City of Pittsburg Sustainability Plan

Final Draft
October **2023**

Project Team Acknowledgements

The City of Pittsburg Sustainability Plan Team extends its sincere gratitude to everyone who has supported and participated in this foundational planning process. This plan was developed through an integrated partnership between community members, City staff from all departments, including Community Development, Public Works, the City Manager's Office, and Environmental Services; and interested parties. The invaluable contributions made by the community at large, City staff, Council members, and planning experts, in addition to your unwavering support and collaborative input played an instrumental role in the development of this comprehensive plan. Voices, feedback, and input are interwoven throughout this document and your continued dedication and collaboration have been instrumental in shaping an implementable Sustainability Plan that encompasses a wide range of sustainable practices. The City is grateful for the expertise, time, and effort that each person has contributed to designing this comprehensive strategy. Specifically, we would like to thank:

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Your active involvement, feedback, and support have enriched this plan and provided alignment with our City's goals and the community's needs. Together, we look forward to continuing our collaborative efforts as we transition into the implementation phase, working towards a greener and more sustainable future.

Glossary

Term	Definition
Active Transportation	A means of transportation that is powered by human energy, for example walking or biking.
Alteration/Remodel	Any construction or renovation to an existing structure other than repair for the purpose of maintenance or addition.
Anthropogenic	Made by people or resulting from human activities; usually used in the context of emissions that are produced as a result of human activities.
Atmosphere	The envelope of gases surrounding the Earth; the gases that make up the atmosphere primarily include nitrogen (78%) and oxygen (21%), as well as argon, helium, carbon dioxide, methane, and water vapor in trace amounts.
CALGreen	An abbreviated reference to the California Green Building Standards code, which sets minimum requirements for sustainable practices for construction (residential and commercial) projects throughout the state. It is updated every three years in accordance with the building code cycle.
California Air Resources Board (CARB)	The lead agency for climate change programs that also oversees all air pollution control efforts in California to attain and maintain health-based air quality standards.
Carbon-free Energy	Energy produced by a resource that produces no carbon emissions while generating energy, for example, nuclear or large hydroelectric.
Carbon-neutrality/ Net-Zero Emissions	Balancing anthropomorphically generated emissions out by removing GHGs from the atmosphere in a process known as carbon sequestration.
Carbon sequestration	The long-term storage or capture of carbon dioxide and other forms of carbon from the atmosphere through biological, chemical, and physical processes.
CH_4	Methane, a hydrocarbon that is a greenhouse gas produced through anaerobic (without oxygen) decomposition of waste in landfills, animal digestion, decomposition of animal wastes, production and distribution of natural gas and petroleum, coal production, and incomplete fossil fuel combustion.
Climate	The average of weather patterns over a long period of time (usually 30 or more years).
Climate Change	A change in the average conditions — such as temperature and rainfall — in a region over a long period of time.

Term	Definition
Co-benefits	Additional benefits attributed to sustainable initiatives beyond greenhouse gas emissions reductions, including improved health and safety, high-road job development, connected communities, energy security, reduced reliance on fossil fuels, and community savings.
CO_2	Carbon dioxide, a naturally occurring gas and a by-product of burning fossil fuels and biomass, as well as land-use changes and other industrial processes.
CO_2e	Carbon dioxide equivalent, a metric measure used to compare the emissions from various GHGs based upon their GWP.
Decarbonization	Replacing technologies and services that run on fossil fuels (e.g., natural gas) with ones that run on zero-carbon sources of energy (for example electricity from renewable energy like solar or wind power), ideally from renewable sources.
Disadvantaged Communities	Any community disproportionally affected by environmental, health, and other burdens or low-income areas disproportionally affected by environmental pollution and other hazards.
Emissions	The release of a substance (usually a gas when referring to the subject of climate change) into the atmosphere.
Electric Vehicle (EV)	A vehicle that uses one or more electric motors or traction motors for propulsion.
Energy Storage	Can provide frequency regulation to maintain balance between the network's load and detected power generated, achieving more reliable power supplies. Batteries are an example of energy storage.
Fossil Fuel	A general term for fuel formed from decayed plants and animals that have been converted to crude oil, coal, natural gas, or heavy oils by exposure to heat and pressure in the Earth's crust.
Greenhouse Gas (GHG)	A gas that absorbs infrared radiation, traps heat in the atmosphere, and contributes to the greenhouse effect.
Global Warming Potential (GWP)	Total contribution to global warming resulting from the emission of one unit of that gas relative to one unit of the reference gas, carbon dioxide, which is assigned a value of 1.
Local Governments for Sustainability (ICLEI)	A global network of more than 1,750 local and regional governments committed to sustainable urban development – emissions estimates were calculated using ICLEI's best available methodologies.
Intergovernmental Panel on Climate Change (IPCC)	The United Nations body for assessing the science related to climate change.

