



CITY OF ALAMEDA

CLIMATE ACTION & RESILIENCY PLAN (CARP)

2022 ANNUAL REPORT AND 2023 WORK PLAN

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INTRODUCTION

Climate Action and Resiliency Plan (CARP) annual reports are presented to the City Council in March each year to align with the presentation of the Transportation Annual Report and Work Plan, which has significant implications for climate mitigation. Appendix B of this annual report also serves as the annual report of Alameda's Climate Adaptation and Hazard Mitigation Plan, which was adopted in 2022, as required by FEMA.

The CARP was adopted by the City Council in 2019 with the goal of reducing greenhouse gas emissions (GHG) by 50% below 2005 levels and becoming carbon neutral as soon as possible while adapting to a changing climate. Following CARP adoption, the City declared a climate emergency which includes a goal of becoming carbon neutral by 2030 together with fully electrified buildings and transportation. CARP calls for safe routes for walking and biking, high quality public transit, a resilient and distributed electrical grid, zero waste,

and carbon sequestration through tree planting and mulching. Many of these actions will also improve quality of life for Alamedans, making their homes safer, improving traffic safety, reducing heat island effect, and more.

The introduction of 100% clean energy by AMP in 2020 set the stage for Alameda to achieve net zero emissions through fully electrified buildings and transportation. To decarbonize buildings, the City has established policies requiring that all new and substantially remodeled buildings be all-electric.

Now the focus turns to the more challenging work of upgrading existing buildings to be climate-ready. In 2022, staff developed the [Equitable Building Decarbonization Plan](#) which outlines a phased approach to equitably implement the programs, policies, financing and community education and engagement that need to be in place by 2030 to make this transition.

In 2022, the State and Federal government took several important actions that will significantly accelerate Alameda's building decarbonization plans.

- The Inflation Reduction Act passed by Congress represents the largest clean energy investment America has ever made with up to \$14,000 in incentives for every household to electrify the appliances they rely on, putting the US on track to achieve 40% emissions reductions by 2030.
- The State of California directed an additional \$145 million to continue the statewide TECH initiative aimed at accelerating the adoption of clean space and water heating technology in California homes.
- The California Air Resources Board (CARB) adopted a new rule that will ban the sale of all new natural gas-fired space heaters and water-heating appliances by 2030.

Together, these significant developments signal that the transition to green, zero emission buildings is under way and Alameda is well positioned to make significant progress in this area while improving the health, safety and energy affordability of older buildings.



*EV charger and solar*

Alameda is also making strides on zero emission transportation with the adoption of the Active Transportation Plan in 2022 to provide safe, comfortable, and accessible ways for people of all ages and all abilities to get around Alameda by walking, biking, or using wheelchairs and mobility scooters, pedal and electric scooters and bikes, and 68 miles of new or upgraded bikeways and trails. Even as

Alameda's population is growing, 984 fewer vehicles are registered in Alameda since 2017 and an increasing share of those vehicles are electric (totaling 5.2%). In a city where half the population are renters, providing publicly accessible EV charging stations will be critical to ensuring that all residents have equal access to vehicle charging.

The number of vehicles Alameda decreased by 8% between 2017 and 2022 while the share of EVs increased to 5.2% of all registered vehicles.



Flooding on Fernside Drive (left) and Main St (right) during December 31, 2022 winter storm

CARP also commits the City to adapt to climate change. In 2021, Alameda convened the San Leandro Bay/Oakland-Alameda Estuary Adaptation Working Group to accelerate implementation of shoreline adaptation projects in coordination with our shoreline partners and community members. The Working Group has been meeting regularly over the past 18 months and has been successful in winning grants in 2022 to develop a long-term adaptation plan and to address high priority flooding locations identified in CARP.

