

# City of Fairfield Climate Action Plan

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# Executive Summary

The Fairfield Climate Action Plan (CAP) is the guiding document for local actions that the City can take to reduce its greenhouse gas (GHG) emissions and support California's goal to achieve carbon neutrality by 2045, introduced in **Chapter 1**.

- Fairfield's CAP is being prepared in conjunction with the City's 2050 General Plan Update. Many policies in the General Plan closely align with measure and actions in this CAP.
- The Fairfield CAP aligns with state guidance to reduce GHG emissions while emphasizing climate equity and benefiting vulnerable communities. Many of the measures include co-benefits like cost savings, positive public health and social impacts, improved environmental quality, benefits to help communities adapt to climate change effects; and job creation opportunities.
- Key state legislation that informs the CAP includes Assembly Bill 32 and the Scoping Plan, which guides statewide climate strategies; Senate Bill 32, which sets the CAP's 2030 target; and Assembly Bill 1279- which sets the ambitious statewide goal of carbon neutrality by 2045.
- **Chapter 2** includes a quantified GHG emissions inventory for the baseline year 2020 and the future under the Fairfield Forward 2050 General Plan Update. **Chapter 3** sets the City's GHG reduction targets.
- The City of Fairfield's total annual greenhouse gas (GHG) emissions in 2020 are 686,903 metric tons of carbon dioxide equivalent (MTCO<sub>2</sub>e). The transportation sector, especially emissions from on-road vehicles, are by far the largest contributor to total annual emissions, making up 69.2 percent.
- Buildout of the land use and transportation system of the General Plan Update will generally result in an increase in demand for energy and water, generation of solid waste and wastewater, and vehicle miles traveled (VMT). However, emissions are expected to decrease between 2020 and 2050 as a result of state-level changes that will provide increasingly cleaner energy sources and modes of transportation, among other key efforts.
- Several State actions will therefore make the most significant difference in reducing City emissions overall; however, the City must also take significant actions to support these efforts and meet the climate goals for 2045 and 2050 by reducing citywide emissions by 387,434 MTCO<sub>2</sub>e.
- The GHG reduction strategy described in **Chapter 4** lays out the City's pathway to achieve the GHG reduction targets for 2030 and 2050.
- The Fairfield CAP outlines measures and local actions within the City's control to reduce GHG emissions in alignment with the 2022 Scoping Plan, focusing on electrifying transportation, reducing VMT, and decarbonizing buildings. These sector-specific measures prioritize actions with the greatest impact on GHG reductions but also include supportive actions the City can take.

The Fairfield CAP is intended to be a living document and highly adaptable to future changes such as evolving data, technological advancements, cost changes, and legislative updates. **Chapter 5** details the performance metrics, timeline, and resources by which Fairfield will monitor the plan's progress toward achieving the reduction targets, with required amendment if the plan is not achieving the specified levels. Ongoing monitoring and annual reports will track CAP implementation progress, including regular update GHG inventories and update of the CAP every five years.

Together, these components fulfill the requirements of the California Environmental Quality Act (CEQA) Section 15183.5(b) to use the Fairfield CAP as a qualified GHG reduction strategy for streamlining of future development.

Supporting technical documentation, such as the quantification methodology for the GHG inventory, is included in the appendices.

# 1 Introduction

This chapter introduces the purpose and goals, provides an overview of global climate change and greenhouse gases (GHGs), and summarizes the regulatory context related to GHG reduction and local climate action planning. The relationship between the Fairfield Climate Action Plan (CAP) and the Fairfield Forward 2050 General Plan, which is being updated concurrently with preparation of the CAP, is also included in this chapter.



## 1.1. PURPOSE AND RELATIONSHIP TO THE GENERAL PLAN

The City of Fairfield has been taking action to strengthen sustainability and reduce GHG emissions since approving its first Sustainability Report in 2009, leading by example with initiatives that reduced the environmental impact of City facilities and operations. In addition, one of the major goals of the report was to develop a CAP.

The purpose of the Fairfield CAP is to outline practical, innovative, and cost-effective methods of achieving targets that support the State's latest GHG reduction objectives (discussed further in Section 1.3). The CAP is being prepared in conjunction with the Fairfield Forward 2050 General Plan Update to enable close integration with land use and transportation, while also helping to streamline implementation and use of the General Plan's Environmental Impact Report (EIR). Topics covered by the Land Use and Urban Design, Circulation, Sustainability, Health and Safety, and Environmental Justice and Public Health elements are also closely related to the CAP; to best leverage these overlaps with the General Plan, the CAP also has a horizon year of 2050.

To enable streamlining, this plan fulfills the requirements for a CAP that is com-

pliant with the California Environmental Quality Act (CEQA) and supports the State's GHG and vehicle miles traveled (VMT) reduction goals. The following sections meet the criteria for a CEQA-qualified plan:

- **Chapter 2** quantifies GHG emissions, both existing and projected over a specific period, resulting from activities within the City of Fairfield. This section also identifies and analyzes the GHG emissions resulting from specific actions or categories of actions anticipated within the City of Fairfield.
- **Chapter 3** establishes a level, based on substantial evidence, below which the contribution to GHG emissions from activities covered by the General Plan would not be cumulatively considerable.
- **Chapter 4** specifies the measures and performance standards, that would collectively achieve the specified emissions level (i.e., GHG reduction targets established in Chapter 3), as demonstrated by substantial evidence, if implemented on a project-by-project basis.
- **Chapter 5** includes a mechanism to monitor the plan's progress toward achieving the level and to require amendment if the plan is not achieving specified levels.



## 1.2. CLIMATE CHANGE AND CLIMATE ACTION PLANNING

The main driver of climate change is the concentration of GHGs in the atmosphere from human activities, especially transportation and energy used in buildings. The increase in atmospheric GHGs has led to increase in global temperatures and changes in precipitation patterns, with cascading impacts on other climate conditions. California, with its diverse geography and range of climates, has been recognized as one of the most “climate-challenged” regions of North America that faces warming temperatures, heat waves, reduced snowpack and droughts, wildfires, coastal and inland flooding, and sea level rise, among other effects.<sup>1</sup>

Given these challenges, the State has become a leader in climate action and adaptation planning to improve resiliency and equity in communities throughout California. In addition, State guidance and

objectives have evolved in response to the latest climate science and tools that are continually improving the ability of policy-makers to make more informed decisions to address local impacts of global climate change.

California surpassed the goal set by the Global Warming Solutions Act of 2006 to reduce GHG emissions to 1990 levels by 2020 – years ahead of schedule. Since then, the State turned its attention to achieving its next upcoming goal to reduce emissions to 40 percent below 1990 levels by 2030. However, the severity of the climate crisis has become more evident in recent years, with communities already feeling the impact of more frequent and severe climate events such as “wildfire seasons,” “atmospheric river” storms, and heat waves. In response, California has revised its long-term climate objective by aiming for a more aggressive target of statewide carbon neutrality no later than 2045.

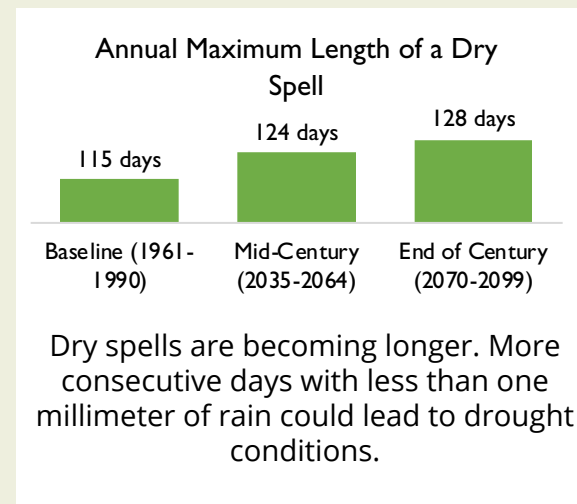
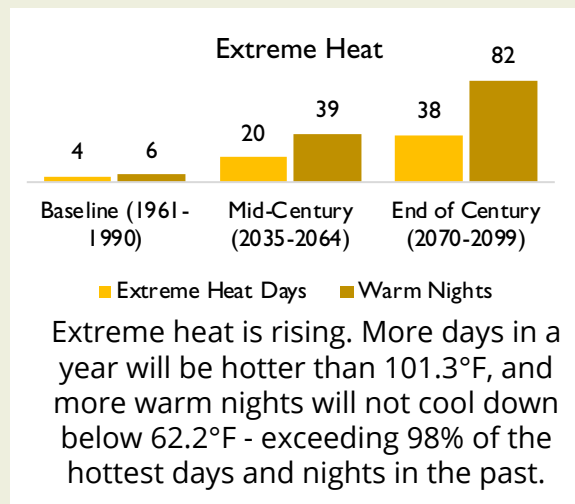
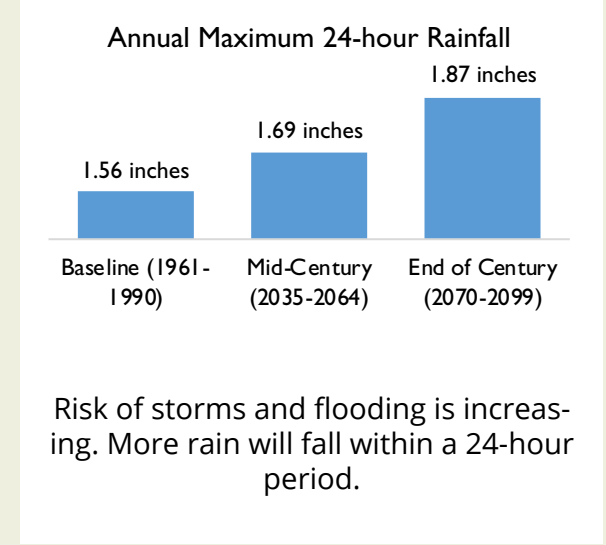
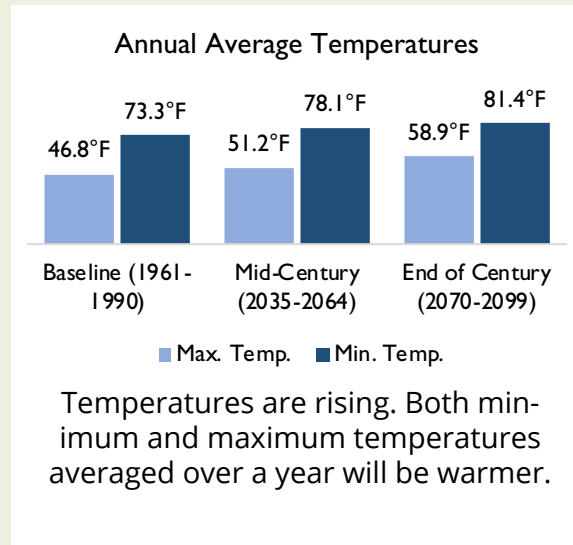
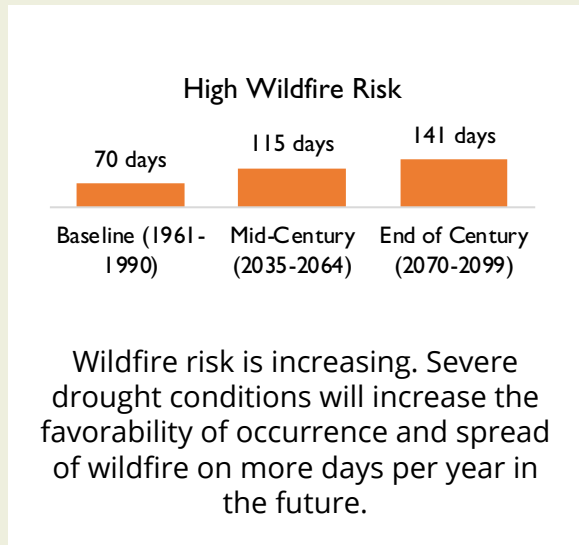
Achieving carbon neutrality will require a conscious, coordinated effort across all sectors in California to reduce GHG emissions. The State has laid out its plan to achieve its goal for 2045 (as discussed further in Section 1.3), but these efforts will need to be supported by local actions to most effectively ensure reductions are on track. The Fairfield CAP follows the State’s guidance for adopting a CAP that includes actions that the City can take to help reduce statewide GHG emissions.

Climate equity is also embedded into the Fairfield CAP as another key component of the State’s vision for a more sustainable and equitable future. Along with environmental justice policies in the General Plan, the GHG reduction strategies included in this CAP seek to benefit the people most impacted by and vulnerable to climate hazards and ongoing pollution from the use of fossil fuels. Section 3.2 shows how each of the strategies balance co-benefits to implement the strategies in a way that is both effective and equitable.

<sup>1</sup> Bedsworth, Louise, Dan Cayan, Guido Franco, Leah Fisher, Sonya Ziaja. *California Governor’s Office of Planning and Research, Scripps Institution of Oceanography, California Energy Commission, California Public Utilities Commission. 2018. Statewide Summary Report. California’s Fourth Climate Change Assessment. Publication number: SUMC-CCA4-2018-013.*

## Key Climate Impacts and Risks in Fairfield

The graphs below show some of the key changes in climate conditions projected for Fairfield. Change is based on a comparison of 30-year averages, from the baseline (1961-1990, when the effects of human activity on climate change became significantly more evident) to the mid-century (2035-2064, representing the short term) and beyond to the end of the century (2070-2099, representing the long term).