Term	Definition
MCE	A not-for-profit, community choice aggregator (CCA) that provides clean energy options to residents and businesses in Marin County, California and select cities in Contra Costa, Napa, and Solano counties.
Mitigation	An action that will reduce or prevent GHG emissions, such as electrifying buildings that previously ran on natural gas.
Metric Tons (MT)	Common international measurement for the quantity of GHG emissions – one metric ton is equal to 2,205 pounds or 1.1 short tons.
Metric tons carbon dioxide equivalent (MT CO_2e)	Metric/unit that GHG emissions are reported per standard practice; when dealing with an array of emissions, the gases are converted to their carbon dioxide equivalents for comparison purposes.
Microgrid	A group of interconnected loads and distributed energy resources that act as a single controllable entity in respect to the grid. A microgrid can operate in 'island mode' and disconnect from the grid, or operate while connection to the grid.
N_2O	Nitrous Oxide, a powerful GHG with a high global warming potential; major sources of nitrous oxide include soil cultivation practices, especially the use of commercial and organic fertilizers, fossil fuel combustion, nitric acid production, and biomass burning.
Organic Material	Natural materials, for example food scraps and yard waste.
Photovoltaic (PV)	Relates to the production of electric current at the junction of two substances exposed to light (e.g., solar energy).
Representative Concentration Pathway (RCP)	Greenhouse gas concentration trajectory scenarios adopted by the IPCC.
Reach Code	A building code which requires a higher level of energy efficiency than the standard statewide code. Reach codes are allowed and encouraged under Title 24.
Renewable Energy	Energy derived from natural sources that are replenished at a higher rate than they are consumed (e.g., wind, biomass). By definition, all renewable energy is also considered "carbon-free," however, only naturally replenishing sources are considered renewable.
Resilience	Ability to anticipate, prepare for, and respond to hazardous events, trends, or disturbances related to climate.
Senate Bill (SB) 32	SB 32 is the California Senate bill in 2016 that requires there be a reduction in GHG emissions to 40% below 1990 levels by 2030.

Term	Definition
Senate Bill (SB) 1383	California's Short-Lived Climate Pollutant Reduction Strategy, which sets statewide targets to reduce compostable materials in landfills by 75% by 2025, and to rescue at least 20% of edible food currently disposed for human consumption by 2025.
Service population	Total combined residents and employees served by the community
Sequestration	The storage of carbon in plants or materials so that it cannot enter the atmosphere and cause additional warming.
Social Equity	All people having equal access to and influence on the resources and benefits of society.
Transportation Demand Management (TDM)	Transportation Demand Management focuses on how people make their transportation decisions, and facilitates greater usage of infrastructure for transit, ridesharing, walking, biking, and telework.
Urban Forest Management Plan	An Urban Forest Management Plan (UFMP) promotes the sustainability of trees in an urban space that maximizes environmental benefits while maintaining other/ linked safety and economics goals.
Vehicle Miles Traveled (VMT)	VMT is the total miles traveled by motor vehicle that are generated over a population over a given timeframe (e.g., one year).
Weather	The state of the atmosphere over a short period of time (usually an hour or a day), describing if it is hot or cold, wet or dry, calm or stormy, clear or cloudy, etc.
Zero-Emissions-Vehicle (ZEV)	A vehicle that never emits exhaust gas from the onboard source of power.
Zero Waste	The conservation of all resources by means of responsible production, consumption, reuse, and recovery of materials and packaging, without burning, and with no discharges to land, water, or air that threaten human health.

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1. Introduction

John Buckley Square

City's Sustainability Vision

The Pittsburg **Sustainability Plan** is a living document that has been designed to engage, excite, and empower our community to take incremental steps towards a healthier, more sustainable future. This plan will serve as a first step towards reducing greenhouse gas (GHG) emissions in the City and establishes practices the community can implement that are practical and result in real, positive change. As such, the primary focus of this plan is to create a more sustainable, equitable, and healthy Pittsburg, while maintaining a strong economy and reducing emissions to support California's Climate goals.

Sustainability can be defined as meeting the needs of the present without compromising the ability of future generations to meet theirs and is supported by three primary pillars: economic viability, environmental protection, and social responsibility (Figure 1).[1] Building off these pillars, this plan has been created with input from community members, interested parties, and City staff to establish a robust structure and continue cultivating a healthy, flourishing City, while reducing GHG emissions and becoming more sustainable. The City's commitment to reduce GHG emissions and become more sustainable means the community will benefit from various co-benefits, including improved health and safety, high-road job development, connected communities, energy security, reduced reliance on fossil fuels, and community savings. The co-benefits are discussed further in Chapter 3, *GHG Reduction Strategy*.

1. https://www.epa.gov/sites/default/files/2015-05/documents/sustainability_primer_v9.pdf

Background and Purpose

The plan establishes a framework for the community to work together to create positive change, with sustainability and GHG emission reductions at its core. The following section provides a brief background and purpose of this plan.

Background

The City of Pittsburg has been committed to increasing sustainable operations and policies and fostering a healthy community for many years.