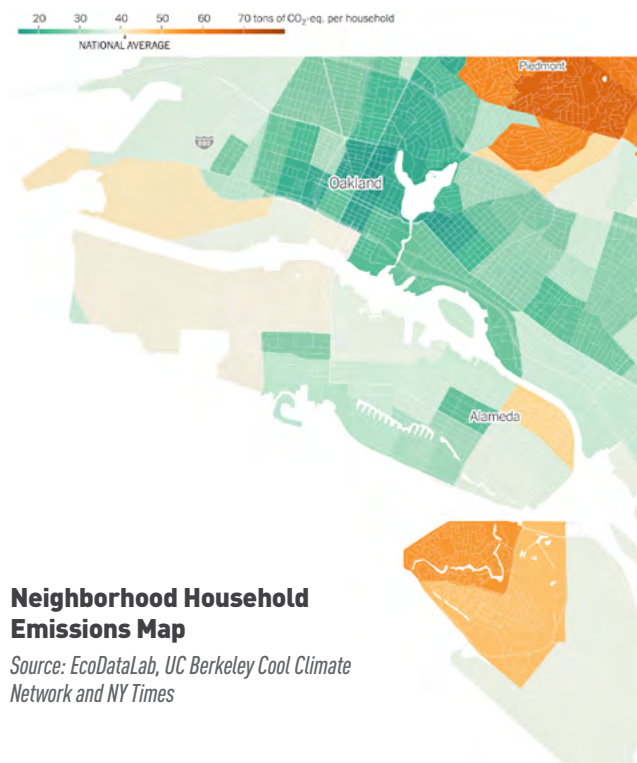
The winter storms in late December and January 2023 that correlated with very high tides are reminders of the vulnerabilities we face as a low-lying island community (see inset). Such events are projected to become more severe and frequent in the future. The city struggles with street flooding from storm drains during heavy precipitation events and is upgrading the stormwater system's capacity to help address some of these issues. Today's 100-year storm represents approximately 3.5 feet of sea level rise, projected to occur around 2070 with a high GHG emissions scenario.

The City of Alameda cannot avert climate change on its own. Community members, business, other cities and counties, the state, federal government, and the world must all collaborate in an immediate and concerted effort to reduce global emissions. Individuals can commit to changes in their personal lives. Some already emit less than the national average (see inset). Walking, biking and taking transit, driving electric for trips that must be made by car, making energy efficiency upgrades in homes and switching gas appliances to electric ones, taking fewer plane flights, buying less or used, eating a low meat diet, and reducing food waste are some of the small changes all community members can make that add up to big changes across the whole community. Together we can make a difference and secure our future on this island.

► Vision & Goals

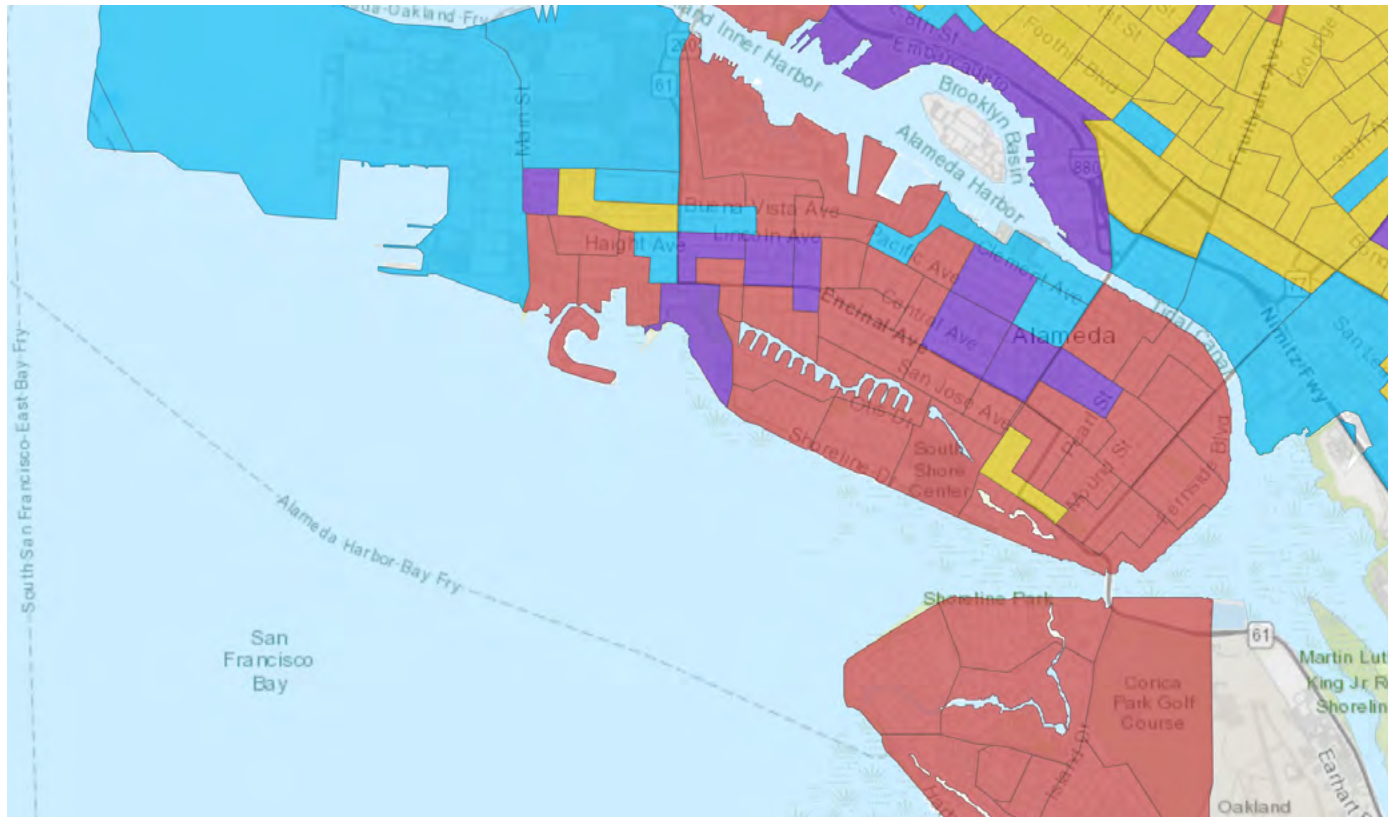
By promoting both GHG reduction and climate adaptation measures, CARP implementation is helping Alameda increase resilience to climate change and ensure a sustainable and healthy environment, improved social equity, and a vibrant economy. The CARP outlines a path to achieve nine targeted goals in support of the overarching vision (see inset). These goals include an ambitious target for GHG reduction, a set of goals for increasing resilience to climate hazards, and a final goal for the City to effectively implement the plan and build capacity. These goals were slightly revised the 2022 Climate Adaptation and Hazard Mitigation Plan.

