CITY OF Fremont

CLIMATE READY FREMONT

Fremont's pathway to a low-carbon, sustainable, and resilient future

Snapshot - June 2023

Snapshot

Centrally located and serving as the eastern anchor of the Bay Area and Silicon Valley, Fremont is the fourth largest city in the Bay Area and prides itself on being a vibrant and strategically urban community. Previously an agricultural area comprised of five small townships, Fremont has developed into a technological and advanced manufacturing hub that captures modern living at its best and boasts one of the most ethnically and culturally diverse populations in the Bay Area.

The City of Fremont (City) has long been a leader in sustainability. Fremont was one of the first cities to incorporate sustainability in its General Plan in a significant way: sustainability serves as the first element and the central theme throughout the General Plan and puts forth a vision for Fremont to "serve as a national model of how an auto-oriented suburb can evolve into a sustainable, strategically urban, modern city." The City's 2012 Climate Action Plan (CAP) established a roadmap for achieving the sustainability vision of the General Plan through the implementation of local measures that together would reduce greenhouse gas (GHG) emissions by 25 percent from a 2005 baseline level by the year 2020.

Adoption of the first CAP accelerated the City's efforts related to energy and water use efficiency, renewable energy deployment, clean and multimodal transportation infrastructure, waste reduction and pollution prevention, and sustainable land use planning. Through a combination of the City's local implementation efforts paired with technology advancements and state and federal policy changes, the City achieved its 25 percent GHG reduction goal by 2018. Recognizing the need to update its GHG target, in 2019, the City adopted a Carbon Neutrality Resolution for Fremont to achieve a 55 percent GHG emission reduction from a 2005 baseline level by the year 2030 and to become a carbon neutral city no later than 2045.

Fremont's Vision

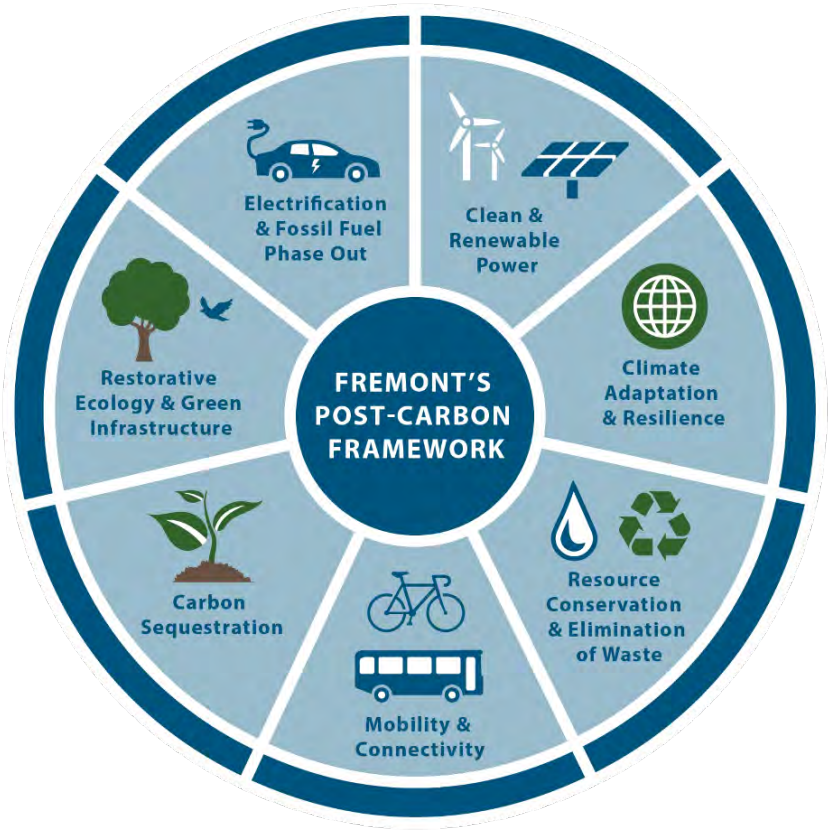
As part of the Carbon Neutrality Resolution, the City developed a Post-Carbon Framework to guide an update to the City's first Climate Action Plan. This document, titled *Climate Ready Fremont,* serves as the City's new plan for becoming a carbon neutral community.

The Post-Carbon Framework establishes the following guiding values that serve as the foundation of *Climate Ready Fremont*:

- **Equity & Access:** Ensure that all people have the opportunity to benefit equally from climate solutions, while not taking on an unequal burden of climate impacts.
- **Efficiency & Innovation:** Promote the efficient use of resources and the adoption of clean and climate-smart technologies and techniques.
- **Health & Wellness:** Safeguard and enhance the ability of the community to live, work, play, connect, and thrive in a healthy social and physical environment.
- **Resiliency & Capacity-Building:** Provide education and training on the opportunities offered by a more resilient future and encourage sustainable behaviors across all sectors of the community.