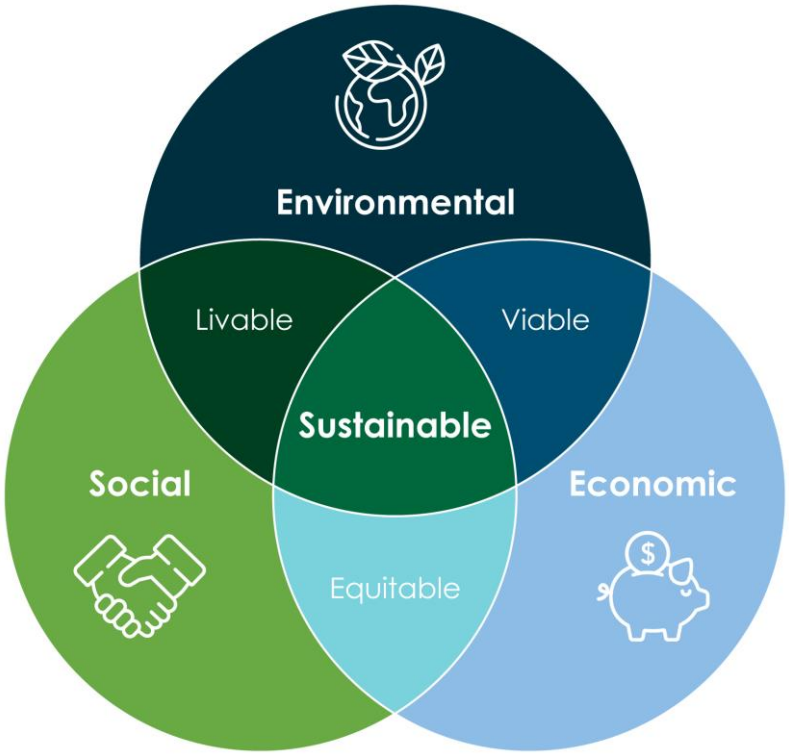
For example, the City created a Sustainability Overview reference page on the City website that includes information related to: transportation, energy use, climate action news, energy upgrade, composting, Living Green Gardens, hazardous waste, stormwater, waste and recycling, and water conservation. Pittsburg also completed a GHG inventory for 2005 and 2016 to track and understand the City's GHG emissions profile and sources. Additionally, the City has adopted a handful of documents, including Pittsburg Moves,[2] the City's Active Transportation Plan, which focuses on infrastructure and availability for active transportation options in hopes of improving health, mobility, livability, the economy, and the environment. Pittsburg Moves includes over 257 projects, such as roadway and trail improvements, including paving or repaving; installing trail crossing signals, high visibility cross walk markings, new signage, and creating high-visibility crosswalks; providing pedestrian refuge; and adding Class I and II bike lanes on various roadways throughout the City. This Sustainability Plan further demonstrates that Pittsburg is committed to reducing GHG emissions and continuing to improve life in the City.

Purpose

The Sustainability Plan is a long-range document that guides the City towards sustainability and GHG emission reduction goals. It includes the inventory of emissions sources in Pittsburg for 2005 and 2016, forecasts future GHG emissions through 2045, and establishes emissions reduction targets that align with goals set by California for both 2030 and 2045. The Sustainability Plan also includes emissions reduction goals and actions the City can implement to put the community on a path towards reducing GHG emissions with a focus on community health and our thriving economy. We recognize that the time to act is now – as a community, we can and should work together to establish a healthier future with safer homes and public spaces; more secure, high-paying jobs; and reliable access to clean resources. The structures and systems that shape our day-to-day activities can make a significant difference. According to the United Nations Intergovernmental Panel on Climate Change's (IPCC) recent report (2022), changes in lifestyle and behaviors have a significant role to play in mitigating climate change.

2. https://www.ipcc.ch/report/ar6/wg2/

Figure 1. Sustainability Pillars



Source: https://www.sciencedirect.com/topics/earth-and-planetary-sciences/venn-diagram

Specifically, actively commuting, avoiding flying when possible, shifting to plant-based diets, reducing food waste, and switching to electric vehicles and electric building heating systems are things that, with the right structures and systems in place, we can all do to reduce emissions and improve our own health, as well as the health of our communities. One of the main goals of Sustainability Plan is to bring awareness to sustainability and opportunities to reduce emissions in the community across all sectors and provide information about what we can each do today to make a difference and set our community on the path towards more significant GHG reductions. Collectively, through implementation of thoughtful actions, we can change the world by focusing locally on Pittsburg to establish a future that makes us proud.

Equity and Environmental Justice

A foundational objective of this plan is to enhance equity throughout the community while working towards long-term sustainability and GHG emission reduction goals. The City acknowledges that past policies and plans may have not equally distributed the benefits to specific communities while leaving them out of the decision-making process . Equity means ensuring that the impacts, co-benefits, and opportunities associated with this plan's goals are fairly distributed amongst the community, that the potential burdens of implementing these goals are fairly distributed, and that all communities—specifically, those who have been historically left out of the conversation before—participate in the plan's decision-making process.

As such, equity can be thought of as the goal while environmental justice is the act of achieving and protecting that goal. As outlined in the Community Health and Environmental Justice Element, a foundational objective of this plan is to consider and respond to environmental justice issues

Environmental justice is defined in California law as the fair treatment of people of all races, cultures, and incomes with respect to the development, adoption, implementation, and enforcement of environmental laws, regulations, and policies.

Government Code Section 65040.12

Anchor Monument, City Hall

to confirm disadvantaged and vulnerable communities are engaged and represented in the decision-making process, to protect disadvantaged and vulnerable communities from environmental hazards, and to create a future where such communities have access to recreation, transportation, education, community amenities, healthy foods, and safe and decent housing.

Sustainability Planning Process

As mentioned above, the Sustainability Plan development process was built off the work done for the previous GHG emissions inventories and development of future GHG emissions forecasts and emissions reduction targets. As shown in Figure 2, after the targets were set, emissions reduction goals and supporting actions were designed based on the success of the work done previously in the City and current best practices. The goals and actions were refined based on City staff, interested party, and community feedback, to establish a robust plan of voluntary actions.

Once the goals and supporting actions were finalized, an implementation plan (Chapter 5, Implementation Plan) was established to track and monitor the City's progress towards the previously identified targets. As a final step, the Sustainability Plan will be adopted after public review. Successfully developing a long-range plan takes a team, including various interested parties, community members, decision-makers, City staff, and consultants, that work together collaboratively to design a plan that is representative of the needs and the desires of the community at large.

The development of this Sustainability Plan required just that – it was developed through an integrated partnership between City staff from all departments, including Community Development, Economic Development, Public Works, the City Manager's Office, and Environmental Services; interested parties; and community members. The main community-focused outreach and engagement events that were completed as part of the Sustainability Plan development process are outlined Table 1.