Data source: Geospatial Innovation Facility/California Energy Commission/California Strategic Growth Council, Cal-Adapt (version 2.0), 2023.

### 1.3. KEY STATE LEGISLATION

This section describes the key State legislation that sets the framework for the CAP.

#### 1.3.1 Assembly Bill 32 and the Scoping Plan

Assembly Bill (AB) 32, or the Global Warming Solutions Act of 2006, is a landmark legislation that recognized the significant detrimental effects that human activity has on the climate and set the stage for California to transition to a sustainable, low-carbon future by taking a comprehensive, long-term approach to address climate change.<sup>2</sup> AB 32 established the State's first GHG reduction target to reach 1990 levels by 2020.

<sup>2</sup> California Air Resources Board. "AB 32 Global Warming Solutions Act of 2006." Last updated September 28, 2018. Accessed June 21, 2024. <https://ww2.arb.ca.gov/resources/fact-sheets/ab-32-global-warming-solutions-act-2006>.

Technological feasibility and cost-effectiveness are also important factors of AB 32, which requires the California Air Resources Board (CARB) to adopt regulations that most effectively achieve GHG emissions reductions while maintaining a robust economy. Every five years, CARB develops a Scoping Plan that lays out California's strategy for meeting the goals. The Scoping Plan was first approved in 2008 and has since been updated in 2014, 2017, and 2022. The current 2022 Scoping Plan<sup>3</sup> reflects the latest regulations and outlines the State's plan to achieve both its short- and long-term GHG reduction targets, described in the next sections.

<sup>3</sup> California Air Resources Board. 2022 Scoping Plan for Achieving Carbon Neutrality. November 16, 2022. Accessed October 10, 2023. <https://ww2.arb.ca.gov/sites/default/files/2022-12/2022-sp.pdf>.

The Scoping Plan is also an important guiding document that contains recommendations from CARB for local governments to support the State's efforts to reduce GHG emissions. In doing so, local governments can demonstrate alignment with the State's GHG reduction goals. The Fairfield CAP has been developed based on such guidance from CARB in the 2022 Scoping Plan as a means to prepare a CEQA-qualified GHG reduction plan.

#### 1.3.2 Senate Bill 32 – 2030 Target

Passed in 2016, Senate Bill (SB) 32 codifies the direction in Executive Order (EO) B-30-15 to extend the GHG reduction target set in AB 32 to 40 percent below 1990 levels by 2030. This short-term target was established as a marker along the way to lon-

### Timeline of Key Regulations Related to Greenhouse Gases

**2006**

AB 32 sets the first statewide goal to reduce GHG emissions to 1990 levels by 2020.

**2008**

CARB adopts its first Scoping Plan that outlines actions to achieve the 2020 target.

**2012**

CARB adopts the Advanced Clean Cars program that set fuel economy standards, low-emission vehicle criteria, and zero-emission vehicle regulations through 2025.

**2011**

SB X1-2 increases Renewable Portfolio Standards for 20% of retail electricity to be from renewable resources by 2010 and 33% by 2020.

AB 341 requires local jurisdictions to reduce, recycle, or compost 50% of solid waste by 2000 and sets a statewide policy goal of 75% solid waste diversion by 2020.

**2014**

CARB approves the 2013 Scoping Plan, which sets the groundwork for achieving the 2020 target and new longer-term targets.

ger-term reduction goals that align with the scientifically established emissions levels needed in the U.S. to limit global warming below the threshold at which there would likely be major climate disruptions such as super droughts and rising sea levels.<sup>4</sup>

### 1.3.3 Assembly Bill 1279 – Carbon Neutrality by 2045

Passed in 2022, AB 1279 codifies the long-term carbon neutrality goal initially outlined in EO B-55-18. Specifically, the bill requires California to achieve statewide net zero GHG emissions as soon as possible but no later than 2045, then maintain

<sup>4</sup> California Office of Governor. Brown, Edmund G., Jr. "Governor Brown Establishes Most Ambitious Greenhouse Gas Reduction Target in North America." April 29, 2015. <https://archive.gov.ca.gov/archive/gov39/2015/04/29/news18938/index.html>.

carbon neutrality thereafter. In similar terms to previously established goals, the 2045 target would be achieved if the state reduces its emissions to 85 percent below 1990 levels.<sup>5</sup>

Carbon neutrality is an ambitious but necessary goal to address climate change. The 2022 Scoping Plan recognizes that GHG-generating sources and activities will not be entirely eliminated due to technological and/or economic reasons. Rather, achieving net zero emissions depends on the ability of natural and working lands and carbon dioxide removal technologies throughout the state to remove carbon

<sup>5</sup> California State Assembly Democratic Caucus. District 66. Muratsuchi, Al. "Governor Newsom signs Assemblymember Muratsuchi's AB 1279, the California Climate Crisis Act." September 16, 2022. <https://a66.asmdc.org/press-releases/20220916-governor-newsom-signs-assemblymember-muratsuchis-ab-1279-california-climate>.

from the atmosphere. In most cases, such carbon sequestration and removal are limited at a local level or not within the local government's control; this is true for Fairfield. This limitation is acknowledged in the 2022 Scoping Plan, which directs local governments to determine locally appropriate targets that support the State's climate objectives, without necessarily achieving carbon neutrality themselves.

This chapter explains the GHGs and major sources that make up the Fairfield communitywide GHG emissions inventory and notes the emissions that are excluded for the purposes of this CAP. The emissions inventories were prepared for baseline year 2020 and forecasted for the General Plan horizon year of 2050.

## 2015

SB 350 accelerates the Renewable Portfolio Standards program to 50% by 2030.

## 2017

CARB approves the 2017 Scoping Plan, which identifies how the State will achieve the 2030 and 2050 targets.

## 2016

SB 32 expands on AB 32 and codifies EO B-30-15, establishing another statewide GHG reduction goal to reduce emissions to 40% below 1990 levels by 2030.

SB 1383 sets statewide goals to reduce methane, a "super pollutant," by 2025 and leads to development of the Short-Lived Climate Pollutant Strategy.

## 2018

SB 100 further accelerates Renewable Portfolio Standards to 60% by 2030 and sets a goal to power 100% of retail electricity with renewable and zero-carbon resources by 2045.

## 2020

California meets its AB 32 target and continues to be on track for 2030.

EO N-79-20 sets a course to end sales of internal combustion passenger vehicles by 2035. Transition to zero-emission trucks and off-road vehicles and equipment operations would follow.

## 2022

AB 1279 codifies EO B-55-18, establishing the statewide goal of achieving carbon neutrality, or 85% reduction below 1990 levels, by 2045.

CARB approves the 2022 Scoping Plan, laying out the State's pathway to achieving carbon neutrality.

CPUC adopts Renewable Gas Standards (biomethane procurement targets per SB 1440) for natural gas utilities to collectively displace some of the fossil fuel natural gas supplied to core customers with biomethane by 2025 and 2030.

CARB approves the Advanced Clean Cars II rule, which codifies EO N-79-20 and requires automakers to reach 100% sales of zero-emission or plug-in hybrid electric light-duty vehicles by 2035.



### 2.1. OVERVIEW OF THE COMMUNITY INVENTORY

The Fairfield community GHG inventory is a quantified estimate of the collective GHG emissions generated by communitywide sources and activities rather than a sum of emissions from individual organizations or households. The community inventory covers direct GHG emissions from sources within the boundaries of Fairfield,<sup>6</sup> including total fuel combustion, miles driven, disposed solid waste, and treated wastewater. Indirect, or “upstream,” emissions associated with the generation of energy that is consumed by Fairfield are also included.

Emissions inventories are measured in units of metric tons of carbon dioxide equivalent (MTCO<sub>2</sub>e) per year. This standardized unit is a weighted sum of the seven internationally recognized GHGs that should be included in a complete inventory: carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub>O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulfur hexafluoride (SF<sub>6</sub>), and nitrogen

<sup>6</sup> For the purposes of this CAP, Travis Air Force Base is excluded from the “community” because the City does not have authoritative control over activities associated with the base. On the other hand, Nelson Hill and Hale Ranch are considered part of the “community” because they would be included within future city limits under the Fairfield Forward 2050 General Plan.

trifluoride (NF<sub>3</sub>).<sup>7</sup> The weight of each GHG is determined by its global warming potential (GWP) over 100 years relative to the most abundant GHG, carbon dioxide, and represents the GHG’s ability to trap heat in the atmosphere. Multiplying the mass of a GHG by its GWP results in the amount of carbon dioxide equivalent.

The emissions inventories prepared for this CAP follow the standards developed by the International Council for Local Environmental Initiatives - Local Governments for Sustainability USA (ICLEI) U.S. Community Protocol. Supported by this protocol, the community inventory only includes carbon dioxide, methane, and nitrous oxide, for which there is complete and accurate data to feasibly quantify GHG emissions. Moreover, these three GHGs make up the vast majority of GHG emissions in California.

The emissions inventories are categorized into five primary sectors that align with available data and types of emissions sources or activities, and the framework

<sup>7</sup> California Air Resources Board, et al. *Local Government Operations Protocol: For the quantification and reporting of greenhouse gas emissions inventories, Version 1.1*. May 2010. Accessed October 10, 2023. [https://ww2.arb.ca.gov/sites/default/files/classic/cc/protocols/lgo\\_protocol\\_v1\\_1\\_2010-05-03.pdf](https://ww2.arb.ca.gov/sites/default/files/classic/cc/protocols/lgo_protocol_v1_1_2010-05-03.pdf).

for the GHG reduction strategies in **Chapter 3**. The five sectors are:

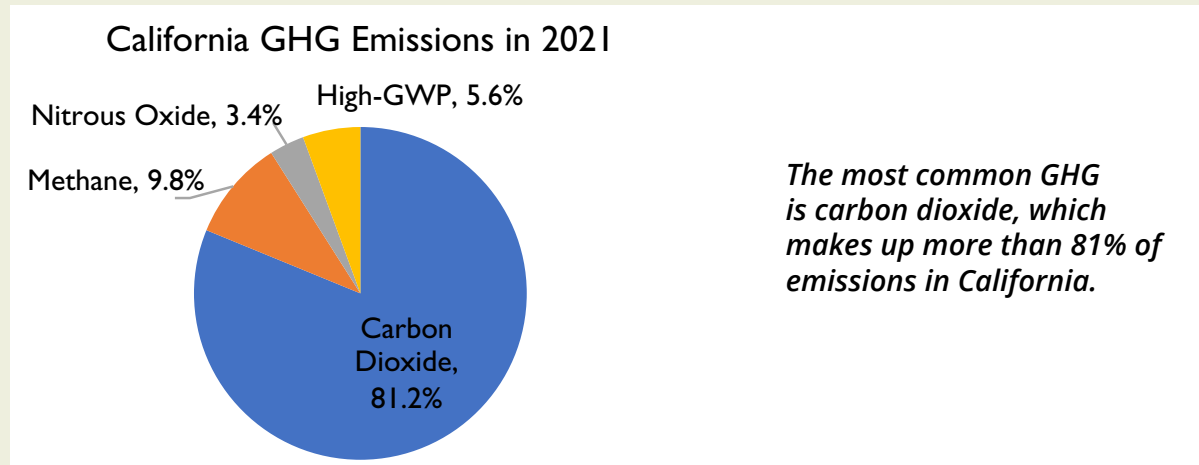
- Transportation, including on-road vehicles and off-road equipment;
- Built environment, including electricity and natural gas usage from residential, commercial, and industrial uses;
- Solid waste;
- Wastewater; and
- Potable water.

Certain emissions have been excluded from the Fairfield community inventory because sufficient accurate data was unavailable, there is no established method for quantification, or the scope or applicability to the City of Fairfield was inappropriate or irrelevant. Excluded emissions include consumption-based emissions, natural and working lands, agricultural operations, high-GWP gases, and operation of Travis Air Force Base.

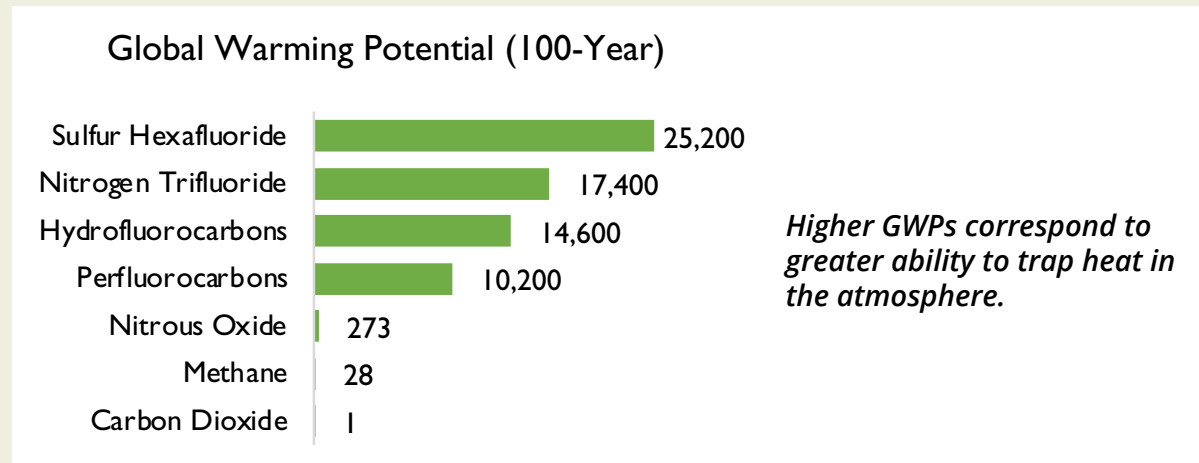
See **Appendix B** for more information about how communitywide GHG emissions were quantified and **Appendix C** for a checklist of a complete community GHG emissions inventory following ICLEI U.S. Community Protocol.