In addition, the Post-Carbon Framework identifies seven key strategies that are incorporated throughout *Climate Ready Fremont*. The strategies are shown in Figure S-1.

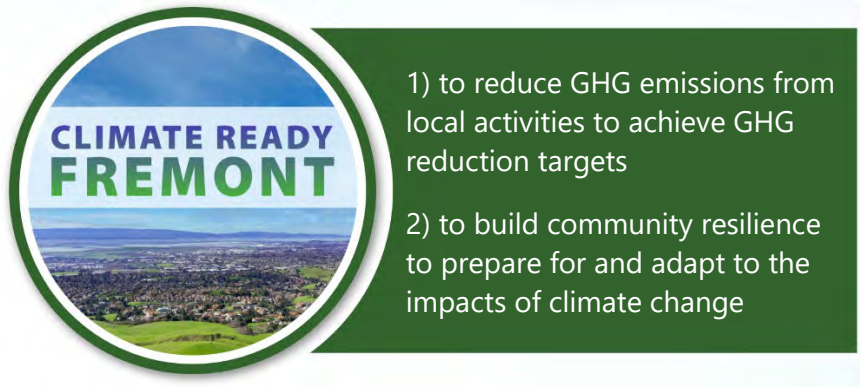
Figure S-1: Post-Carbon Framework Key Strategies



Source: Ascent Environmental, 2023

Purpose of *Climate Ready Fremont*

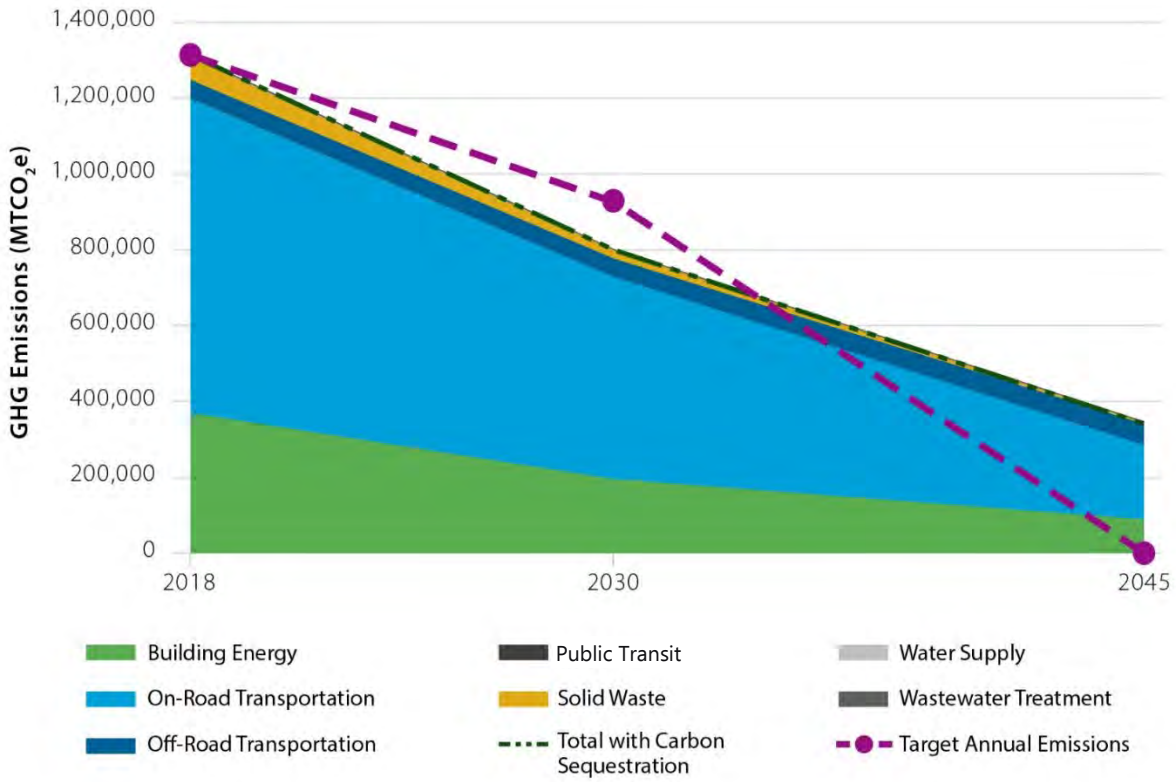
Climate Ready Fremont has two overarching objectives:



The plan presents mitigation and adaptation strategies, measures, and actions that, in combination, aim to achieve an interim GHG reduction target of 55 percent by 2030 (from a 2005 baseline year) as well as prepare the City for climatic changes that are already underway.