Figure 2. Sustainability Plan Process Flow Diagram

Table 1. Summary of Sustainability Plan Interested Party and Community Outreach and Engagement Events

Topic	Event	Date
Introduction to Sustainability Plan	Community Pop-Up Event	August 5, 2022
Input on Sustainability Plan	Community Input Survey	December 11, 2022 – January 31, 2023
Strategy and Action Review and Prioritization	Community Open House	January 25, 2023
Reducing Vehicle Miles Traveled and Increasing Zero-Emissions Vehicle and Equipment Use	Weekly Social Media Post Virtual Climate Café	March 7, 2023 March 9. 2023
Waste Diversion	Weekly Social Media Post Virtual Climate Café	March 14, 2023 March 16. 2023
Decarbonizing Electricity and Use and Storage of Local Renewable Energy	Weekly Social Media Post Virtual Climate Café	March 21, 2023 March 23, 2023
Water Conservation and Local Water Supply	Weekly Social Media Post Virtual Climate Café	March 28. 2023 March 30, 2023
Carbon Sequestration	Weekly Social Media Post Virtual Climate Café	April 4, 2023 April 6, 2023
City's Commitment to Climate Action	Weekly Social Media Post Virtual Climate Café	April 11, 2023 April 13, 2023
Reducing Reliance of Natural Resources	Weekly Social Media Post Virtual Climate Café	April 18. 2023 April 20, 2023
Creating High Road Jobs	Weekly Social Media Post Virtual Climate Café	April 25, 2023 April 27, 2023

Co-benefits of Greatest Interest to the Community:

- Improved air and water quality
- Increased personal and public health
- Protection of natural resources
- Increased resilience
- Cost savings
- Creation of high-road jobs

"Environmental justice must be central to this work as well. We have a lot of industrial businesses in the community. Thinking through a long-term plan for making a transition to cleaner businesses is going to be crucial. Providing jobs for youth is also very important!"
- City of Pittsburg Resident

Your Voice Matters!

As part of the Sustainability Plan development process, the City hosted 10 events that were open to the community members and advertised, in part, via the City's social media pages. Additionally, the City hosted a survey with the goal of gaining an understanding of the community's current awareness of climate change and preferred path toward increasing our ability to reduce the impacts of climate change and become more sustainable, while retaining the character of the City. The survey received 71 responses, 41% (31 people) of whom participated in a public planning process (e.g., participating in community surveys, providing feedback on plans and policies, attending City Council Meetings, etc.) for the first time! In addition to the survey, the City hosted a social media and Climate Café campaign, where the Sustainability Plan goals were presented by topic area and then a discussion was held to answer any questions and collect feedback from the community on anticipated hurdles and solutions to overcome those hurdles.

Based on the feedback received from the community, 13 new actions were added, and an additional 8 actions were revised or updated, with additional highlights shown in Figure 3. The community insight is incredibly valuable for this process as it confirms that the Sustainability Plan aligns with the specific needs and aspirations of the people it aims to serve.

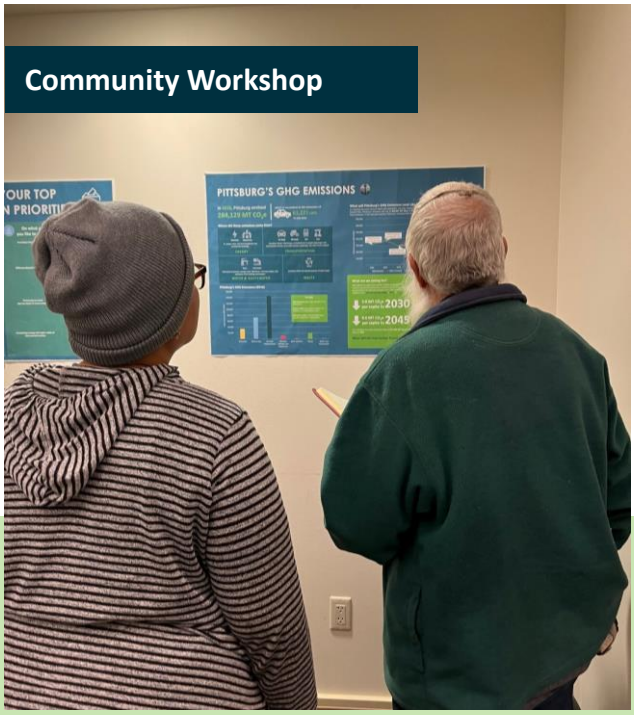


Figure 3. Outreach by the Numbers

97%

of Respondents are "**Very Likely**" or "**Likely**" to implement sustainable initiatives if hurdles were removed!

41%

first-time participation in a planning process!

71

total survey responses!

8.5

hours spent on survey!

Greenhouse Gas Emissions Background Context

Most of the energy that affects Earth's climate comes from the sun. When solar radiation reaches the Earth's atmosphere, some of it is reflected into space and a small portion is absorbed by Earth's surface. As Earth absorbs the solar radiation, its surface gains heat and then reradiates it back into the atmosphere. Some of this heat gets trapped by gases in the atmosphere, causing Earth to stay warm enough to sustain life. This is known as the "greenhouse effect" and the gases trapping the heat are known as "greenhouse gases."[3] The greenhouse effect, shown on the next page, is integral to sustaining life on Earth. However, human activities emit GHGs more than natural ambient concentrations, thereby contributing to the enhancement of the natural greenhouse effect. This enhanced greenhouse effect contributes to global warming, an accelerated rate of warming of Earth's average surface temperature. More specifically, by burning fossil fuels (e.g., gasoline, diesel, natural gas, coal) to power homes, businesses, and automobiles, we increase the amount of GHGs emitted into the atmosphere,[4] which, in turn, leads to increased absorption of infrared radiation by the Earth's atmosphere and increasing temperatures near the surface.