## Overview of Greenhouse Gases

Greenhouse gases trap heat in the atmosphere and are a natural part of Earth's "atmospheric blanket" that makes the planet livable. However, human activities since the industrial revolution have upset the balance of the carbon cycle and have led to devastating impacts known as global climate change.



Source: California Air Resources Board, California GHG Emissions Inventory: 2000-2021, 2023



Source: Intergovernmental Panel on Climate Change, Sixth Assessment Report, 2021

Sources: California Air Resources Board, 2024; U.S. Environmental Protection Agency, 2024



## Overview of Greenhouse Gases Continued

### Included in the Fairfield Community GHG inventory

#### Carbon dioxide

Carbon dioxide is the primary GHG emitted through human activities, primarily the burning of fossil fuels (coal, natural gas, and oil) for transportation and energy. Carbon dioxide is removed from the atmosphere (or “sequestered”) when it is absorbed by plants as part of the biological carbon cycle.

#### Methane

Methane is emitted during the production and transport of coal, natural gas, and oil. Methane emissions also result from livestock and other agricultural practices, land use, and by the decay of organic waste in municipal solid waste landfills.

#### Nitrous oxide

Nitrous oxide is emitted during agricultural, land use, and industrial activities; combustion of fossil fuels and solid waste; as well as during treatment of wastewater.

### Excluded from the Fairfield community GHG inventory

#### High-GWP (fluorinated) Gases

Hydrofluorocarbons, perfluorocarbons, sulfur hexafluoride, and nitrogen trifluoride—collectively referred to as fluorinated gases—are synthetic, powerful GHGs that are emitted from a variety of household, commercial, and industrial applications and processes. Although they are typically emitted in relatively small quantities, fluorinated gases are also referred to as high-GWP gases because they are particularly potent, with GWPs typically ranging from thousands to tens of thousands, and trap substantially more heat than carbon dioxide.



## 2.2. BASELINE GHG EMISSIONS

State GHG objectives, as introduced in Chapter 1, reference 1990 GHG emissions levels as the benchmark below which reductions should be achieved by target years (2020, 2030, and 2045). In other words, 1990 is the State’s “baseline” year. Many local jurisdictions do not have sufficient data to complete an inventory for 1990, so it is considered best practice to instead use the earliest practicable year for which accurate records of all key emissions sources exist in sufficient detail to conduct an accurate inventory.<sup>8</sup>

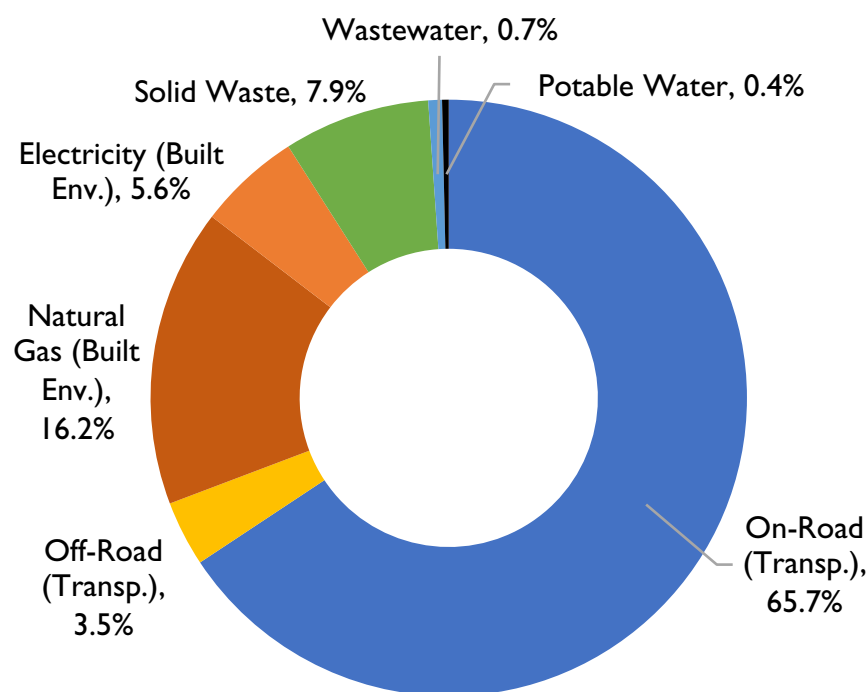
The Fairfield CAP has a baseline year of 2020, which represents the most recent year for which complete, sector-specific data for the City of Fairfield was available at the time the Fairfield Forward 2050 General Plan Update and CAP project was initiated. This is also a good baseline year because it aligns with the regulatory target year established by AB 32 and reflects more current regulations, level of activity, and other factors that characterize existing GHG emissions generated by Fairfield.

<sup>8</sup> California Air Resources Board, et al., 2010.

Additionally, accurately estimating Fairfield’s emissions is important for effective climate action planning because it allows for selection of GHG reduction strategies that specifically achieve the reductions needed to meet the City’s targets and align with State objectives. (See Chapter 3 for GHG reduction targets and strategies.)

The communitywide total annual GHG emissions in Fairfield for baseline year 2020 is 686,903 MTCO<sub>2</sub>e. As shown in Figure 2-1 and detailed in Table 2-1, a majority of the city’s emissions come from on-road vehicle transportation, followed by natural gas energy usage.

Figure 2-1: Baseline GHG Emissions by Sector, 2020



Source: Dyett & Bhatia, 2024



Table 2-1: Baseline GHG Emissions Inventory by Sector, 2020

SOURCE/ACTIVITY	DETAILS	MTCO <sub>2</sub> E PER YEAR	PERCENT <sup>1</sup>
<b>TRANSPORTATION</b>			
On-road vehicles		451,265	65.7%
Off-road equipment		24,344	3.5%
	Subtotal	38,232	5.6%
<b>BUILT ENVIRONMENT</b>			
Electric energy consumption	Residential	18,568	2.7%
	Commercial <sup>2</sup>	18,700	2.7%
	Industrial	965	0.1%
	Subtotal	38,232	5.6%
Natural gas energy consumption	Residential	82,902	12.1%
	Commercial	28,071	4.1%
	Industrial <sup>3</sup>	-	-
	Subtotal	110,973	16.2%
<b>SOLID WASTE</b>			
Solid waste disposal (landfill)	Residential	28,035	4.1%
	Commercial/Industrial	26,489	3.9%
	Subtotal	54,524	7.9%
<b>WASTEWATER</b>			
Wastewater generation and treatment process		3,425	0.5%
Energy used to operate the wastewater treatment facility <sup>4</sup>	Electricity	449	<0.1%
	Natural Gas	736	0.1%
	Biogas, Wind, Solar	494	<0.1%
	Subtotal	5,104	0.7%
<b>POTABLE WATER</b>			
Energy used to supply potable water <sup>5</sup>		1,482	0.2%
Energy used to operate potable water system <sup>4</sup>		979	0.1%
	Subtotal	2,461	0.4%
<b>GRAND TOTAL</b>		<b>686,903</b>	<b>100.0%</b>

1. Totals may not add up due to individual rounding.

2. Commercial electricity emissions include agricultural and non-governmental industrial usage.

3. Industrial natural gas emissions may be underestimated due to unavailability of data from large facilities (data aggregation laws).

4. Emissions from electricity and natural gas used to operate the wastewater treatment facility and potable water system are subtracted from the commercial category in the built environment sector to avoid double counting.

5. Upstream emissions of energy used to supply potable water are not included in the energy consumption report for Fairfield and therefore do not need to be subtracted from the built environment sector.

### 2.3. FORECASTED GHG EMISSIONS

Forecasted GHG emissions inventories represent future scenarios with varying levels of population, housing, and job growth as well as federal, State, and regional actions to reduce GHGs over time. Comparing different future scenarios is a helpful planning tool to identify the gap between anticipated emission levels and targets and then to assess the level of climate action planning that is needed to bridge the gap.

Future communitywide GHG emissions in Fairfield were forecasted through 2050, which aligns with the horizon year of the Fairfield Forward 2050 General Plan. Projections reflect buildout of the land use and transportation systems of the Fairfield Forward 2050 General Plan, including growth between the 2020 baseline and 2050 horizon year. This future scenario represents the “business-as-usual” case if the City did not take any actions to reduce GHG emissions in Fairfield beyond the policies that are included in the updated General Plan.

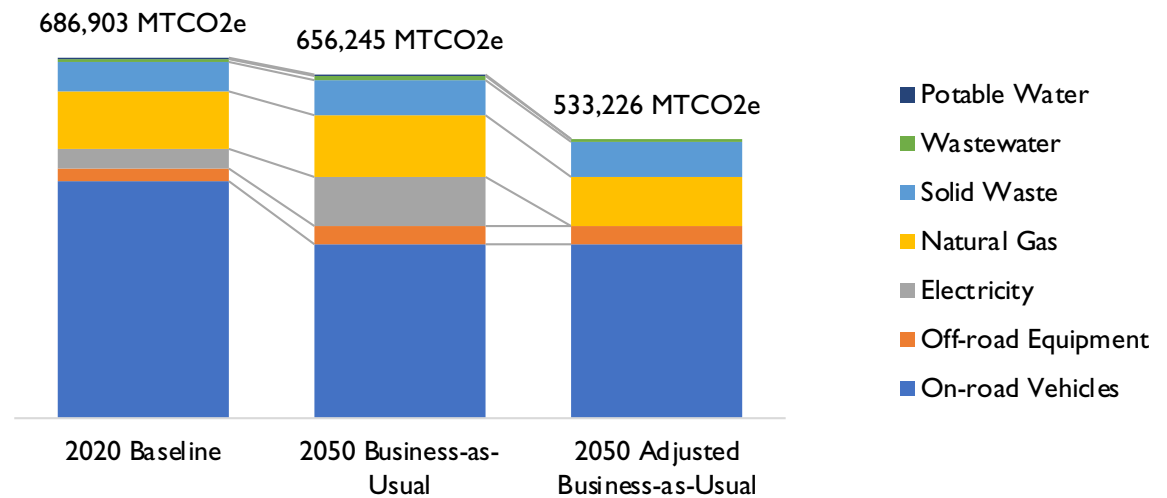
A second future scenario includes the effect of reasonably foreseeable State regulations and actions that are expected to reduce GHG emissions between 2020 and 2050. This is the legislatively “adjusted business-as-usual” forecast and accounts for cleaner electricity due to Renewable Portfolio Standards under SB 100 (the 100 Percent Clean Energy Act of 2018), cleaner natural gas due to Renewable Gas Standards adopted by the California Public Utilities Commission (CPUC) per SB 1440 (biogas and biomethane procurement program, Hueso, 2018), and building en-

ergy efficiency under the 2022 update of the California Energy Code (Title 24, Part 6). For more information about how the forecasted inventories were calculated, see **Appendix B**.<sup>9</sup>

**Figure 2-2** and **Table 2-2** show the communitywide total annual GHG emissions in Fairfield for the business-as-usual and adjusted business-as-usual forecasts for 2050.

<sup>9</sup> It is noted that Appendix B does not use the term “business-as-usual” to refer to the 2050 General Plan scenario as done in the CAP; however, the “General Plan” forecast in the memo and the “business-as-usual” General Plan forecast in the CAP are the same, including their corresponding adjusted scenarios.

**Figure 2-2: Forecasted GHG Emissions by Sector, 2020-2050**



Source: Dyett & Bhatia, 2024

## 2.4. SUMMARY OF PROJECTED GHG EMISSIONS

**Table 2-3** shows the estimated trajectory of Fairfield’s communitywide GHG emissions from the baseline year 2020 to 2050 for both future scenarios.

**Table 2-3: Baseline GHG Emissions Inventory by Sector, 2020**

METRIC	2020 BASELINE	2050 BASELINE	2050 ADJ. BUSINESS-AS-USUAL
Total annual GHG emissions (MTCO <sub>2</sub> e)	686,903	656,245	533,838
Percent below 2020 levels	-	4.5%	22.3%
Population <sup>1</sup>	116,395	145,791	145,791
Per capita emissions (MTCO <sub>2</sub> e per capita)	5.9	4.5	3.7
1. Population for 2020 from California Department of Finance estimates (Table E-5), and future population based on buildout of the Fairfield Forward 2050 General Plan Update. Excludes population associated with Travis Air Force Base; see Appendix B for more information about calculation methodology.			

Source: California Department of Finance, 2023; Dyett & Bhatia, 2024



### 3 GHG Reduction Targets

The underlying goal of the Fairfield CAP is to reduce citywide GHG emissions and align with the State’s efforts toward achieving carbon neutrality by 2045. **Table 3-1** shows the short- and long-term GHG reduction targets for Fairfield. The short-term (2030) target aligns with CARB recommendations for GHG reduction to meet SB 32. The long-term (2050) target was calculated based on data from the 2022 Scoping Plan but includes only emissions in the same sectors included in Fairfield’s community GHG inventory. For example, carbon sequestration and removal, which are pivotal to achieving carbon neutrality at the state level, are not included. The methodology for determining a locally appropriate reduction long-term target that aligns with the State’s goal of carbon neutrality is detailed in **Appendix B**.

