these tools, the City may consider developing a Climate Action Fund that allocates a portion of its General Fund to specifically fund climate mitigation and adaptation efforts, especially given that climate change requires long-term fiscal planning. When designing these new financing tools, the City must consider their equity implications and avoid disproportionately burdening disadvantaged communities.

Loans, Bonds, and Investments

Financing tools that issue debt to fund projects, such as loans, bonds, and investments can be a valuable tool to finance the City's climate actions. Debt financing is a common funding tool for capital-intensive projects that require large upfront investments, due to its ability to provide a source of funding that is not limited to the entity's current resources. Notable larger-scale financing strategies include the USDOT's Transportation Infrastructure and Innovation Act (TIFIA) and California Infrastructure and Economic Development Bank's Infrastructure State Revolving Fund (ISRF), which have the potential to finance larger-scale public infrastructure. While issuing bonds can be a long-term financing source, the City must consider the two-thirds majority threshold that must be met.

Consumer Incentive Programs

The City of West Sacramento can promote a series of consumer programs to the public that directly benefit residents, property owners, and nonprofits. These programs, which include grants to property owners, rebates and incentives, and tax credits, are available to support several CAAP goals, with a particular focus on Goal 4 – Plan for All-Electric Buildings City-Wide. The US Department of Energy's Weatherization Assistance Program, for example, provides weatherization services to 35,000 homes annually, resulting in annual energy cost savings of $372 for each household.[4] Note that many of these consumer programs, including the Weatherization Assistance Program, are exclusively available to low-income households.

Next Steps

We recommend the following near-term (within one to two years) next steps for the City to strategically prioritize funding and financing opportunities for action implementation:

- **Assess climate actions based on project feasibility and administrative capacity.** The City should determine which actions will require environmental review, technical analysis, and/or complex partnerships and permitting. This will allow the City to strategically prioritize actions based on its short-term and long-term climate goals and match them to funding opportunities that match the City's priorities.
- **Identify partnership opportunities to plan, fund, and implement climate actions.** Other local and regional public agencies, such as Yolo County and SACOG, that have similar GHG emission reductions goals or face similar climate stressors are ideal candidates for partnerships. In addition to government agencies, partnerships with CBOs and educational institutions can provide alternative funding sources that

[4] Weatherization Assistance Program Factsheet, https://www.energy.gov/sites/default/files/2022-06/wap-fact-sheet_0622.pdf

may not otherwise be accessible (e.g., research grants). Strategic partnerships will reduce redundancies and increase the competitive edge on the City's grant applications.

- Engage the community through nonprofits, CBOs, and various interested parties to gain community buy-in on climate-related projects. This can also include conducting extensive engagement activities for climate actions early on, with a focus on disadvantaged communities. Equitable community engagement will provide insight into community priorities that inform the City's evaluation of funding opportunities, resulting in a funding application that is responsive to community needs. Moreover, community engagement and partnerships will strengthen the City's grant application efforts through securing letters of support from interested parties and promote long-term success in the implementation of climate actions.
- Raise public awareness and understanding of consumer programs. New incentive programs that offer tax credits, low-interest loans, and direct subsidies to residents, business owners, and property owners may not be widely known to the public. The City can develop educational materials (or leverage resources from other agencies), and host public events and workshops to effectively encourage participation from households and business owners.
- Proactively prepare for formula grants and recurring competitive grants. The City can begin working on project narratives, community engagement strategies, and other relevant requirements.

What You Can Do

The power to make substantial climate decisions typically does not lie with the average person. You cannot personally decarbonize the electric grid, improve transit infrastructure, or ensure all new buildings are electric. However, when presented with a variety of options in your day-to-day life, you can choose to make decisions that reduce your overall climate impact. In addition to the steps below, each action in Chapter 3 lists steps you can take to promote action implementation.



Vote

- As major climate decisions are typically made through policy, you can influence this decision-making by voting. Vote for City Commissioners, state legislators, governors, congressmen, and presidents who will enact climate legislation and have records of climate policy support or development.