Types of GHGs

The United Nations Intergovernmental Panel on Climate Change's (IPCC) list of GHG emissions include carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (N_2O), as well as chlorofluorocarbons, hydrochlorofluorocarbons, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride, which are collectively called fluorinated gases.[5] Fluorinated gases are man-made gases that can stay in the atmosphere for centuries and contribute to the GHG effect. Ninety-seven percent[6] of the annual GHG emissions generated in the United States consist of CO_2, CH_4, and N_2O, while fluorinated gases[7] result in the remaining three percent of emissions. Most fluorinated gases come from industrial sources. Due to CO_2, CH_4, and N_2O comprising the large majority of GHG emissions in Pittsburg, the Sustainability Plan focuses on these three gases for its GHG emissions inventory, forecast, and reduction strategy (See Chapter 2, *GHG Emissions Inventories, Forecasts, and Targets*, for more information).

While Pittsburg does include various industrial sources, these emissions are not under direct operational control of the City and therefore are not included in the inventory.

Each type of GHG has a differing ability to trap heat in the Earth's atmosphere, referred to as the gas's global warming potential (GWP).[8] The reference point to compare the potential impact of different GHGs is CO_2, and therefore CO_2 has a GWP of 1, whereas CH_4 has a GWP of 28. This means that each metric ton (MT) of methane causes 28 times more warming than 1 MT of CO_2. Even more potent, N_2O has a GWP of 265, or 265 times the GWP of 1 MT of CO_2.[9]

Sources of GHG Emissions

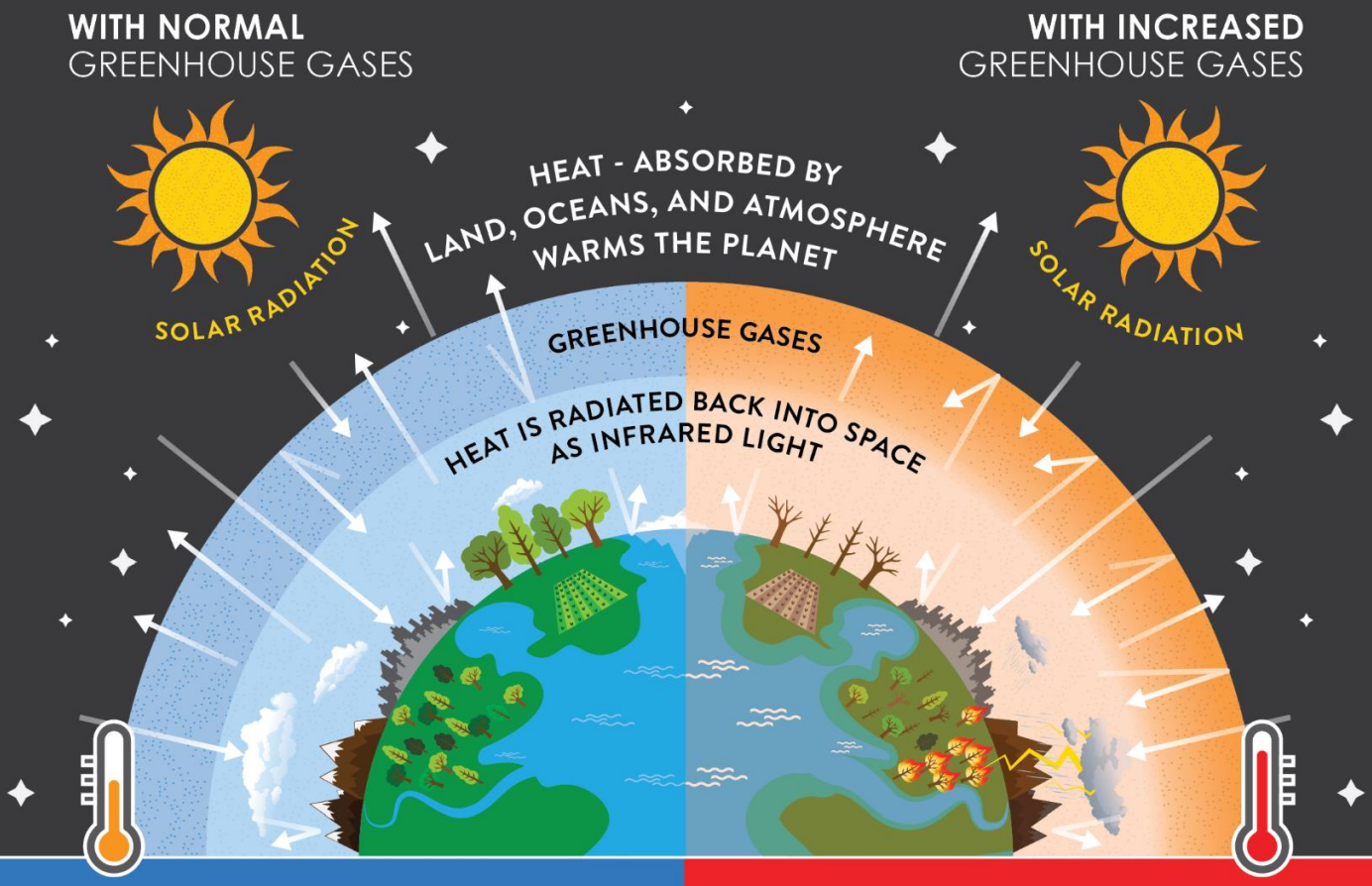
Anthropogenic (human caused) GHG emissions stem primarily from the burning of fossil fuels (including gasoline, natural gas, and coal), decomposition of organic waste in landfills, methane emissions from agriculture, and deforestation. These activities release GHGs into the atmosphere and contribute to climate change. With the accelerated increase in fossil fuel combustion and deforestation since the Industrial Revolution of the 19th century, concentrations of GHG emissions in the atmosphere have increased exponentially. The United States Environmental Protection Agency (U.S. EPA) tracks the country-wide emissions and publishes an annual report: Inventory of U.S. Greenhouse Gas Emissions and Sinks.[10] The Inventory of U.S. Greenhouse Gas