As shown in **Table 3-1** and **Figure 3-1**, the projected trajectory of Fairfield’s communitywide GHG emissions (see Chapter 2) is on track to meet the 2030 target, but significant reductions will be needed to achieve the long-term target for 2050.

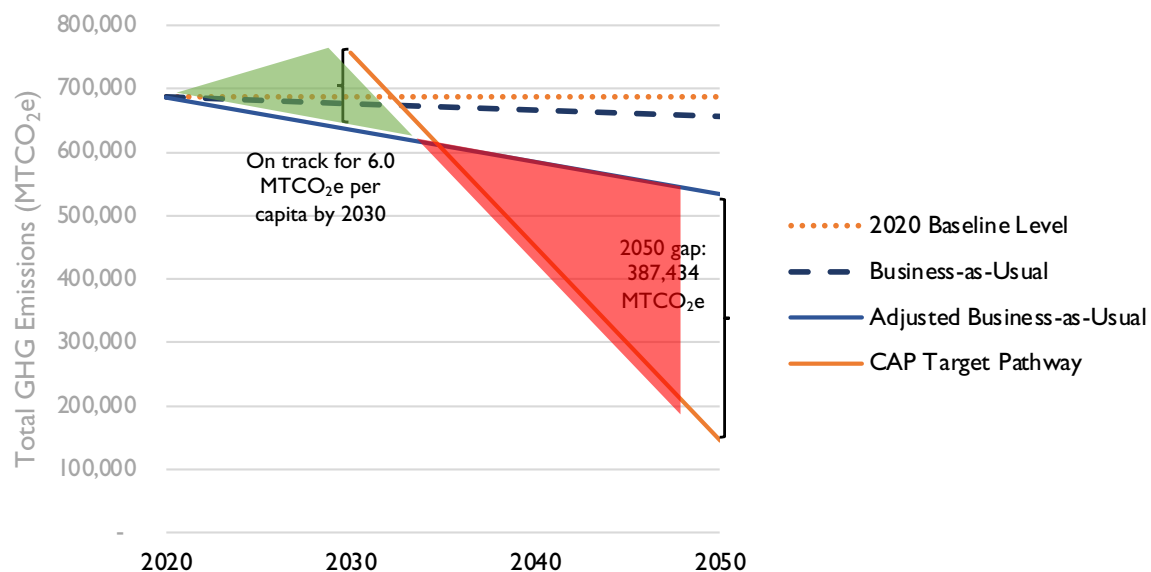
**Table 3-1: Fairfield CAP GHG Reduction Targets and Required Reductions**

YEAR	MTCO <sub>2</sub> E PER CAPITA		TOTAL EMISSIONS (MTCO <sub>2</sub> E)		ANTICIPATED TO MEET TARGET?	ADDITIONAL REDUCTIONS REQUIRED (MTCO <sub>2</sub> E)
	TARGET	PROJECTED <sup>1</sup>	TO MEET TARGET	PROJECTED <sup>1</sup>		
2030 <sup>2</sup>	6.0	5.0	757,163	635,677	Yes	-
2050	1.0	3.7	145,791	533,226	No	387,434

1. Projected values correspond to the adjusted business-as-usual forecast scenario.  
 2. 2030 projections are linearly interpolated between the 2020 baseline and 2050 adjusted business-as-usual forecast.

Source: Dyett & Bhatia, 2024

**Figure 3-1: Projected GHG Emissions and CAP Reduction Targets**



Source: Dyett & Bhatia, 2024



## 4 GHG Reduction Strategy

As recommended by CARB, the Fairfield CAP includes local actions to reduce GHG emissions and align with the respective State policies that will deliver GHG emission reductions as outlined in the 2022 Scoping Plan, if successfully implemented and supported at the local level. The measures and their associated actions are sector-specific and prioritize those that support the State's efforts to electrify the transportation sector, reduce VMT, and decarbonize buildings, with a focus on those that have the greatest effect on reducing GHG emissions and are within the City's authoritative control. Policies from the Fairfield Forward 2050 General Plan that support the measures are also included.

As shown in **Chapter 3**, Fairfield is on track to meet the 2030 GHG reduction target and align with short-term statewide climate objectives. Even without the GHG reduction measures and actions included in this chapter, the Fairfield Forward 2050 General Plan Update contains policies that prioritize compact urban growth and transit-oriented design, support VMT reduction, encourage sustainable modes of transportation, enable transition to renewable energy sources, improve energy and water efficiency and conservation, and increase urban forest resources. The impact of most of these General Plan policies on reducing GHG emission cannot be individually quantified at a community-wide, plan-level scale, but the emphasis on these project-specific designs is in line with CARB-recommended priorities to reduce GHGs at a local level. Moreover,

these policies support key State regulations, such as those included in the legislatively adjusted business-as-usual forecast scenario, that are ongoing or reasonably expected to take effect in the foreseeable future to reduce Fairfield's emissions. Therefore, the General Plan is consistent with the 2022 Scoping Plan and the State's overall short-term climate goal, and additional CAP measures are not quantified for the 2030 target year.

The following sections are categorized by sector and describe each of the different measures in detail, including an explanation of the measure, its co-benefits, and the quantified impact on GHG reduction toward the 2050 target. Supporting actions are similarly described below each measure. **Table 4-1** summarizes the reduction strategy.

**Table 4-1: Summary of GHG Reduction Measures and Actions**

STRATEGY/ACTION	EMISSIONS REDUCED IN 2050 (MTCO <sub>2</sub> E)
<b>TRANSPORTATION</b>	
<b>TR-1: Deploy sufficient, reliable zero-emission refueling infrastructure</b>	<b>263,586</b>
TR-1A: Charger Installation	263,586
TR-1B: Shared Chargers Requirement	Supportive
TR-1C: Chargers at Public Lots and Facilities	Supportive
TR-1D: EV Charging Database and Wayfinding	Supportive
TR-1E: Public-Private Partnerships	Supportive
<b>TR-2: Reduce VMT per capita by at least 3% from 2020 levels by 2030 and 8% by 2050</b>	<b>Included in forecast</b>
TR-2A: Sustainable Land Use and Transportation Policies	-
TR-2B: Transportation Demand Management Ordinance	-
TR-2C: Transportation Demand Management Program	-
TR-2D: School Transportation, Carpool, Safe Routes to Schools	-
TR-2E: Reduced Parking Requirements	-
TR-2F: Bike Share and E-Bike Program	-
<b>TR-3: Create supportive policies and programs that facilitate ZEV uptake.</b>	<b>26,418</b>
TR-3A: ZEV Zoning Code Updates	Supportive
TR-2B: Preferential Policies for EVs and ZEVs	Supportive
TR-2C: Zero-Emissions Ride Hailing	Supportive
TR-2D: ZEV Car Share	Supportive
TR-3E: Bay Area Electric Vehicle Coordinating Council	Supportive
TR-3F: ZEV Outreach and Education	Supportive
TR-3G: ZEV Incentives	Supportive
TR-3H: ZEV Workforce Development	Supportive
TR-3I: Statewide Electrification of Off-Road Equipment	26,418
<b>Transportation Subtotal</b>	<b>289,954</b>

Table 4-1: Summary of GHG Reduction Measures and Actions	
STRATEGY/ACTION	EMISSIONS REDUCED IN 2050 (MTCO <sub>2</sub> E)
<b>BUILT ENVIRONMENT</b>	
<b>BE-1 Encourage electrification in new buildings, decarbonize existing buildings, and enhance communitywide electric readiness.</b>	<b>31,861</b>
BE-1A: Carbon Neutral New Construction	24,468
BE-1B: Energy Benchmarking	Supportive
BE-1C: Building Performance Standards	7,394
BE-1D: Building Decarbonization Strategy	Supportive
BE-1E: Information and Programs on Carbon Neutrality	Supportive
<b>BE-2: Support the City of Fairfield's transition to renewable energy.</b>	<b>Included in forecast</b>
BE-2A: Participation in Marin Clean Energy	-
BE-2B: Electrical Grid Infrastructure	-
BE-2C: Battery Infrastructure	-
BE-2D: Solar Infrastructure	-
<b>BE-3: Reduce energy demand and consumption through energy efficiency and conservation.</b>	<b>2,303</b>
BE-3A: Energy Upgrade Assistance	Supportive
BE-3B: Energy-Compliant Technologies	2,303
BE-3C: Energy Efficiency Loans	Supportive
<b>B-4 Lead By Example</b>	<b>Supportive</b>
BE-4A: Develop Lead by Example Plan	-
BE-4B: Electrify the City Vehicle Fleet	-
BE-4C: Carbon Neutrality in City Buildings and Facilities	-
BE-4D: Transition City Accounts to MCE Deep Green	-
BE-4E: City Facilities Water Efficiency Plan	-
BE-4F: Solar and Battery Power	-
<b>Built Environment Subtotal</b>	<b>34,165</b>

**Table 4-1: Summary of GHG Reduction Measures and Actions**

STRATEGY/ACTION	EMISSIONS REDUCED IN 2050 (MTCO <sub>2</sub> E)
<b>SOLID WASTE</b>	
<b>SW-1: Reduce the amount of solid waste that is generated and sent to landfills, especially organic waste.</b>	<b>29,345</b>
SW-1A: Solid Waste Disposal Rate	19,272
SW-1B: Organic Waste Diversion and Edible Food Recovery	10,073
SW-1C: Compost Per Capita	Supportive
SW-1D: Eliminate Single Use Plastics and Containers	Supportive
SW-1E: Construction and Demolition Waste	Supportive
SW-1F: Solid Waste Education and Assistance	Supportive
SW-1G: Outreach and Enforcement	Supportive
SW-1H: Expand Waste-to-Energy System	Supportive
<b>Solid Waste Subtotal</b>	<b>29,345</b>
<b>WASTEWATER</b>	
<b>WW-1: Work with Fairfield-Suisun Sewer District to reduce emissions from wastewater treatment.</b>	<b>Supportive</b>
WW-1A: Reduce Use of Fossil Fuels	-
WW-1B: Capacity of Waste-to-Energy	-
<b>Wastewater Subtotal</b>	-



Table 4-1: Summary of GHG Reduction Measures and Actions	
STRATEGY/ACTION	EMISSIONS REDUCED IN 2050 (MTCO <sub>2</sub> E)
<b>POTABLE WATER</b>	
<b>PW-1: Reduce water utility emissions by 60% below 2020 levels by 2030 and 100% by 2050.</b>	<b>Supportive</b>
PW-1A: Landscape Efficiency	-
PW-1B: Water Conservation Ordinance	-
PW-1C: Recycled Water Program	-
PW-1D: Education and Incentives	-
Potable Water Subtotal	-
<b>CARBON SEQUESTRATION</b>	
<b>CS-1: Increase carbon sequestration by expanding the tree canopy by 10% by 2050.</b>	<b>2,791</b>
CW-1A: Urban Forest Master Plan	2,791
CW-1B: Urban Tree Trust	Supportive
Carbon Sequestration Subtotal	2,791
<b>GRAND TOTAL REDUCTIONS FROM STRATEGIES</b>	<b>356,304</b>
Emissions reductions required to achieve target	387,434
Remaining Gap	31,742
Target met?	No
<ol style="list-style-type: none"> <li>1. No additional reductions in 2050 because all electricity is assumed to be zero-emission as a result of SB 100, regardless of the electricity provider.</li> <li>2. No additional reductions in 2050 because potable water sector emissions are based on energy use, and electricity consumption in 2050 is assumed to be zero-emission as a result of SB 100.</li> </ol>	

Source: Dyett &amp; Bhatia, 2024

## Co-benefits of GHG Reduction Measures

GHG reduction measures can have multiple benefits in addition to reducing emissions to address climate change. The reduction strategy includes measures that maximize co-benefits to Fairfield residents, as explained below.

### Cost Savings

Some GHG reduction measures have a direct financial translation, such as savings from reduced electricity, natural gas, and water use in the home resulting from improved energy efficiency and conservation. Similarly, energy production and storage systems provide residents with the opportunity to gain revenue by “selling back to the grid.”

It is noted that it may take time to realize certain cost savings, especially when considered with initial costs to shift to a low carbon economy.

### Public Health

GHG reduction measures that reduce pollution can reduce community exposure and result in lower risk of adverse health effects of pollution.

At the same time, reducing VMT is a critical approach to reducing GHGs that encourages active modes of transportation like biking and walking – increasing opportunities for physical fitness and reducing associated health risk factors like obesity.

Avoiding climate impacts such as extreme heat also mitigates the risk of hazards like heat-related illnesses, particularly for vulnerable residents such as older adults.

### Equity

Many co-benefits, alone or in combination, can serve as important levers to improve equity.

Prioritizing the implementation of climate actions to benefit people who are most vulnerable to climate impacts or live in historically disinvested communities and are disproportionately impacted by the negative effects of climate change, helps to address existing disparities in health other factors that affect quality of life.

### Environmental Quality

Improvement in air quality goes hand-in-hand with reducing GHGs. Many sources of GHG emissions are also sources of other air pollutants that are harmful to human health, such as inhalable particulate matter (PM) from burning of fossil fuels.

Stricter regulation and use of advanced technologies among common emissions sources like industrial activities also correlates with cleaner practices that also avoid pollution of land and water.

### Adaptation

As explained in **Section 1.2**, GHGs are the primary driver of climate change, which results in an array of climate impacts that can threaten community health and safety.

Adaptation takes a step further beyond resilience, which can be limited by reactionary approaches, to prepare the community for future changes in the climate as well as mitigate current contributions to those impacts.