The measures presented in *Climate Ready Fremont* have been analyzed to quantify their GHG emission reduction potential for the target years 2030 and 2045. **Figure S-2** shows the community emissions by sector for 2018 and the GHG emission reductions to be achieved by *Climate Ready Fremont* measures. Figure S-2 displays the City's achievement of the 2030 target with the GHG reduction measures and demonstrates progress towards the City's goal of achieving carbon neutrality by 2045.

Figure S-2: *Climate Ready Fremont* Scenario by Sector Compared to Reduction Targets



Source: Ascent Environmental, 2023

It is important to note that some of the measures within *Climate Ready Fremont* have not been quantified due to lack of available data or quantification methods. In addition, some measures do not directly reduce GHG emissions, but rather are incorporated into *Climate Ready Fremont* due to their ability to help Fremont adapt and become more resilient to the effects of climate change.

Furthermore, while *Climate Ready Fremont* is primarily geared towards reducing GHG emissions and addressing climate change-related vulnerabilities within the City, its implementation will also result in numerous "co-benefits" to residents and businesses such as equity, air pollution prevention, benefits to health and well-being, increased infrastructure reliability, enhanced community resilience, local economic benefits, and resource preservation (**Figure S-3**). For example, the measure to transition to 100 percent clean power consumption will not only achieve a reduction in community GHGs, it will also reduce air pollution through the use of clean technologies, thereby also improving the health and well-being of community members. In addition, it will improve community resilience through reducing dependence on fossil fuels and improve equity by ensuring that all community members have access to clean power.

Figure S-3: *Climate Ready Fremont* Co-Benefits

Source: Ascent Environmental, 2023

The *Climate Ready Fremont* mitigation and adaptation strategies are organized into eight focus areas: Buildings and Energy, Infrastructure and Equipment, Land Use and Mobility, Materials and Waste, Natural and Urban Landscapes, Health and Resiliency, Green Economy, and Public Participation and Engagement. Each focus area presents strategies that serve as the foundation for reducing GHG emissions and advancing climate resiliency in Fremont. *Climate Ready Fremont* strategies and measures are outlined in the Plan-at-a-Glance section on the next page.

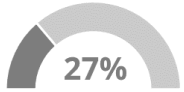
Plan-at-a-Glance

The following table provides a summary of the *Climate Ready Fremont* strategies and measures developed for each of the eight focus areas. For quantified community-level measures, the greenhouse gas (GHG) emission reduction potential is displayed. The "Quantified Community GHG Reduction" graphic represents the percentage of emissions reduction expected from a particular measure compared to the total calculated emissions reduction of 295,054 $MTCO_2e$ for Fremont by the year 2030. Additional details regarding the strategies and measures are provided in **Chapter 3** and specific implementation actions are presented in **Chapter 4**.

Table S-1: *Climate Ready Fremont* Plan-at-a-Glance

STRATEGY	MEASURE	QUANTIFIED COMMUNITY GHG REDUCTION
BUILDINGS AND ENERGY		
1. Clean and Renewable Power Use	**Measure BU-1:** Transition to 100 percent clean electricity consumption.	
2. Building Electrification and Low-Carbon Design	**Measure BU-2:** Require new residential construction to be all electric and low carbon.	
	Measure BU-3: Require new nonresidential construction to be zero net energy and low carbon.	
	Measure BU-4: Retrofit existing residential buildings to be all electric and low carbon.	
	Measure BU-5: Retrofit existing nonresidential buildings to be all electric and low carbon.	
	Measure BU-6: Require new City buildings to be all electric and low carbon.	GHG reduction captured within Measure BU-3
	Measure BU-7: Retrofit existing City buildings to be all electric and low carbon	GHG reduction captured within Measure BU-5

STRATEGY	MEASURE	QUANTIFIED COMMUNITY GHG REDUCTION
3. Building Energy Efficiency and Demand Management	**Measure BU-8:** Reduce energy consumption in buildings and operations.	—
	Measure BU-9: Promote building energy tracking and performance assessment.	—
	Measure BU-10: Reduce overall demand on the electrical grid.	—
4. Building Energy Resilience	**Measure BU-11:** Increase the development of microgrids at emergency facilities.	—
	Measure BU-12: Expand local clean backup power availability.	—
5. Water Conservation in Buildings	**Measure BU-13:** Reduce water consumption in buildings.	<1%
	Measure BU-14: Increase the capture of rainwater and use of greywater.	<1%
6. Waste Reduction in Building Construction and Demolition	**Measure BU-15:** Increase sustainable materials use and recovery in construction and demolition (C&D).	—
INFRASTRUCTURE AND EQUIPMENT		
1. Clean and Renewable Power Infrastructure	**Measure IN-1:** Upgrade infrastructure to support the transition to 100 percent clean power.	GHG reduction captured within Measure BU-1