Educate Others

- You may know a friend or family member who does not care or know what to do about climate change. This is common – climate change is a global issue that is difficult to comprehend at a local level. When talking to your peers, localize climate issues and solutions by discussing local climate change impacts, offering feasible solutions, and personalizing your message. Alternatively, focusing on the co-benefits of the CAAP actions, such as lower utility bills, more transit options, healthier food access, etc., may be the best way to encourage action.



Measure Your Carbon Footprint

- Go to the CoolClimate Network Carbon Footprint Calculator to measure your personal carbon emissions. It should be noted that this calculator includes certain Scope 3 emissions sources, such as food consumption and material purchases, which are not included in the West Sacramento GHG inventory.
- From your results, determine the primary sources of GHG emissions in your life. Are they from traveling in a car? Eating meat? Heating your residence? Once you identify your major emissions sources, you can start to take effective action.



Electrify Everything

- The City's main GHG reduction strategy relies on equipment electrification paired with a decarbonized grid. If consumers voluntarily choose to purchase electric equipment instead of fossil fuel equipment, the City could more quickly meet its GHG reduction goals. When your natural gas heater dies, your stove burns out, or your car breaks down, consider choosing all-electric options to replace them. Plan ahead for electrification by budgeting for equipment replacements, panel upgrades, and researching available rebates and incentives.

Invest in Green Energy

- Enroll in PG&E's Solar Choice or Regional Renewable Choice programs that allow you to purchase up to 100% of your electricity from a community renewable program generating renewable power within California. Additionally, see if you are eligible for PG&E's Green Saver program, which allows select customers to save 20% on their electricity bill by subscribing to 100% solar energy.
- If you have an investment portfolio, ensure that it does not include investments in the fossil fuel sector. Instead, move your money toward equitable climate solutions and green power.

Go Solar

- Installing solar panels can help West Sacramento transition to a carbon-free electric grid. Electrifying your equipment, increasing energy efficiency, and providing enough renewable energy can make your home net-zero energy.

Use Public or Active Transport

- Drastically reducing personal car use is necessary for the City to meet its climate goals. Public transit, pedestrian, and bicycle infrastructure can all be added and improved, but if it is not used it will not reach its full GHG reduction potential. Consider taking the bus or train for longer trips and walking or biking for shorter trips.

Work from Home

- With the onset of COVID-19, working from home has become common practice for many job types. If your employer offers the option of working from home, participate as much as possible to reduce commuting emissions. However, remember to be conscientious of both your home energy consumption and the number of additional daily trips you may take.

Urban Farming

- Purchase food from a West Sacramento Urban Farm through a farm stand or by purchasing a CSA membership where food is regularly delivered.
- Participate in the Center for Land-Based Learning urban farming training programs for youth and adults.

Plant-based Diet

- Producing meat generates a large amount of GHG emissions. Supplement your meat consumption with other plant-based protein options such as beans, quinoa, or lentils. If meat is your only option, choose lower-emission options such as chicken.

Buy Less or Buy Local

- Purchasing fewer unnecessary goods can decrease emissions associated with material production and transport. When you need to purchase items, shop at secondhand or thrift stores, yard sales, or local online marketplaces to reduce the emissions from purchasing new products.
- When you need to purchase new items, purchase locally. These items require less transportation and support the local economy. Search for local businesses online or shop at farmers markets.

Compost

- Most of your waste emissions are from dumping food into the garbage instead of composting it. If you do not already have one, obtain a composting or green waste bin for your residence. If you live on a rental property, ask your landlord about adding one. Visit the City website to learn what can go in the bin (e.g., pizza boxes and meat, no animal waste, etc.).

Plant Trees

- Trees sequester carbon dioxide emissions, reduce local air pollution, and provide many other benefits. Consider planting trees on your property, which can also help maintain comfortable building temperatures when planted to provide cooling shade in the summer heat.

Build Community Resilience

- Get to know your neighbors and check on them, especially if they are elderly or live alone, during heat waves, floods, and other climate hazards.

Participate in City Climate Planning Processes

- Sign up for notifications on climate action planning progress and events on the City's website.
- Contact the Community Development Department if you or your organization would like to become a community leader and have a voice in City planning processes.



The City of West Sacramento
Climate Action and Adaptation Plan

2025