### Job Creation

Achieving carbon neutrality is an ambitious goal, and meeting this target will require a significant shift to a low carbon economy that phases out certain activities, such as those dependent on fossil fuels.

This market transformation will create new jobs that are needed to support the development, operation and maintenance of new infrastructure and industries.

## 4.1. TRANSPORTATION

### TR-1: Deploy sufficient, reliable zero-emission refueling infrastructure.

California has a goal that 100 percent of new passenger cars and trucks sold in the state will be zero-emission by 2035 and 100 percent of new medium- and heavy-duty vehicles will be zero-emission by 2045 (EO N-79-20). This would put 7.1 million passenger zero-emission vehicles (ZEVs) on the road by 2030 and 15.2 million by 2035 – which would require more than 2.11 million public and shared private chargers to support plug-in vehicles in 2035.<sup>10</sup> As of early 2024, California has installed about 105,012 chargers,<sup>11</sup> and bridging the remaining gap will necessitate statewide cooperation on multiple levels. The City of Fairfield can support the State’s goals to increase the adoption of ZEVs by supporting deployment of ZEV infrastructure, including increasing the number of EV chargers in public and private development, as well as creating programs to promote knowledge of EV charger availability.

#### TR-1A: Charger Installation

Install 3,888 EV chargers to support 100 percent adoption of light duty and 61 percent of medium- and heavy-duty vehicles by 2050. This number of chargers is needed to support about 77,750 EVs in 2050, calculated based on a rate of one charger per 20 EVs as derived from the CEC’s 2024 EV Charging Infrastructure Assessment. *This policy is supported by General Plan policy SUS-6.5.*

#### TR-1B: Shared Chargers Requirement

Adopt an ordinance that requires the following:

- Require new development to meet or exceed the Tier 2 level for EV charger requirements of the current California Green Building Standards Code (CALGreen).
- Installation of EV direct current (DC) fast chargers at: (i) All new gas stations and (ii) Existing gas stations that undergo a proposed amendment to the conditional use permit (CUP) that includes modifications to the storage tanks, expansions to associated convenience stores, or modifications/additions to service components (e.g., car washes). This action is supported by General Plan policy SUS-8.1.
- For all businesses that use medium- and heavy-duty vehicles (including new warehouses, grocery stores, and retail buildings with off-street loading spaces), install charging infrastructure to support later additions of DC fast chargers.

These requirements may be reduced if they are within one-half mile of public chargers or high-frequency transit, as defined in California Government Code § 65088.1.

<sup>10</sup> California Energy Commission, *Assembly Bill 2127 Second Electric Vehicle Charging Infrastructure Assessment*, January 26, 2024, <https://www.energy.ca.gov/publications/2024/assembly-bill-2127-second-electric-vehicle-charging-infrastructure-assessment>.

<sup>11</sup> California Energy Commission, *“Electric Vehicle Chargers in California,” Alternative Data Fuels Center*, last updated March 1, 2024, accessed July 3, 2024, <https://www.energy.ca.gov/data-reports/energy-almanac/zero-emission-vehicle-and-infrastructure-statistics-collection/electric>.

#### Total Estimated Reduction:

263,586 MTCO<sub>2</sub>e

#### Co-benefits:

- Environmental Quality
- Job Creation



#### Estimated Reduction:

263,536 MTCO<sub>2</sub>e

#### Estimated Reduction:

*This action supports overall charger installation and ZEV adoption.*

### **TR-1C: Chargers at Public Lots and Facilities**

Continue to install and provide EV charger access at City-owned facilities and parking garages. Add curbside chargers near street parking in highly visited destinations, and develop and implement a fee (similarly to parking meters or pay stations) to promote more efficient use and turnover for EV charger availability. This policy is supported by General Plan policy SUS-8.4.

#### **Estimated Reduction:**

*This action supports overall charger installation and ZEV adoption.*

### **TR-1D: EV Charging Database and Wayfinding**

Develop and maintain a GIS database or publicly accessible online map of EV chargers in Fairfield to help determine suitable locations for future EV charger deployment and facilitate public awareness. Provide for EV signage and wayfinding to help direct EV drivers to charging stations.

#### **Estimated Reduction:**

*This action supports overall charger installation and ZEV adoption.*

### **TR-1E: Public-Private Partnerships**

Continue to support public/private partnerships to provide more publicly accessible chargers throughout the City. Examples include public-private partnerships on private property (Electrify America), public-private partnerships on public property (EVGo), and public investment or grant funded opportunities (STA and EVCS).

#### **Estimated Reduction:**

*This action supports overall charger installation and ZEV adoption.*





## TR-2: Reduce VMT per capita by at least 3 percent from 2020 levels by 2030 and 8 percent by 2050.

As indicated in the 2022 Scoping Plan, vehicle miles traveled (VMT) reductions are necessary to directly and immediately reduce transportation emissions. To reduce reliance on single-occupant vehicles and decrease VMT, the City will undertake a multipronged strategy. First, the City will implement policies in the General Plan that promote more integrated land use patterns, reduced parking requirements and other parking strategies, and an improved bicycle, pedestrian and transit network. Second, additional programs and regulations will be needed to incentivize a shift to more sustainable transportation modes, and as such, the City will lower the compliance threshold for the City's current Transportation Demand Management (TDM) Ordinance. This will serve to capture additional employers and increase the effectiveness of the ordinance. The City will also work with schools, major employers, and other frequented destinations to develop and implement VMT reduction programs that reduce commute trips.

### TR-2A: Sustainable Land Use and Transportation Policies

Implement sustainable land use and transportation policies, such as those in the General Plan and specific plans, that increase and improve the connectivity of the city; improve the bicycle, pedestrian, and transportation network; and create environments that are easy to navigate without a car. These include the following policies:

- LU-1.3 Jobs-Housing Balance
- LU-1.5 Heart of Fairfield and Train Station Specific Plans
- LU-1.6 Mixed Use Activity Centers
- LU-2.3 Higher Density Nodes
- LU-14.1 Transportation Center Development
- LU-7.5 Pedestrian Oriented Connections
- LU-15.7 Transit Improvements
- LU-15.8 Compatible Bike and Pedestrian Improvements
- LU-16.1 Fill Linear Park Gaps
- LU-17.1 Updated Residential Density
- TP-2.8 Military Personnel Transportation Needs
- CIR-1.2 Address Gaps
- CIR-2.1 Regional Transportation Plans
- CIR-2.5 Coordination to Address Gaps
- CIR-4.4 School Circulation
- CIR-4.5 First and Last Mile Solutions
- CIR-4.6 Facilitate Infill and Alternative Transportation
- CIR-5.4 Park-and-Ride Facilities
- CIR-6.1 Well-Connected Transit
- CIR-6.2 Potential Transit Ridership
- CIR-6.3 Express Transit
- CIR-6.4 Integrated Transit
- CIR-7.1 Bicycle Infrastructure
- CIR-7.2 Bikeway Improvements
- CIR-7.3 Linear Park Trail Bikeway
- CIR-7.4 Bike Share
- CIR-7.5 Bike Amenities
- CIR-7.6 Bicycle Education and Information
- CIR-7.7 Regional Bikeway Network
- CIR-7.8 Pedestrian Infrastructure
- CIR-7.9 Sidewalk Gaps
- CIR-7.10 Safety Improvements
- CIR-7.14 Complete Streets Considerations
- SUS-7.1 Sustainable Development Patterns
- SUS-8.2 Sustainable Transit
- SUS-8.3 EV Fleet

### Total Estimated Reduction:

*Included in the forecast (modeled in VMT estimates)*

### Co-benefits:

- Environmental Quality
- Public Health
- Cost Savings
- Equity



### Estimated Reduction:

*Included in the forecast (modeled in VMT estimates)*

### **TR-2B: Transportation Demand Management Ordinance**

Update the City's current ordinance on employer-based trip reduction programs to reduce traffic congestion in the City of Fairfield to reflect application of TDM plans to public and private companies with 50 or more or more employees. *This policy is supported by General Plan policy CIR-4.1.*

#### **Estimated Reduction:**

*This action supports communitywide VMT reduction.*

### **TR-2C: Transportation Demand Management Program**

Develop a model TDM plan and provide education on compliance and reporting and resources for implementing TDM measures. Implement an outreach and educational campaign targeted to businesses to promote TDM strategies and encourage participation in the Solano Transportation Authority's commuter benefits program. *This policy is supported by General Plan policy CIR-4.1.*

#### **Estimated Reduction:**

*This action supports communitywide VMT reduction.*

### **TR-2D: School Transportation, Carpool, and Safe Routes to Schools**

Continue to collaborate with FSUSD, TUSD, STA, Solano Public Health, and public and nonprofit partners in implementing the Safe Routes to Schools plan and secure dedicated funding to provide safe and equitable access for students to local schools. Work with school districts to transition school buses to ZEVs and explore staggered drop-off times, EV preferential programs, provision of bus services, carpool incentives, and other mechanisms to reduce single-occupancy vehicle drop offs. *This policy is supported by General Plan policy CIR-4.4.*

#### **Estimated Reduction:**

*This action supports communitywide VMT reduction.*

### **TR-2E: Reduced Parking Requirements**

Reduce parking requirements through the following actions:

- For new mixed-use areas, adopt parking requirements into the Municipal code that are appropriate for a mixed-use, walkable, and transit-oriented districts.
- Require parking costs for multifamily residential development to be unbundled from costs to rent or own a unit.
- Consistent with the intention of AB2097, allow developers to build housing without off-street parking if close to frequent transit service.

#### **Estimated Reduction:**

*This action supports communitywide VMT reduction.*

*This action is supported by General Plan Policy CIR-5.1 and CIR-5.2*

### TR-2F: Bike Share and E-Bike Program

Develop and release a solicitation for a public-private partnership for planning and implementing a docked bikeshare or electric bicycle (e-bike) program for key destinations in the City, including virtual wayfinding to and from key destinations and docking stations. Assess opportunities to support public-private partnerships that provide incentives for residents to purchase e-bikes. *Although Travis Air Force Base is not included within the scope of the CAP, the base may be considered as a key destination for the bike-share and e-bike program. This action is supported by General Plan policy TP-2.8, CIR-7.4, and LU-8.2.*

### TR-3: Create supportive policies and programs that facilitate ZEV uptake.

In addition to providing the physical infrastructure needed to charge ZEVs and promoting a shift out of single-occupancy vehicles, policies and programs can help make it easy and convenient to make the switch to electric and zero emissions vehicles. The City will update the Zoning Code, revise parking policies, and explore curb management strategies that favor ZEVs, maintain a list of incentives, and support workforce development in the growing ZEV industry.

#### TR-3A: ZEV Zoning Code Updates

Update the zoning code and/or adopt ordinances to be as ZEV-friendly as possible, including permit streamlining pursuant to AB 1326. EV charging will be an allowed use citywide.

#### TR-3B: Preferential Policies for EVs and ZEVs

Develop a suite of incentives and preferential policies to prioritize the operation of electric vehicles and zero emissions vehicles in the city through the following actions:

- Require that new private parking lots grant zero emission vehicles (ZEVs) access to preferred parking spaces.
- Reduce parking rates for qualifying ZEVs
- As part of a pilot program, explore prioritized curb space for EV and ZEV delivery vehicles

#### TR-3C: Zero-Emissions Ride-Hailing

Leverage increasingly stringent Clean Miles Standard (CMS) regulations that require ride-hailing services use ZEVs as an alternative mode of clean transportation to driving personal gasoline-powered vehicles. Facilitate the convenient and safe use of ride-hailing options through curb management strategies, inclusion as an option for employer TDM programs, and other actions.

#### Estimated Reduction:

*This action supports communitywide VMT reduction.*

#### Total Estimated Reduction:

26,418 MTCO<sub>2</sub>e

#### Co-benefits:

- Equity
- Cost Savings



#### Estimated Reduction:

*This action supports overall ZEV adoption.*

#### Estimated Reduction:

*This action supports overall ZEV adoption.*

#### Estimated Reduction:

*This action supports overall ZEV adoption.*

### **TR-3D: ZEV Car Share**

Collaborate with neighboring jurisdictions and the Solano County Transportation Authority to develop a connected network of ZEV car share.

### **TR-3E: Bay Area Electric Vehicle Coordinating Council**

Participate in the Bay Area Electric Vehicle Coordinating Council to learn about and implement best practices that support accelerated ZEV adoption.

### **TR-3F: ZEV Outreach and Education**

In partnership with community-based organizations, agencies, and non-profits conduct EV education and outreach events to disseminate information and tools on costs/ benefits of owning EVs, steps on how to receive incentives for EV chargers (including incentives for expanding Level 2 chargers), as well as other benefits.

### **TR-3G: ZEV Incentives**

Maintain a list of the following incentives and partner with community organizations to disseminate in the community:

- Passenger vehicle ZEV incentives and rebates such as EPA's Clean Communities Investment Accelerator, CARB's Clean Vehicle Assistance Program, and BAAQMD's Clean Cars for All.
- Incentives for low- and zero-emission commercial vehicles and non-road equipment, such as the Carl Moyer Program and California Hybrid and Zero-Emission Truck and Bus Voucher Incentive Project (HVIP).

### **TR-3H: ZEV Workforce Development**

Encourage development of a skilled workforce with access to jobs that support ZEVs, ZEV infrastructure, and the ZEV industry. To comply with State certification requirements for EV installation under AB 841, increase access to the Electric Vehicle Infrastructure Training Program (EVITP) certification program.