3. https://scied.ucar.edu/longcontent/greenhouse-effect
4. https://www.epa.gov/ghgemissions/sources-greenhouse-gas-emissions
5. https://www.c2es.org/content/main-greenhouse-gases/
6. https://www.epa.gov/ghgemissions/overview-greenhouse-gases
7. Fluorinated gases, which include four main types: hydrofluorocarbons, perfluorocarbons, sulfur hexafluoride, and nitrogen trifluoride, are man-made gases that can stay in the atmosphere for centuries and contribute to the GHG effect.
8. https://www.ipcc.ch/assessment-report/ar5/
9. https://www.ipcc.ch/assessment-report/ar5/
10. https://www.epa.gov/ghgemissions/inventory-us-greenhouse-gas-emissions-and-sinks

Greenhouse Gas Effect

In the last century, human activities such as burning fossil fuels and deforestation have caused a jump in the concentration of greenhouse gases in the atmosphere.

THE RESULT: Extra trapped heat and higher global temperatures.



Some heat continues into space while the rest, trapped by greenhouse gases, help maintain the planet's relatively comfortable temperatures.

LESS GAS =
LESS HEAT TRAPPED IN THE ATMOSPHERE

Retaining more reliable:

- Weather
- Rainfall
- Temperature
- Sea Level

Increased greenhouse gases means less heat escapes to space. Between preindustrial times and now, the earth's average temperature has risen by 1.8°F (1.0°C).

MORE GAS =
MORE HEAT TRAPPED IN THE ATMOSPHERE

More intense:

- Storms
- Drought
- Heat
- Sea Level Rise

Great Blue Heron in Riverview Park

Emissions and Sinks is a comprehensive account of total GHG emissions for all man-made sources in the U.S. including CO_2 removal from the atmosphere by "sinks," (e.g., through the uptake of carbon and storage in forests, vegetation, and soils) from management of lands in their current use, or as lands are converted to other uses. In 2021, the most recent year in which emissions have been calculated, emissions in the U.S. totaled 5,586 million metric tons (MMT) of CO_2e after accounting for sequestration.[11] Emissions increased in 2021 by 6 percent (after accounting for sequestration from the land sector), driven largely by an increase in CO_2 emissions from fossil fuel combustion due primarily to economic activity rebounding after the height of the COVID-19 pandemic.[12]

What does 1 MT of CO_2e really mean?

1 MT CO_2e = 2,564 miles driven by an average gasoline-powered passenger vehicle or 113 gallons of gasoline

That's about the distance from Pittsburg, CA to Pittsburgh, PA!

Source: https://www.epa.gov/energy/greenhouse-gas-equivalencies-calculator#results

Legislative Background

California is recognized globally as a leader in climate change, having established a variety of ambitious GHG reduction goals and associated strategies. The primary legislation that has driven statewide GHG emissions reductions are Executive Order (EO) S-3-05, Assembly Bill (AB) 32, EO B-30-15, Senate Bill (SB) 32, EO B-55-18, and most recently AB 1279. Signed in 2005, EO S-3-05 established statewide GHG emission reduction targets to achieve long-term climate stabilization as follows: *by 2020, reduce GHG emissions to 1990 levels and by 2050, reduce GHG emissions to 80 percent below 1990 levels*. In 2018, the goals of EO S-3-05 were accelerated by EO B-55-18, which established a goal of achieving carbon neutrality by 2045 and was codified in 2022 by AB 1279. Carbon neutrality refers to emitting net zero carbon emissions, which can be achieved by either

11. https://www.epa.gov/ghgemissions/inventory-us-greenhouse-gas-emissions-and-sinks
12. https://www.nature.com/articles/s41558-022-01332-6

eliminating all GHG emissions, or balancing carbon emissions with carbon removal and sequestration.

To meet the state's 2045 goal of carbon neutrality CARB recommends that local agencies long-term targets align with AB 1279. Specifically, CARB guidance is for jurisdictions to first strive to exceed the SB 32 targets of reducing GHG emissions 40% below 1990 levels, while establishing a policy framework to achieve the long-term target of carbon neutrality by 2045. See Figure 4 as well as Appendix A for more information on the most influential California legislation related to climate change.

Adaptation, Resilience, and Vulnerability

As we work to mitigate the greatest impacts of climate change, we must also adapt, or adjust, to our changing world both collectively and independently. Even with deep reductions in GHG emissions, it is anticipated that the global temperatures will continue to rise because GHG persist for so long in the atmosphere.[13] Therefore, it is necessary to prepare for the future to increase our adaptive capacity, which is the potential or ability of a system, region, or community to adapt to the effects or impacts of climate change.

Adaptation

Adapting to climate change involves adjusting to and preparing for actual or expected future climate risks as well as taking advantage of any opportunities that are associated with our changing climate.[14] Climate change affects people across the world, however, not equally. Over the last decade, scientists have measured the warmest years on record, while sea level rise has reached a new high.[15] We will adapt to the changing climate by reducing our vulnerability to its impacts, which may require relocating resources to avoid rising sea levels and using new and innovative technologies to overcome challenges.