- **GHG Reduction:** Reduce GHG emissions to 50 percent below 2005 levels by 2030 and achieve net zero GHG emissions as soon as possible.
- **Sea level rise and storm surges:** Protect assets from sea level rise and storm surges, including community vitality and recreational opportunities, plan future land use to avoid impacts, and enhance natural shoreline habitat to mitigate impacts.
- **Inland flooding:** Increase the resilience and capacity of the stormwater system to prevent flooding of assets during extreme precipitation events.
- **Drought:** Reduce water consumption and increase drought-resistant landscaping.
- **Extreme heat:** Reduce the heat island effect and protect vulnerable populations from heat impacts during heat waves.
- **Wildfires:** Protect public health from smoke impacts during wildfire events, especially among vulnerable populations.
- **Earthquakes:** Minimize loss of life, community disruption, and property damage in an earthquake, especially for areas at risk of liquefaction, and prepare for a timely and equitable restoration of community functionality.
- **Tsunamis:** Reduce property damage and loss of life in a tsunami and prepare for the safe evacuation of people from the tsunami zone.
- **Effective implementation and capacity building:** Develop financial and human resources and increase transparency, community engagement, social resilience, and support for effective implementation of climate adaptation and hazard mitigation strategies.



VISION FOR THE CLIMATE ACTION & RESILIENCY PLAN

Alameda is an innovative leader in achieving net zero carbon emissions and community resilience as soon as possible, and serves as a model for similarly impacted cities to do the same. Our community members are a vital part of this ongoing process.



Community Vulnerability (2020)

Source BCDC Community Vulnerability (2020)



► Commitment to Equity

In the development of CARP, social equity was considered when assessing the potential impacts of climate change, the costs and benefits of proposed City actions, and project prioritization. To better understand the impacts of climate change locally, the city uses BCDC's community vulnerability map. By incorporating social vulnerability into CARP implementation, staff recognizes that hazard events do not have the same impact on every household: impacts are influenced by income, ability, age, English language proficiency, and other socioeconomic characteristics. The CARP is committed to implementing adaptation and GHG reduction strategies that are socially beneficial, especially for underserved communities. One example is the CARP's prioritization of equity is mode shift strategies that increase transit, bicycle and pedestrian safety and access, making affordable mobility options available to a broader range of Alamedans. Another equitable strategy is AMP's rebate program for used EVs, launched in spring 2020, which allows more Alamedans to enjoy the cost savings and cleaner air from driving a zero-emissions vehicle. The Equitable Building Decarbonization Plan developed in 2022 lays out a plan for how to support low- and moderate-income households in the transition to affordable, green, electric homes.

CARP implementation is a further opportunity to align both GHG emission reduction goals and racial equity goals and create a process that facilitates a just transition into a sustainable future. The City will ensure that policies and programs developed to implement CARP are beneficial to vulnerable populations and that they address the needs of vulnerable communities. Inclusive outreach and engagement were a priority in the CARP development process and continues to be a priority through implementation.