### **TR-3I: Statewide Electrification of Off-Road Equipment**

Support statewide electrification of off-road equipment by providing information from CARB and BAAQMD about the benefits, incentives, and regulations for adopting zero-emission small off-road engines, especially to small landscaping businesses.

#### **Estimated Reduction:**

*This action supports overall ZEV adoption.*

#### **Estimated Reduction:**

*This action supports overall ZEV adoption.*

#### **Estimated Reduction:**

*This action supports overall ZEV adoption.*

#### **Estimated Reduction:**

*This action supports overall ZEV adoption.*

#### **Estimated Reduction:**

*This action supports overall ZEV adoption.*

#### **Estimated Reduction:**

*This action supports overall ZEV adoption.*



## 4.2. BUILT ENVIRONMENT

### BE-1: Encourage electrification in new buildings, decarbonize existing buildings, and enhance communitywide electric readiness.

Energy use in the built environment represents 17.8 percent of Fairfield’s total emissions in 2020. While electricity will become cleaner in the future as a result of state-level actions that will virtually eliminate emissions from electricity consumption, natural gas will remain a significant source. The City will facilitate building decarbonization and reduce dependence on natural gas by encouraging electrification or ensuring buildings are ready to be electrified in the future.

#### BE-1A: Carbon Neutral New Construction

Develop and adopt an ordinance that reduces energy use and GHG emissions in new construction through an Energy Policy and Conservation Act (EPCA)- compliant flexible path reach code, requiring newly constructed buildings to be carbon-neutral by 2030. If carbon neutrality cannot be met, provide some flexibility on how to achieve requirements. The following are examples:

- Offset Requirement. A carbon offset requirement that would apply to all new buildings that choose to use natural gas and requires that the new fossil fuel use is offset either by retrofitting an older building or by paying an in-lieu fee.
- Pre-wiring to be “retrofit ready”. To minimize future retrofit or energy transition costs, residential buildings that choose to include natural gas will be required to pre-wire for electric appliances.

This policy is supported by General Plan policy SUS-6.2.

#### BE-1B: Energy Benchmarking

Building on requirements of AB 802, adopt a local benchmarking ordinance that requires commercial and multifamily buildings over 10,000 square feet of gross floor area or 10 multifamily units to prepare an energy benchmarking report. Require single-family residential developments to conduct an energy assessment when the home is listed for sale.

*Energy rating and disclosure encourages property owners to voluntarily make more informed purchasing and renovation decisions to reduce energy consumption and associated costs. AB 802 annual reporting requirements currently apply to commercial and multifamily buildings larger than 50,000 gross square feet and 17 residential utility accounts (for multifamily only). The local benchmarking program may be revised to align with State guidance in response to SB 48. See also Action BE-1C.*

#### Total Estimated Reduction:

31,861 MTCO<sub>2</sub>e

#### Co-benefits:

- Cost Savings
- Equity
- Job Creation
- Public Health



#### Estimated Reduction:

24,468 MTCO<sub>2</sub>e

#### Estimated Reduction:

*This action supports implementation of building performance standards (Action BE-1C).*

### **BE-1C: Building Performance Standards**

Require all buildings subject to the local benchmarking ordinance to be upgraded to meet a minimum energy efficiency by 2040. Provide options to select and implement electrification or building efficiency measures from a prescriptive list, which must collectively improve energy efficiency by 15 percent relative to the most recent benchmarking report. The analysis should identify which efficiency measures are considered cost effective for different building use types.

*The building performance standard may be developed and/or revised in response to guidance from CEC and CARB under SB 48. See also Action BE-1B.*

### **BE-1D: Building Decarbonization Strategy**

By 2030, develop an Existing Building Decarbonization Strategy that analyzes the specific challenges and opportunities for electrification in Fairfield and develops a phased long-term strategy for retrofitting the majority of buildings in the city without increasing costs for residents and businesses. The strategy should also include a plan for code compliance to ensure that targets are being achieved. *This policy is supported by General Plan policy SUS-6.1 and SUS-6.2*

### **BE-1E: Information and Programs on Carbon Neutrality**

By 2026, provide information at the permitting counter and on the City website to project applicants on realistic, feasible ways to achieve project-level carbon neutrality and address real and/or perceived cost barriers for new construction. Catalog and provide funding sources for energy efficiency upgrades, such as PG&E rebates and incentives, on-bill financing for commercial uses, 179D tax credits for commercial uses, Inflation Reduction Act Residential Energy Rebate Program (when available), and any MCE programs as available.

#### **Estimated Reduction:**

7,394 MTCO<sub>2</sub>e

#### **Estimated Reduction:**

*This action supports overall building decarbonization.*

#### **Estimated Reduction:**

*This action supports overall building decarbonization.*

## BE-2: Support the City of Fairfield's transition to renewable energy.

To cut electricity-related emissions, the City plans to expand access to renewable energy for residents. Marin Clean Energy (MCE) is the Community Choice Aggregator that provides renewable energy to Fairfield residents. Through MCE's programs, the City has already enabled a default provision of 60 percent renewable electricity for residents and businesses since April 2022. MCE's Deep Green Option represents a 100 percent renewable energy choice, and the City will encourage people to make the switch in the short term to accelerate the transition to 100 percent clean energy ahead of the SB 100 regulatory standard for 2045. Regular outreach efforts, including online information dissemination and promotion at community events, will be undertaken to maintain and boost participation in the MCE program.

### BE-2A: Participation in Marin Clean Energy

Encourage residents to enroll in MCE's Deep Green service that supplies 100 percent clean energy. Annually track MCE participation rates, including opt-out and opt-down trends, and work with MCE to develop strategies for increasing participation in Light Green or Deep Green options to 95 percent by 2030. Conduct annual community engagement campaigns to promote MCE's renewable energy choices and programs through print, social media and digital media.

### BE-2B: Electrical Grid Infrastructure

Develop renewable microgrids and storage of local electricity, especially at schools, civic/community centers, fire stations, and libraries.

### BE-2C: Battery Storage

Work alongside PG&E to promote and further incentivize battery storage as a means to maximize electrification benefits and improve resiliency.

### BE-2D: Solar Infrastructure

By 2026, adopt a building code standard that requires solar PV systems on all new residential and non-residential construction and qualifying major renovations. This may be accomplished either through the 2025 Building Energy Efficiency Standards or a reach code designed to exceed the 2025 Building Energy Efficiency Standards so that all new construction has solar PV incorporated into the design. Consider alternative options, such as wind energy especially in Cordelia/Green Valley area and northeast Fairfield, if solar infrastructure is infeasible or substantially less effective than other renewable energy sources.

*This policy is supported by General Plan policy SUS-6.3 and 6.4.*

#### Total Estimated Reduction:

Included in the forecast (RPS adjustment)

#### Co-benefits:

- Cost Savings
- Adaptation



#### Estimated Reduction:

*This action supports overall building decarbonization.*

#### Estimated Reduction:

*This action supports overall building decarbonization.*

#### Estimated Reduction:

*This action supports overall building decarbonization.*

#### Estimated Reduction:

*This action supports overall building decarbonization.*

### **BE-3: Reduce energy demand and consumption through energy efficiency and conservation.**

Although electricity will become increasingly cleaner in the future until it reaches zero-emission in 2045, short-term electricity consumptions could continue to contribute to the city's emissions. The City will encourage energy efficiency and conservation to reduce energy demand and overall consumption. This will include programs to make transition of existing buildings more cost-effective and affordable, especially for lower-income residents.

#### **BE-3A: Energy Upgrade Assistance**

By 2026, provide information at the permitting counter and on the City website to project applicants on funding sources for energy efficiency upgrades, such as rebates and incentives, on-bill financing for commercial uses, 179D tax credits for commercial uses, Inflation Reduction Act Residential Energy Rebate Program (when available), and any MCE programs as available.

#### **BE-3B: Energy-Compliant Technologies**

Support BAAQMD's efforts to require zero-NOx furnaces and water heaters at time of replacement with compliant technologies, such as electric heat pumps. Advocate that BAAQMD ensure discounted electric appliances offers for lower income households and availability of upfront rebates.

#### **BE-3C: Energy Efficiency Loans**

Establish a revolving loan fund to provide low-interest loans to low- and fixed-income residents to cover the costs of time-of replacement electrification upgrades, which may include replacement of hot-water heaters and heating, ventilation, and air conditioning (HVAC) units. Provide that the loans can be processed in reduced timeframes to the extent feasible to enable replacement of equipment in a timely manner and that funds cover the cost of electric equipment replacements, including panel upgrades if needed. Use development mitigation fees, CEA residual revenue, U.S. Department of Housing and Development's (HUD's) Green and Resilient Retrofit Program (GRRP)'s Grants and Loans component and other sources for capitalizing the revolving loan fund. Implement a targeted outreach campaign with loan establishment that allows residents ready access to program information (e.g., magnets or mailers).

#### **Total Estimated Reduction:**

2,303 MTCO<sub>2</sub>e

#### **Co-benefits:**

- Cost Savings
- Equity



#### **Estimated Reduction:**

*This action supports overall building decarbonization.*

#### **Estimated Reduction:**

2,303 MTCO<sub>2</sub>e

#### **Estimated Reduction:**

*This action supports reduction of energy consumption and overall building decarbonization.*

## BE-4: Lead by Example

As a climate leader, Fairfield has the opportunity achieve substantial cost savings, demonstrate energy and environmental leadership, develop local municipal capacity and expertise, and raise public awareness by promoting and adapting their operations to be more sustainable and climate-friendly. The following actions help Fairfield make substantial progress towards achieving carbon neutrality in all municipal operations by 2045.

### BE-4A: Develop Lead by Example Plan

Drawing upon the City of Fairfield's 2009 Sustainability Initiative, develop a "lead by example" plan that outlines specific actions the City can take to achieve municipal carbon neutrality. Actions BE-3B, BE-3C, BE-3D, and BE-3E would be included in this framework. *This action is supported by General Plan policies SUS-2.2 and SUS-3.1.*

### BE-4B: Electrify the City Vehicle Fleet

Conduct an inventory of the existing EV chargers and vehicles in the City vehicle fleet and develop a Zero Emission Vehicles Transition Plan with a goal to:

- (i) Electrify 60 percent of the municipal fleet by 2030 and 100 percent of all feasible vehicles and equipment by 2045,
- (ii) Install additional Level 2 EV chargers on City properties by 2030.

The plan should also incorporate VMT reduction strategies, such as commute trip reduction programs that encourage hybrid work-from-home opportunities especially for employees who travel further, to minimize transportation sector GHG emissions in the short term.

*This action is supported by General Plan policy SUS-6.5, SUS-8.3, and SUS-8.4.*

### BE-4C: Carbon Neutrality in City Buildings and Facilities

Achieve carbon neutrality for city operations and facilities by adopting a Zero Emissions Building and Operations policy. This policy will aim to achieve the goal of portfolio-wide zero GHG Emissions in City-owned and leased buildings and operations by 2035 by prioritizing proven energy efficiency strategies. *This action is supported by General Plan policy SUS-7.2.*

#### Total Estimated Reduction:

This measure supports other measures to transition to ZEVs, reduce VMT, and decarbonize buildings.

#### Co-benefits:



- Cost Savings
- Environmental Quality
- Adaptation
- Job Creation

#### Estimated Reduction:

*This action supports the ZEV adoption and overall building decarbonization.*

#### Estimated Reduction:

*This action supports EV charger installation and ZEV adoption.*

#### Estimated Reduction:

*This action supports the ZEV adoption and overall building decarbonization.*



### **BE-4D: Transition City Accounts to MCE Deep Green**

Transition all City accounts to MCE's Deep Green Portfolio by 2030.

### **BE-4E: City Facilities Water Efficiency Plan**

By 2030, develop and implement a City Facilities Water Efficiency Plan to require water-efficiency measures in new and existing City buildings/operations to reduce potable water use by 20 percent by 2030 compared to 2020 baseline water use. *This action is supported by General Plan policy SUS-9.4.*

### **BE-4F: Solar and Battery Power at City Facilities**

By 2030, work to install solar PV systems and battery storage at City facilities by including projects in the City's Capital Improvement Plan.

## **4.3. SOLID WASTE**

### **SW-1: Reduce the amount of solid waste that is generated and sent to landfills, especially organic waste.**

Methane generated from solid waste, particularly organic waste, sent to landfills is a significant source of GHGs that are several times more potent than carbon dioxide. California's Short-Lived Climate Pollutant Strategy (SB 1383) focuses on reducing this source of GHGs by diverting 75 percent of statewide organic waste sent to landfills by 2025. Total solid waste diversion goals and mandatory commercial recycling programs previously established under the California Integrated Waste Management Act and AB 939 also continue to be in place. However, reducing GHG emissions in the solid waste sector will call for ambitious actions to further reduce, recycle, compost, or otherwise divert waste away from the landfill. The City of Fairfield can support the State's statewide goal to meet 75 percent solid waste diversion by achieving a solid waste disposal rate that matches this goal, along with other solid waste strategies that with key State efforts.

### **SW-1A: Solid Waste Disposal Rate**

Achieve a solid waste disposal rate of 4.25 pounds per person per day to meet a solid waste diversion goal of 75 percent by 2050. Overall solid waste diversion includes the diversion of organic waste and edible food under Action SW-1B.