STRATEGY	MEASURE	QUANTIFIED COMMUNITY GHG REDUCTION
2. Clean Freight and Delivery Infrastructure	**Measure IN-2:** Promote clean and efficient movement of goods.	GHG reduction captured within Measure IN-3
3. Clean Mobility Infrastructure	**Measure IN-3:** Install infrastructure to support electric vehicle (EV) charging and other zero-emission vehicle (ZEV) fueling needs.	
	Measure IN-4: Increase the use of smart mobility and modernize transportation infrastructure as identified in the City's Mobility Action Plan.	
	Measure IN-5: Improve pedestrian and bicycle infrastructure as identified in previous City plans and in the new Active Transportation Plan.	
	Measure IN-6: Replace the City's gasoline and diesel-powered fleet vehicles and other equipment with low-emission and zero-emission vehicles.	GHG Reduction captured within Measure IN-3
4. Critical Infrastructure Protection	**Measure IN-7:** Improve energy infrastructure resilience.	—
	Measure IN-8: Improve water and wastewater infrastructure resilience.	—
	Measure IN-9: Protect vulnerable transportation infrastructure, services, and systems from climate change impacts.	—
	Measure IN-10: Assess local climate vulnerabilities to climate change and incorporate climate adaptation and resiliency into City planning, policies, and infrastructure projects.	—
5. Clean Landscaping and Off-Road Equipment	**Measure IN-11:** Reduce emissions and air pollution associated with landscaping equipment.	
	Measure IN-12: Reduce emissions and air pollution associated with diesel fuel use in off-road equipment and stationary sources.	

STRATEGY	MEASURE	QUANTIFIED COMMUNITY GHG REDUCTION
LAND USE AND MOBILITY		
1. Clean and Multimodal Mobility and Connectivity	**Measure LU-1:** Promote and enhance active transportation options as identified in the City's Active Transportation Plan and Mobility Action Plan.	GHG reduction captured within Measure IN-5
	Measure LU-2: Reduce vehicle miles traveled (VMT) and single-occupancy vehicle trips, as identified in the General Plan.	
	Measure LU-3: Encourage the adoption of zero-emission passenger vehicles.	GHG reduction captured within Measure IN-3
	Measure LU-4: Increase transit ridership and promote transition to zero-emissions transit.	
	Measure LU-5: Increase implementation of Transportation Demand Management (TDM) strategies as identified in the General Plan.	
	Measure LU-6: Reduce the amount of parking to encourage transit-oriented development (TOD) as identified in the General Plan.	
2. Sustainable Land Use Planning	**Measure LU-7:** Apply smart growth and low-carbon land use development principles.	—
	Measure LU-8: Incorporate climate vulnerabilities in land use planning.	—

MATERIALS AND WASTE		
1. Materials Reuse and Plastic Waste Reduction	**Measure MW-1:** Promote responsible consumption of products and materials and reduce disposable packaging use.	—
	Measure MW-2: Encourage repair, reuse, and upcycling of materials.	—
2. Managing Recycling and Organics	**Measure MW-3:** Bolster recovery of organic and recyclable materials and increase landfill diversion rates.	
	Measure MW-4: Support methane recovery and reuse from organic sources.	—
	Measure MW-5: Establish and advance zero waste targets and policies.	GHG reduction captured within Measure MW-3
NATURAL AND URBAN LANDSCAPES		
1. Carbon Sequestration	**Measure NL-1:** Increase soil carbon content.	—
	Measure NL-2: Increase the carbon sequestration potential of the City's bayfront and bayland areas.	—
	Measure NL-3: Implement the City's Urban Forest Management Plan.	
2. Green Infrastructure	**Measure NL-4:** Expand and protect green infrastructure and biodiversity.	—
3. Water Conservation in Landscapes	**Measure NL-5:** Reduce water usage for irrigation and landscaping.	