13. https://www.ipcc.ch/2021/08/09/ar6-wg1-20210809-pr/
14. https://climate.nasa.gov/solutions/adaptation-mitigation/
15. https://public.wmo.int/en/media/press-release/eight-warmest-years-record-witness-upsurge-climate-change-impacts

Figure 4. CA Regulatory Timeline

2002	**SB 1078** Renewable Portfolio Standards **AB 1493** Vehicular GHG Emissions
2005	**EO S-3-05** Targets for GHG Emission Reductions **Pittsburg Baseline Emissions Inventory**
2006	**AB 32** Global Warming Solutions Act **SB 107** Renewable Energy Increase
2007	**EO S-1-07** Low Carbon Fuel Standard **SB 97** Climate Change in CEQA
2008	**SB 375** Sustainable Communities **EO S-14-08** Increase RPS
2009	**CALGreen** Green Building Code **SB X7-7** Water Conservation Act
2011	**SB 2X** 33% by 2020 RPS Increase
2012	**AB 341** Mandatory Commercial Recycling
2014	**AB 32 Scoping Plan Update** **AB 1826** Organic Waste Recycling
2015	**SB 350** Clean Energy and Pollution Reduction Act **EO-30-15** 40% below 1990 by 2030
2016	**SB 1383:** Short-lived Climate Pollutants **SB 379** Climate Adaptation and Resilience **Updated Emissions Inventory**
2017	**2017 (AB 32) Scoping Plan Update**
2018	**SB 100** Increase RPS **EO B-55-18** Carbon Neutrality by 2045
2020	**SB N-79-20** Zero-emissions passenger vehicles **Pittsburg Moves**
2021	**SB 27** Carbon sequestration
2022	**SB 379** Residential solar energy systems: permitting **SB 1063** appliance standards and cost-effective measures **AB 1909** Vehicles: bicycle omnibus bill **AB 1857** Solid Waste Incineration **AB 1985** Organic waste procurement targets **AB 1279** California Climate Crisis Act **SB 1020** Increase RPS
2023	**Pittsburg Sustainability Plan** **Envision Pittsburg – General Plan**

Pittsburg Initiatives
State Initiatives

Resilience

The ability to prepare for, recover from, and adapt to climate impacts is called "climate resilience." High-quality resilience planning accounts for both acute events (e.g., heat waves, heavy rain events, and wildfire) and chronic events (e.g., sea level rise, worsening air quality, and climate migration). Overall, California is resilient and Cities throughout the state, including Pittsburg, take steps to enhance resilience by protecting and repairing coastlines, exploring and implementing large scale renewable energy projects, and investing in green technologies of the future. Additional ways to increase resilience include promoting sustainable land management practices, fostering community engagement and education on climate change, encouraging the use of green building materials and designs, and integrating nature-based solutions such as reforestation and ecosystem restoration.

Vulnerability

Vulnerability refers to the level or degree to which an individual or entity are able to cope with the adverse impacts of climate change. The three dimensions that make up climate vulnerability are exposure, sensitivity, and adaptive capacity.

Located at the point where the Sacramento and San Joaquin Rivers meet, ***Pittsburg is a city of both progress and promise.***[16]

Our Changing World

The California Office of Environmental Health Hazard Assessment (OEHHA) reported in 2018 that despite annual variations in weather patterns, California has seen a trend of increased average temperatures, more extreme heat days, higher acidity in the Pacific Ocean, and earlier and reduced snowmelt.[17] Although we will all be impacted, community members will not be affected by environmental hazards in the same way. Impact is dependent on various circumstances, such as age, health, and socioeconomic status. Being resilient will require the City to adapt to these vulnerabilities and continue to operate in a sustainable way to continue establishing a healthy environment and a thriving economy.

Those that are most vulnerable will bear the greatest burden associated with the potential impacts of our changing climate. Race, ethnicity, gender identity, sexual orientation, age, social class, physical ability, religious or ethical value systems, national origin, immigration status, linguistic ability, and zip code do not make an individual inherently vulnerable. Vulnerabilities arise from systemic deficiencies rather than a judgement of any community member or neighborhood. This document provides a foundation to even the playing field and to ultimately reduce potential burdens of climate change, especially on vulnerable populations and disadvantaged communities.