#### **Estimated Reduction:**

*This action supports overall building decarbonization.*

#### **Estimated Reduction:**

*This action supports reduction of water demand.*

#### **Estimated Reduction:**

*This action supports overall building decarbonization.*

#### **Total Estimated Reduction:**

29,345 MTCO<sub>2</sub>e

#### **Co-benefits:**

- Environmental Quality
- Adaptation



#### **Estimated Reduction:**

19,272 MTCO<sub>2</sub>e

### **SW-1B: Organic Waste Diversion and Edible Food Recovery**

Continue to support statewide implementation of SB 1383 to divert 75 percent of organic waste from landfills and recover 20 percent of edible food surplus for human consumption by 2025. Requirements include:

- Providing organic waste collection to all residents and businesses.
- Establishing an edible food recovery program that recovers and redistributes commercial food surplus to local community organizations to be used or eaten.
- Conducting outreach and education to affected parties, including generators, haulers, facilities, edible food recovery organizations, and city departments.
- Procuring organic waste products like compost, mulch, and renewable natural gas.
- Inspecting and enforcing compliance with SB 1383.

*This policy is supported by General Plan policy SUS-11.2, PFS-10.1, and PFS-10.2*

### **SW-1C: Compost Per Capita**

Increase carbon sequestration by applying 0.08 tons of compost per capita annually in the community through 2030 and 2045. Utilize the compost and mulch for application to City-owned trees and planters to increase the carbon sequestration potential of tree plantings. This supports implementation of SB 1383.

SB 1383 does not obligate the City to apply compost within the community, but the City of Fairfield contracts services to procure compost that can help boost local carbon sequestration potential and support the State's goals. *See also Action CS-1A.*

### **SW-1D: Eliminate Single Use Plastics and Containers**

Increase enforcement of the City's Single Use Foodware Accessories and Standard Condiments Ordinance (Ord. No. 2022-10) in compliance with AB 1276. Review other recent circular economy bills signed by the governor (i.e., SB 343, AB 881, AB 1201, AB 962) and incorporate requirements into hauling agreements and municipal codes for full-service restaurants and local manufacturing businesses toward the eventual elimination of single use plastics and containers, as guided by the State.

#### **Estimated Reduction:**

10,073 MTCO<sub>2</sub>e

#### **Estimated Reduction:**

*This action supports diversion of organic waste and overall solid waste.*

#### **Estimated Reduction:**

*This action supports overall solid waste diversion.*

### **SW-1E: Construction and Demolition Waste**

Continue to require that Construction and Demolition (C&D) projects divert 65 percent of their waste from entering the landfill. Residential, commercial and industrial construction or demolition projects over 1,000 square feet must complete Construction and Demolition Waste Reduction and Recycling Plans (C&D Recycling Plan) prior to beginning construction. Work with the Building Division to increase compliance through regular onsite inspection and enforcement of penalties for projects that do not meet diversion mandates.

### **SW-1F: Solid Waste Education and Assistance**

Continue to work with hauler to monitor participation in residential and commercial recycling programs, create education materials for the community, provide technical assistance to business to implement mandatory recycling, and identify other opportunities and means to promote reduced waste efforts.

### **SW-1G: Outreach and Enforcement**

Continue to educate the community and enforce the City's waste code, which requires mandatory recyclables and organic waste collection services for all residential, commercial, and industrial generators (Fairfield Municipal Code Section 9.210). Implement enforcement and fines for incorrectly sorted materials with sensitivity to shared collection. Utilize funding—such as through the Organics Grant Program, Beverage Container Recycling Grants, Local Enforcement Agency Grant Program, and SB 1383 Local Assistance Grant Program—to implement programs and efforts to increase communitywide recycling and organic waste diversion.

### **SW-1H: Expand Waste-to-Energy System**

Work with Republic Services to inventory where Fairfield's waste is landfilled and benchmark methane capture at landfills that receive waste from Fairfield. In line with SB 1383, participate in countywide efforts to expand the waste-to-energy system (i.e., capture biomethane generated by solid waste) at landfills. *See also Action WW-1B.*

#### **Estimated Reduction:**

*This action supports overall solid waste diversion.*

#### **Estimated Reduction:**

*This action supports overall solid waste diversion.*

#### **Estimated Reduction:**

*This action supports overall solid waste diversion.*

#### **Estimated Reduction:**

*This action supports overall solid waste diversion.*

## 4.4. WASTEWATER

### WW-1: Work with the Fairfield-Suisun Sewer District to reduce emissions from wastewater treatment.

GHG emissions from wastewater, including wastewater treatment and stormwater management represent a constant source of emissions that would grow in proportion with the population. Wastewater treatment operations are maintained by the Fairfield Suisun Sewer District. While the City of Fairfield does not have direct jurisdiction and limited technical capacity to reduce emissions in this sector, the City can support the FSSD in achieving the goals set out in FSSD's Resilient and Green Master Plan to reduce emissions from treatment processes and operation of the wastewater treatment plant.

#### WW-1A: Reduce Use of Fossil Fuels

Support FSSD in setting clean energy and carbon neutrality targets consistent with State of California greenhouse gas and clean energy goals use of fossil-fuel-based energy to power the facility. Work with FSSD to determine appropriate goals for 2030 and 2050.

#### WW-1B: Capacity of Waste-to-Energy

Support FSSD in constructing and operating a biomass processing facility to process and convert a variety of biomass streams (including woody biomass from local industrial or municipal producers/aggregators). These biomass streams would be diverted from landfills and converted into usable renewable thermal energy, renewable electrical energy, and products that can sequester carbon.

#### Total Estimated Reduction:

To be established in partnership with FSSD.

#### Co-benefits:

- Environmental Quality
- Adaptation



#### Estimated Reduction:

*This action supports reduction in use of fossil fuels at the wastewater treatment plant.*

#### Estimated Reduction:

*This action supports reduction in use of fossil fuels at the wastewater treatment plant.*



## 4.5. POTABLE WATER

### PW-1: Reduce water utility emissions by 60% below 2020 levels by 2030 and 100% by 2050.

Emissions from water use come from electricity usage to convey and treat the water. Future emissions in 2050 would be reduced to zero due to statewide implementation of SB 100 to provide 100 percent clean electricity by 2045. However, reducing water demand will be essential to reduce GHG emissions in the short term. While potable water sector emissions make up a small percentage of the Fairfield's total, the City has significant control over this emissions source as the city's water provider. The City aims to achieve a phased reduction in per-capita water consumption by 2045 through various initiatives, including water-efficient building practices, low-water landscaping, plumbing code updates, and community outreach. To further this goal, the City plans to adopt ordinances mandating water-efficient fixtures in new and renovated buildings. Additional efforts include distributing water conservation kits to low-income families, promoting water disclosure programs for businesses, and installing low-water use landscaping at City-owned properties. To support the community in these efforts, the City will continue to offer rebates on water-efficient fixtures.

#### PW-1A: Landscape Efficiency

Continue to implement the Water Efficient Landscape Ordinance each year, and develop a recommended drought-tolerant and native tree and plant species list. Require the planting of drought-tolerant and native landscaping at the site of any new/existing City facilities, landscaped medians, and parkway strips to reduce water loss. *This action is supported by General Plan policy SUS-9.5.*

#### PW-1B: Water Conservation Ordinance

Adopt an ordinance to require CALGreen Tier 2 water efficiency requirements for indoor water uses in new development and renovated buildings. *This action is supported by General Plan policy SUS-9.1.*

#### PW-1C: Recycled Water Program

In partnership with FSSD, explore the feasibility and increased application of recycled water uses in the City. *This action is supported by General Plan policy SUS-9.3*

#### PW-1D: Education and Incentives

Continue to encourage efficient water use by residents and businesses through expanded education, incentives and assistance services in compliance with Assembly Bill 1668 and SB 606, which help reduce the City's water demand and related energy use.

#### Total Estimated Reduction:

Included in the forecast (embodied energy of water supply and treatment is zero)

#### Co-benefits:

- Environmental Quality
- Cost Savings



#### Estimated Reduction:

*This action supports reduction of overall water demand.*

#### Estimated Reduction:

*This action supports reduction of overall water demand.*

#### Estimated Reduction:

*This action supports reduction of overall water demand.*

#### Estimated Reduction:

*This action supports reduction of overall water demand.*



## 4.6. CARBON SEQUESTRATION

### CS-1: Increase carbon sequestration by expanding the tree canopy by 10% by 2050.

Natural and working lands such as forests, rangelands, wetlands, farms, and urban green spaces play an important role in the natural carbon cycle by absorbing carbon dioxide from the air – a process referred to as sequestration. The 2022 Scoping Plan recognizes that carbon sequestration is essential to offset the remaining emissions from sectors that are hard to reduce. While the emissions inventory does not currently account for sequestration or technologies that remove carbon dioxide from the atmosphere, evolving climate science and guidance may allow.

#### CS-1A: Urban Forest Master Plan

Develop an Urban Forest Master Plan with a goal of increasing urban tree canopy. Prepare and maintain a community tree inventory. Prioritize tree planting and tree maintenance in areas with the lowest average tree canopy cover and explore strategies to address tree maintenance and health. This action is supported by SUS-4.1.

#### CS-1B: Urban Tree Trust

Establish a Tree Trust or Tree Endowment where the interest on the principal can be used for purchasing trees, paying for tree maintenance, or for staff resources for the Urban Forest Master Plan.

#### Total Estimated Reduction:

2,791 MTCO<sub>2</sub>e

#### Co-benefits:

- Environmental Quality
- Public Health
- Equity
- Jobs
- Adaptation

#### Estimated Reduction:

2,791 MTCO<sub>2</sub>e

#### Estimated Reduction:

*This action supports carbon sequestration.*



# 5 Monitoring, Evaluation, and Reporting

The Climate Action Plan (CAP) outlines a strategic roadmap for Fairfield to meet its 2030 greenhouse gas (GHG) emission reduction target and progress toward carbon neutrality by 2045. Recognizing that underlying assumptions and data—such as adoption rates of measures, technological advancements, cost changes, legislative updates, and co-benefits—will evolve over time, the CAP is intended to be a living document that provides flexibility for updates as new information becomes available and success is monitored over time.

This chapter identifies the monitoring framework for the CAP, along with the performance metrics, timeframe, and responsibilities to implement the GHG Reduction Strategy presented in **Chapter 4**. Available federal and state resources to help implement these programs, particularly EV programs related to ZEV vehicles, are described in **Appendix E**.

## 5.1. UPDATED BASELINE INVENTORY PROGRESS REPORTS

The City remains committed to the ongoing, incremental, and comprehensive efforts required to meet the long-term climate goals set forth in this CAP. As measures are implemented, data on the timing and success of implementation, as well as communitywide GHG emissions trends, will be used to inform updates to individ-

ual GHG reduction measures and the CAP as a whole. The intent is to allow City staff to evaluate and monitor CAP performance over time and alter or amend the plan if it is not achieving the desired outcomes. This includes continuous community engagement, providing regular progress updates, and creating opportunities for public feedback as policies and programs are developed and infrastructure is built. Ongoing monitoring and assessment are crucial to the communitywide efforts to lower GHG emissions. The City will conduct routine communitywide GHG emissions inventories supported by GHG standard protocols and climate commitments, at least every two years.

## 5.2. ANNUAL CAP MONITORING REPORT

City staff will prepare an annual monitoring report to update on the progress of the CAP implementation. This report will include the status of various actions, progress of reduction measures based on the performance metrics in Table 5-1, and updates on the GHG emissions inventory as new data becomes available. The report aims to ensure transparency and foster public engagement in the CAP implementation process. It will also inform annual presentations to the City Council and relevant commissions, such as the Planning Commission, Utilities Commission, and Parks and Recreation Commission, about the progress of actions and overall CAP objectives.

## 5.3. UPDATES TO THE CAP

As technologies and markets evolve, and the City implements the CAP actions, these reports will help track progress and identify areas needing improvement, adjustment, or replacement. The City will update the CAP every five years to reflect the findings and recommendations from the inventory updates (described in **Section 5.1.1**) and monitoring reports (described in **Section 5.1.2**). Updates will also address new state or federal legislation, market trends, or regional initiatives that may influence local climate change mitigation efforts. Moreover, the updates provide an opportunity to reassess measures and actions that were previously challenging to implement due to unavailable technologies or high upfront costs.

## 5.4. GHG REDUCTION STRATEGY IMPLEMENTATION MATRIX

**Table 5-1** summarizes the performance metrics, timeframe, and responsibilities for each GHG reduction measure and supporting action to ensure successful implementation of the CAP. A list of resources, including federal, state, and regional programs that represent opportunities for funding or partnerships that are currently available as of preparation of this CAP are included in **Appendix E**.