2022 ACCOMPLISHMENTS

Staff and departments across the City made significant progress in 2022 reducing GHG emissions and waste and adapting to climate change. Key accomplishments are summarized below. **Appendix A** provides a detailed description on the status of each of the 2022 CARP priorities.

GHG REDUCTION

- City Council adopted an Equitable Building Decarbonization Plan.
- City Council renewed and expanded the all-electric reach code requiring all new residential and commercial construction and significant renovations or additions to be all-electric—i.e., no natural gas and electric appliances for space heating, water heating, clothes-drying, and cooking.
- AMP launched a new \$1,500 rebate for electric heat pump heating, ventilation and air conditioning (HVAC) units.
- City Council adopted the Active Transportation Plan, delineating pedestrian improvements, a low-stress bicycle network, project prioritization, and the future of Slow Streets.
- Completed key transportation safety improvement projects as highlighted in the Transportation Annual Report.
- AMP launched a new \$300 e-bike rebate and up to \$600 for income qualified customers and increased the amount of its rebate for used electric vehicles to \$4,000 to \$6,000 for income qualified customers.
- The City launched implementation of streamlined solar permitting (SolarAPP+), which brings the processing time to receive a solar permit from more than a month to less than an hour. The City also received a \$60,000 California Energy Commission implementation grant.
- Starting November 1, 2022, AMP began waiving the \$300 interconnection fee for residential customers installing new solar PV systems or new solar PV systems with battery storage in buildings built before January 1, 2020 and provides a \$500 solar rebate for income qualified customers.
- Kicked-off development of an updated and expanded Urban Forest Plan to be completed in late 2023.

WASTE

- Updated City's paper purchasing guidelines to reflect Senate Bill (SB) 1383's minimum 30% recycled content requirements for paper and paper products and set a higher standard for white copy paper of 100% recycled content.
- Secured a grant for \$115,019 to help the City comply with SB 1383 and increase compost application in the City and began implementation of SB 1383, the state's Short-Lived Climate Pollutant Reduction Law, to reduce methane emissions from landfills and to increase the recovery of edible food.
- Expanded Alameda County Industries (ACI)'s on-call waste clean-up program to include multi-family households, to allow for more material to be collected, and to recover items for reuse.
- Entered into agreements with StopWaste and the Alameda County Department of Environmental Health (ACDEH) to help educate, implement, and enforce SB 1383.
- Participated in the 38th annual Coastal Clean Up event that helped remove 130 pounds of micro plastics and approximately 1,300 pounds of other trash from the shoreline.

ADAPTATION

- Secured \$4.14 million in funds for sea level rise adaptation projects.
- City Council adopted a FEMA approved Climate Adaptation and Hazard Mitigation Plan and amended the General Plan Safety Element to align with the plan.
- Hired a consultant to help with tsunami evacuation planning. The work scope includes creating evacuation scenarios and meeting with stakeholder partners to improve coordination.



**The City of Alameda
made significant
progress in 2022.**

2023 WORK PLAN

While staff is making great progress towards CARP goals, it is also clear there is more work to do. We must double down on our efforts to complete the necessary actions to do our part to meet the moment of the climate emergency. The 2023 priorities are designed to address those areas with the greatest need.

Staff have identified ten priorities for CARP implementation in 2023. Work plan priorities were developed based in part on those CARP strategies that were identified as needing attention, as well as other priorities identified by staff. The work plan will be carried out by a variety of city departments as indicated in the following table.