4. Habitat Restoration and Biodiversity		**Measure NL-6:** Conserve and protect natural habitats, ecosystems, and wildlife corridors impacted by climate change.	—
		Measure NL-7: Restore, rehabilitate, and repurpose degraded, damaged, or destroyed ecosystems through active interventions to enhance the natural adaptive capacity of biological communities.	—
		Measure NL-8: Prioritize nature-based solutions to improve coastal and watershed resilience while promoting biodiversity.	—
ADAPTATION AND RESILIENCY			
1. Extreme Heat Mitigation		**Measure AR-1:** Adopt heat island reduction design guidelines.	—
		Measure AR-2: Protect populations vulnerable to extreme heat and poor air quality.	—
2. Wildfire Risk Reduction		**Measure AR-3:** Reduce the wildland-urban interface (WUI) fire risk.	—
3. Flood Risk Reduction		**Measure AR-4:** Minimize risks to life and property resulting from flooding and flood induced hazards.	—
		Measure AR-5: Reduce flood and drought risk through integrated watershed management.	—
4. Sea Level Rise Preparedness		**Measure AR-6:** Evaluate proposed development in areas of the City subject to flooding impacts caused by rising sea levels.	—
		Measure AR-7: Protect existing development from sea level rise impacts.	—
		Measure AR-8: Minimize risks to life and property resulting from flooding caused by sea level rise.	—

5. Emergency Preparedness and Disaster Response		**Measure AR-9:** Revise emergency management plans, programs, and activities.	—
		Measure AR-10: Ensure emergency management activities are conducted equitably.	—
		Measure AR-11: Improve notification systems for natural hazards to reach the most vulnerable community members.	—
6. Community Resilience		**Measure AR-12:** Establish resilience hubs.	—
		Measure AR-13: Improve food security.	—
GREEN ECONOMY			
1. Green Businesses and Jobs		**Measure GE-1:** Support and encourage circular economy innovation and business leadership in Fremont.	—
		Measure GE-2: Incentivize and promote green business practices.	—
		Measure GE-3: Support green jobs in the City.	—
2. Climate Equity		**Measure GE-4:** Increase the resiliency of low-income or otherwise vulnerable housing.	—
		Measure GE-5: Ensure an equitable transition to 100 percent clean power.	GHG reduction captured within Measure BU-1
3. Climate-Friendly Purchasing, Budgeting, and Financing		**Measure GE-6:** Incorporate sustainability best practices into City purchasing decisions and City contracts.	—
		Measure GE-7: Modify the City's capital planning and budgeting processes to incorporate priorities established by *Climate Ready Fremont*.	—
		Measure GE-8: Establish financial mechanisms and pursue outside funding sources to support the implementation of *Climate Ready Fremont*.	—

PUBLIC PARTICIPATION AND ENGAGEMENT			
1. Access to Nature and Environmental Stewardship		**Measure PE-1:** Ensure availability and accessibility to healthy, natural spaces and safe outdoor recreation opportunities for all community members.	—
		Measure PE-2: Encourage residents and community members to act as environmental stewards.	—
2. Climate Action Engagement		**Measure PE-3:** Encourage community participation and ownership of *Climate Ready Fremont*.	—
		Measure PE-4: Increase public awareness and participation in climate planning, with a focus on equity and inclusion.	—
3. Climate Tracking and Reporting		**Measure PE-5:** Track climate and sustainability metrics accurately and transparently for the community.	—

How to Read This Plan

Climate Ready Fremont is divided into four main chapters plus appendices as follows:

Chapter 1 introduces the City's vision, outlines the objectives and organization of the plan, and describes existing legislation and efforts aimed at addressing climate change.

Chapter 2 summarizes the City's baseline greenhouse gas (GHG) emissions, presents a forecast of future emissions, and identifies the City's emissions reduction targets.

Chapter 3 is organized into eight focus areas: Buildings and Energy, Infrastructure and Equipment, Land Use and Mobility, Materials and Waste, Natural and Urban Landscapes, Adaptation and Resiliency, Green Economy, and Public Participation and Engagement. Each focus area contains strategies that serve as the foundation to help the City achieve its climate goals. Within each strategy are one or more measures that represent specific expressions of the broad strategies. Climate change mitigation and adaptation objectives are intertwined throughout the strategies and measures. Actions at both the community-scale as well as actions specific to City operations are included beneath each measure that define the activities, projects, programs, or policies that the City will implement or support to advance its GHG reduction and adaptation goals.

Chapter 4 presents the "Game Plan," a list of short-term priority actions intended to be implemented within the first 3 years of the plan's adoption. Chapter 4 also discusses CEQA streamlining with the plan for future development projects, presents intentions for ongoing monitoring and reporting of the plan, and highlights some of the funding mechanisms available for plan implementation.

Appendices include further information on GHG emissions inventories and forecasts and *Climate Ready Fremont* measure list quantification.