Table 5-1: GHG Reduction Strategy Implementation Matrix			
STRATEGY/ACTION	PERFORMANCE METRIC(S)	TIMEFRAME	RESPONSIBLE AGENCY OR PARTNER
<b>TRANSPORTATION</b>			
<b>TR-1: Deploy sufficient, reliable zero-emission refueling infrastructure</b>	<b>3,888 chargers installed</b>	<b>2050</b>	<b>Public Works- Transportation, Operations</b>
TR-1A: Charger Installation	3,888 chargers installed	2050	Public Works – Fleet Division
TR-1B: Shared Chargers Requirement	Ordinance adopted	2026	Community Development Department
TR-1C: Chargers at Public Lots and Facilities	Chargers installed	2026	Public Works
TR-1D: EV Charging Database and Wayfinding	Database developed Wayfinding to public chargers developed	2026	Public Works – Fleet and Engineering
TR-1-E: Public-Private Partnerships	Number of public/private partnerships	Ongoing	Public Works – Transportation Division; City Manager’s Office
<b>TR-2: Reduce VMT per capita by at least 3% from 2020 levels by 2030 and 8% by 2050</b>	<b>VMT per capita reduced by 3% and 8% from 2020 levels</b>	<b>2030, 2050</b>	<b>Public Works- Transportation Division; Community Development- Planning</b>
TR-2A: Sustainable Land Use and Transportation Policies	Progress as part of Annual Report	By 2050	Community Development Department- Planning; Public Works – Transportation
TR-2B: Transportation Demand Management Ordinance	Ordinance adopted	2026	Public Works – Transportation Division; Community Development- Planning; Department; City Manager’s Office
TR-2C: Transportation Demand Management Program	Program and checklist established	2026	Public Works- Transportation; City Manager’s Office
TR-2D: School Transportation, Carpool, and Safe Routes to Schools	Assessment completed	2027	Public Works- Transportation
TR-2E: Reduced Parking Requirements	Parking studies completed; new requirements established	2027	Community Development Department- Planning
TR-2F: Bike Share and E-Bike Program	Assessment completed	By 2027	Public Works-Transportation

Table 5-1: GHG Reduction Strategy Implementation Matrix			
STRATEGY/ACTION	PERFORMANCE METRIC(S)	TIMEFRAME	RESPONSIBLE AGENCY OR PARTNER
<b>TR-3: Create supportive policies and programs that facilitate ZEV uptake.</b>	<b>Incentives and Programs established</b>	<b>Multiple</b>	<b>Public Works- Transportation; Community Development Department- Planning</b>
TR-3A: ZEV Zoning Code Updates	Zoning Code changes made	By 2026	Community Development Department- Planning
TR-3B: Preferential Policies for EVs and ZEVs	Preferential policies developed	By 2026	Community Development Department- Planning
TR-3C: Zero-Emissions Ride Hailing	Curb management policies established; ride hailing incorporated into TDM checklist	By 2026	Public Works – Transportation Division
TR-3D: ZEV Car Share	Meetings held	Ongoing	Public Works – Transportation Division
TR-3E: Bay Area Electric Vehicle Coordinating Council	Meetings held	Ongoing	Public Works-Transportation Division
TR-3F: ZEV Outreach and Education	Outreach events conducted	2025, annually	Public Works- Transportation Division
TR-3G: ZEV Incentives	Incentive lists developed	By 2025	Public Works- Transportation Division
TR-3H: ZEV Workforce Development	No performance metric established	Ongoing	City Manager’s Office; Public works-Transportation division
TR-3I: Statewide Electrification of Off-Road Equipment	Outreach events to relevant businesses	Ongoing	City Manager’s Office; Public Utilities- Operations
<b>BUILT ENVIRONMENT</b>			
<b>BE-1: Encourage electrification in new buildings, decarbonize existing buildings, and enhance communitywide electric readiness.</b>	<b>Target 2,055 assessments a year</b>	<b>2030</b>	<b>Community Development Department</b>
BE-1A: Carbon Neutral New Construction	Ordinance adopted	2026	Community Development Department- Planning, Building
BE-1B: Energy Benchmarking	Ordinance adopted	2026	Community Development Department- Planning, Building
BE-1C: Building Performance Standards	Checklist developed; target 2,055 assessments a year	2026	Community Development Department- Planning, Building

<b>Table 5-1: GHG Reduction Strategy Implementation Matrix</b>			
<b>STRATEGY/ACTION</b>	<b>PERFORMANCE METRIC(S)</b>	<b>TIMEFRAME</b>	<b>RESPONSIBLE AGENCY OR PARTNER</b>
BE-1D: Building Decarbonization Strategy	Strategy developed	2030	Community Development Department- Planning, Building
BE-1E: Information on Carbon Neutrality	Materials for counter developed	2026	Community Development Department- Planning
<b>BE-2: Support the City of Fairfield's transition to renewable energy.</b>	<b>95 percent participation</b>	<b>By 2030</b>	<b>City Manager's Office; Public Works- Utilities</b>
BE-2A: Participation in MCE Deep Green	Annual increase or maintenance of enrollment rates	By 2030	City Manager's Office; Public Works- Utilities
BE-2B: Electrical Grid Infrastructure	Number of community facilities with microgrids	2026	Public Works- Operations
BE-2C: Battery Storage	Number of applications for battery storage systems	Starting 2025, annually	Public Works- Operations; PG&E
BE-2D: Solar Infrastructure	Building Code Standard adopted	2027	Community Development Department- Planning; Public Works- Operations
<b>BE-3: Reduce energy demand and consumption through energy efficiency and conservation.</b>	<b>Number of Replacements;</b>	<b>2030</b>	<b>Community Development Department</b>
BE-3A: Energy Upgrade Assistance	Materials for counter developed	2025	Community Development Department- Planning, Building
BE-3B: Energy-Compliant Technologies	Number of replacements	Initiate by 2025	Community Development Department- Building
BE-3C: Energy Efficiency Loans	Loan fund established	By 2030	City Manager's Office
<b>B-4: Lead By Example</b>	<b>Develop Plan and Associated metrics for each component</b>	<b>By 2026</b>	<b>City Manager's Office; all departments</b>
BE-4A: Develop Lead by Example Plan	Plan developed	By 2026	City Manager's Office; all departments
BE-4B: Electrify the City Vehicle Fleet	Inventory conducted Percentage of fleet electrified	By 2027	City Manager's Office; Public Works- Transportation, Operations



Table 5-1: GHG Reduction Strategy Implementation Matrix			
STRATEGY/ACTION	PERFORMANCE METRIC(S)	TIMEFRAME	RESPONSIBLE AGENCY OR PARTNER
BE-4C: Carbon Neutrality in City Buildings and Facilities	Policy developed	By 2026	City Manager's Office; Public Works- Administration, Operations
BE-4D: Transition City Accounts to MCE Deep Green	Accounts transitioned	By 2027	City Manager's Office
BE-4E: City Facilities Water Efficiency Plan	Efficiency plan developed	2030	City Manager's Office; Public works- Water, Utilities
BE-4F: Solar and Battery Power at City Facilities	Number of projects included in Capital Improvement Plan	By 2026	City Manager's Office; Public Works- Operations
<b>SOLID WASTE</b>			
<b>SW-1: Reduce the amount of solid waste that is generated and sent to landfills, especially organic waste.</b>	<b>Solid waste disposal rate of 4.25 pounds per person</b>	<b>2050</b>	<b>Public Works- Utilities; Republic Waste Services</b>
SW-1A: Solid Waste Disposal Rate	Solid waste disposal rate of 4.25 pounds per person	2050	Public Works- Utilities
SW-1B: Organic Waste Diversion and Edible Food Recovery	75 percent organic waste diversion; 20 percent food recovery	2025	Public Works- Utilities; Republic Services
SW-1C: Compost Per Capita	0.08 tons of compost per capita annually	2030-2045	Public Works- Utilities
SW-1D: Eliminate Single Use Plastics and Containers	Bills reviewed and requirements incorporated; inspections and enforcement	By 2027; annually	Public Works- Utilities; City Manager's Office
SW-1E: Construction and Demolition Waste	65 percent of C&D waste diverted	Ongoing	Public Works- Utilities Community Development – Building Division
SW-1F: Solid Waste Education and Assistance	Outreach events completed	Ongoing	Public Works- Utilities; City Manager's Office
SW-1G: Outreach and Enforcement	Fee implemented	By 2026	Public Works- Utilities
SW-1H: Expand Waste-to-Energy System	Complete solid waste landfill inventory and benchmark methane capture	Annually	Public Works- Utilities; Republic Services

Table 5-1: GHG Reduction Strategy Implementation Matrix			
STRATEGY/ACTION	PERFORMANCE METRIC(S)	TIMEFRAME	RESPONSIBLE AGENCY OR PARTNER
<b>WASTEWATER</b>			
<b>WW-1: Work with Fairfield-Suisun Sewer District to reduce emissions from wastewater treatment.</b>	<b>Performance standard established</b>	<b>2030, 2050</b>	<b>Public Works-Utilities, FSSD</b>
WW-1A: Reduce Use of Fossil Fuels	Performance standard to be established with FSSD	2030, 2050	Public Works- Utilities; FSSD
WW-1B: Capacity of Waste-to-Energy	No performance metric established	As biosolids capacity is developed	Public Works-Utilities, FSSD
<b>POTABLE WATER</b>			
PW-1: Reduce water utility emissions by 60% below 2020 levels by 2030 and 100% by 2050.	60 percent emissions reduction; 100 percent emissions reduction	2030, 2050	Public Works, Utilities, Water Community Development Department
PW-1A: Landscape Efficiency	No performance metric established	Ongoing	Public Works- Utilities, Water Community Development Department
PW-1B: Water Conservation Ordinance	Ordinance adopted	By 2026	Community Development Department
PW-1C: Recycled Water Program	Feasibility study completed	By 2027	Public Works- Utilities
PW-1D: Education and Incentives	Outreach events completed	Ongoing	Public Works- Utilities, Water; City Manager's Office
<b>CARBON SEQUESTRATION</b>			
<b>CS-1: Increase carbon sequestration by expanding the tree canopy by 10% by 2050.</b>	<b>10 percent of tree canopy over 2024 levels</b>	<b>2030</b>	<b>Public Works- Operations</b>
CS-1A: Urban Forest Master Plan	Master Plan Developed	By 2027	Public Works- Operations
CS-1B: Urban Tree Trust	Trust established	By 2026	Public Works- Operations
<i>Community Development Department – Building Safety, Economic Development, Planning divisions  City Manager's Office – Marketing and Outreach Division  Public Works Department – Fleet Management, Operations, Transportation (FAST), Utilities, Water divisions</i>			

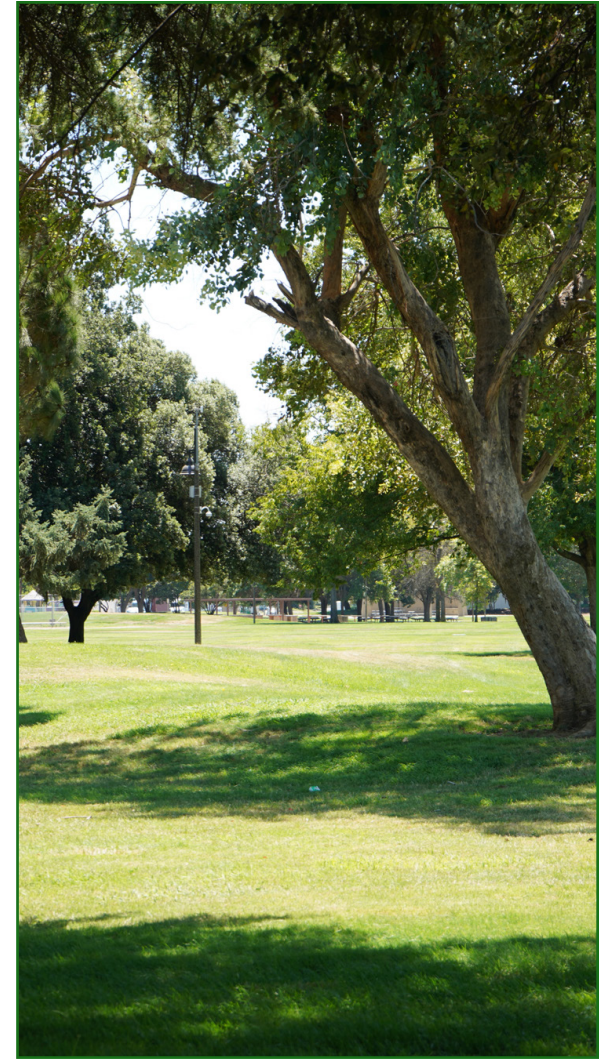
## 6 Conclusion

Fully implementing Fairfield's CAP is expected to make significant strides toward achieving its climate and GHG reduction goals. However, in the face of an unprecedented climate crisis with no easy solutions, there will still be a gap of roughly 31,742 metric tons of CO<sub>2</sub> equivalent per year in 2050 that must be addressed to achieve Fairfield's local target that aligns with statewide carbon neutrality. This shortfall represents emissions that could, in the future, be mitigated through new or updated laws, regulations, policies, programs, and ordinances from federal, state, regional, and local entities.

The City of Fairfield recognizes that achieving the 2050 goal toward carbon neutrality will require actions beyond those currently outlined in the GHG Reduction Strategy. To address this, the CAP includes a mechanism for updating and adopting a new plan every five years, with annual progress assessments. This approach allows Fairfield to incorporate new measures, legislation, and innovative technologies that will advance the City's progress on the path to carbon neutrality.

When the City identifies measures to fully achieve the 2050 target, these measures will be adopted through a public process following CEQA review. At that point, the updated CAP will become a qualified GHG emission reduction plan for projects with buildout years beyond 2030.

Despite these updates, the quantitative thresholds outlined in this guidance document will remain unchanged. As required by Action BE-1A, newly constructed residential, non-residential, and mixed-use projects with buildout years after 2030 must still demonstrate carbon neutrality, or provide alternative City-approved concessions if carbon neutrality is infeasible, to align with the Fairfield CAP. Any relevant future amendments or updates to the Fairfield General Plan will be integrated into subsequent updates of the CAP. This ensures that project applicants can continue to benefit from the streamlining process, which relies on the plan's consistency with demographic forecasts and land use assumptions based on the General Plan Land Use and Housing Elements to the greatest extent practicable.



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