Task	Lead	Description
GHG Reduction		
1. Update citywide GHG inventory and prepare for CARP update in 2024.	Sustainability and Resilience Manager All Departments	The Climate Action and Resiliency Plan was adopted by the City Council in 2019. CARP calls for the City to update the citywide GHG inventory in 2023 and submit a CARP update to City Council before 2025. In 2023, staff will request funds in the FY 2023-25 budget for an updated GHG inventory and CARP update, will complete an updated GHG inventory and will issue an RFP for the CARP update to be completed in the 2024 calendar year.
2. Complete Urban Forest Plan (Continuation of 2022 priority)	Sustainability and Resilience Manager ARPD Public Works	In 2023, staff will work with Dudek consultants to complete the updated and expanded Urban Forest Plan. The Urban Forest Plan will address the management of trees in Alameda, including street trees and park trees, trees in easement areas, and trees near power lines, and will make recommendations to enhance the urban forest on private property and on other public non-City land. The plan is intended to be strategic in advancing social equity and contributing to an improved quality of life by providing the benefits of an urban tree canopy to all community members, which includes improvement of emotional, psychological, and physical health. Information about the Urban Forest Plan is available at www.alamedaca.gov/UrbanForestPlan .
3. Expand publicly available electric vehicle (EV) charging network (Continuation of 2022 priority)	Sustainability and Resilience Manager Public Works AMP	In 2023, staff identify and study locations for both Level 2 and DC fast charging. and seek new sources of funding to deploy public charging infrastructure Additional public EV charging facilities will support residents to replace their gasoline vehicles with zero emission vehicles and will expand access for residents who rent or live in multi-family units that do not have vehicle charging on site. California has banned the sale of new gas vehicles after 2035 and the City and additional infrastructure will support residents in making this transition.
4. Implement near term priorities of the Equitable Building Decarbonization Plan	Sustainability and Resilience Manager AMP Planning, Building and Transportation Department	In 2023, staff will prioritize educating renters, homeowners, and building managers and encouraging voluntary adoption of energy efficiency and building electrification measures. In partnership with Alameda Municipal Power. Staff will explore an ordinance requiring electrification and energy efficiency measures when renovating existing homes or upgrading certain appliances and explore revenue measures and state and federal funding to support local efforts. The Plan can be found online at www.alamedaca.gov/buildingdecarb

Waste		
5. Increase compost application (Continuation of 2022 priority)	ARPD Public Works	Beginning January 1, 2022, the City is required to implement state law SB 1383, which is designed to reduce short-lived climate pollutants, including methane from landfills. The requirements include establishing an edible food recovery program and procuring products made from recycled materials. SB 1383 requires the City to annually procure a minimum amount of recovered organic waste products (compost, mulch, renewable gas, or electricity from biomass conversion). The City can meet this requirement by directly acquiring or procuring products for use or give away or contracting with a service provider. Staff is coordinating with the Alameda County Waste Management Authority (StopWaste) and various City departments to determine costs and funding options to procure required products (primarily compost and mulch) and potential areas to apply this material. Increasing compost and mulch application in the City can help reduce methane emissions, sequester carbon, conserve water, and build healthy soil.
6. Develop strategy to phase-in sustainable purchasing requirements (Continuation of 2022 priority)	Public Works All Departments	To comply with SB 1383, the City updated its procurement guidelines to ensure City purchases of paper and paper products include minimum 30% of recycled content for paper and paper products. The City also established a higher standard for white copy paper of 100% recycled content. The City will develop a strategy to phase-in additional sustainable purchasing requirements to help shift markets for products and services toward options with less harmful effects on human health and the environment.
Adaptation		
7. Launch Sub-regional Long-term Adaptation Plan	Sustainability and Resilience Manager Planning, Building and Transportation Public Works	In 2022, the City, on behalf of the Adaptation Working Group was awarded a \$840,000 grant from the National Fish and Wildlife Foundation and the San Francisco Estuary Partnership to develop a long-term adaptation plan for the entire San Leandro operational landscape unit (OLU) shoreline, which stretches from the Bay Bridge touchdown to Oyster Bay in San Leandro. In 2023, staff will engage with the Adaptation Working Group and other stakeholders to select consultants and community partners, and to begin developing the plan.
8. Launch Bay Farm Island Adaptation Project	Sustainability and Resilience Manager Planning, Building and Transportation Public Works	In 2022, the City was awarded a \$1.5 million grant from FEMA with a \$500,000 local match to develop 100% design for Veterans Court and Lagoon System 1 Outfall adaptation projects as well as to develop long-term adaptation pathways for the Bay Farm Island shoreline. In 2023, the City will select a contractor, will begin design of the project, and will engage with key stakeholders and community members.
9. Launch Oakland-Alameda Estuary Adaptation Project	Sustainability and Resilience Manager Planning, Building and Transportation Public Works	In 2022, the City was awarded a \$425,000 grant from Caltrans with a \$75,000 local match. This estuary project will be done in collaboration with the City of Oakland to create an adaptation concept and to engage community members for the shoreline area near the Posey and Webster tubes and the Jack London Square area of Oakland. In 2023, the City will select a contractor, engage with key stakeholders and community members, and develop a concept.
10. Conduct De-Pave Park Master Plan process	ARPD, City Manager's Office	In 2022, the City was awarded a \$800,000 grant from the San Francisco Bay Restoration Authority (SFBRA) Measure AA grant in 2022 to conduct an inclusive Master Plan process for De-Pave Park with broad community outreach and development of 30% construction documents so the City can submit for regional permits and apply for construction grants. The City Council approved the contract to begin developing the Master Plan in January 2023.