Climate Change in Pittsburg

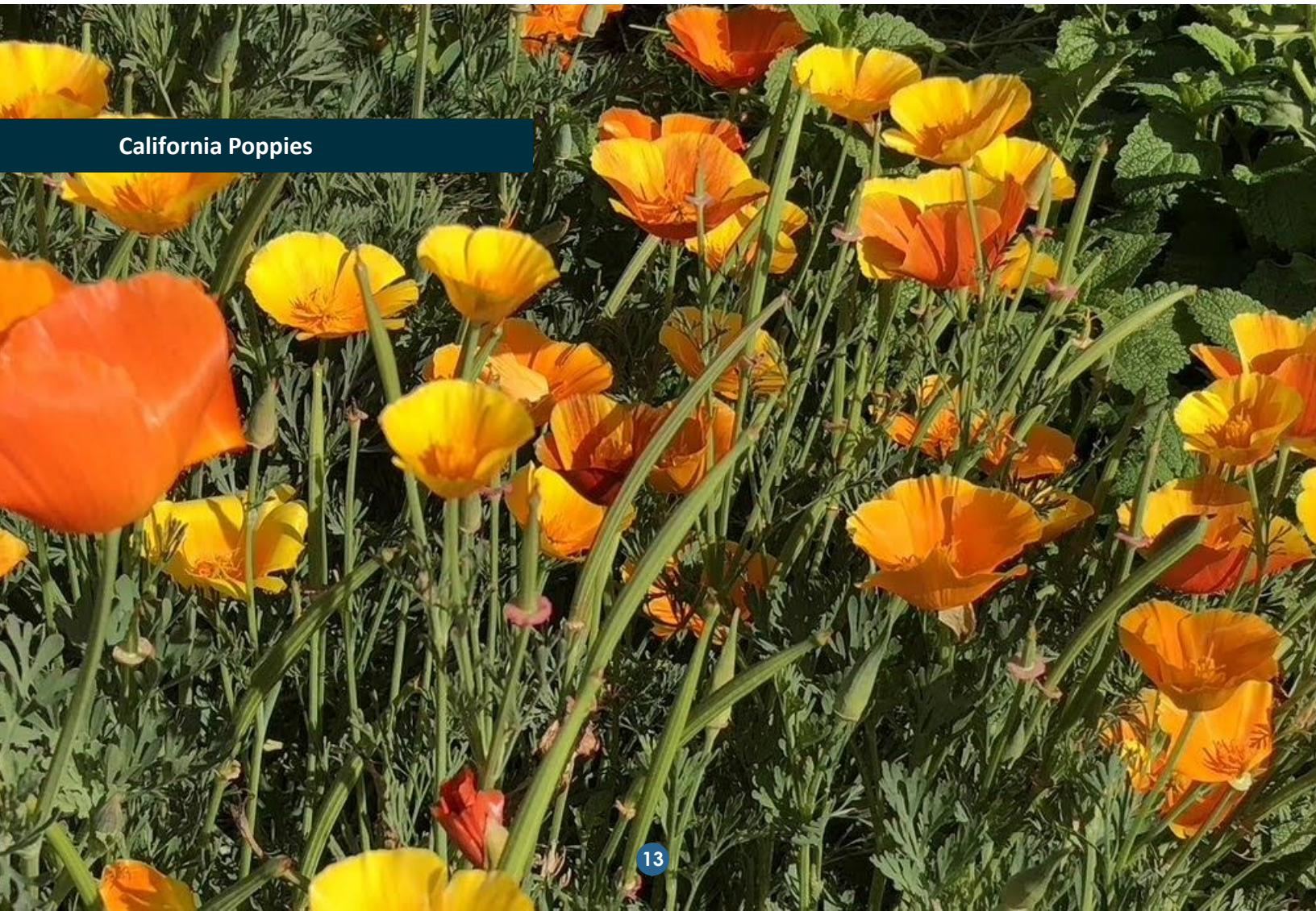
The City of Pittsburg may experience a variety of impacts due to climate change, including an increase in average temperature and changes in precipitation. Public health may be negatively impacted by extreme weather events, such as changes in temperature and rainfall that decrease water supply, worsen air quality, and/or increase allergens and air pollutants. In addition, we will experience increased flooding due to more intense precipitation events. Children, the elderly, asthmatics, and others susceptible to harm from air pollution exposure, are at the greatest risk of the negative impacts associated with climate change.[18] Increases in temperature could also worsen local heat island effects in Pittsburg and the surrounding area, meaning that urban areas could experience a compounded level of heating due to built environments absorbing and re-emitting more heat than rural communities with more natural landscapes.[19]

16. https://www.pittsburgca.gov/our-city/our-history
17. https://oehha.ca.gov/media/downloads/climate-change/report/2018caindicatorsreportmay2018.pdf
18. https://ww2.arb.ca.gov/capp-resource-center/community-assessment/sensitive-receptor-assessment
19. https://www.epa.gov/heatislands/learn-about-heat-islands

This could lead to hazardous conditions such as heat stroke and respiratory ailments for community members. Potential impacts to public health include premature death from heat stroke, cardiovascular disease, respiratory disease, and cerebrovascular disease; cardiovascular stress; and kidney and respiratory disorders.[20] Those in the community without health insurance (about 12.6 percent of the population under 65) and those living under the poverty line (approximately 10.3 percent of the population) are particularly vulnerable.[21] Projections of future vulnerabilities were taken from Cal-Adapt,[22] an interactive platform that allows users to explore how climate change might affect California at the local level under different emissions scenarios and climate models. The main emissions scenario used in this analysis is Representative Concentration Pathway (RCP) 8.5, or known as the high emissions scenario, which assumes high population, slow technological progress, and no policy driven mitigation. For an extensive view of potential impacts, RCP 4.5 is also used below. This scenario, known as the stabilizing scenario, assumes emissions peak around 2040 before declining due to the use of emissions reduction technologies and strategies.

Based on the analysis, average maximum temperatures in the City of Pittsburg are expected to rise between 4.7°F (under RCP 4.5, the stabilizing scenario) and 7.8°F (under RCP 8.5, the high emissions scenario) between the baseline (1961 – 1990) and the end of the century (2070 – 2099). Likewise, the average minimum temperature in Pittsburg will increase under both scenarios, with minimum temperatures expected to rise by 4.2°F (under RCP 4.5) and 7.3°F (under RCP 8.5) between the baseline (1961 – 1990) and the end of the century (2070 – 2099). In Pittsburg, extreme heat days are defined as days with temperatures over 100.2°F. By the end of the century, it is anticipated that there will be 19 extreme heat days under RCP 4.5 and 34 extreme heat days under RCP 8.5, up from approximately 4 days

20. https://www.niehs.nih.gov/research/programs/climatechange/health_impacts/heat/index.cfm
21. https://www.census.gov/quickfacts/fact/table/pittsburgcitycalifornia/AGE775221#AGE775221
22. https://cal-adapt.org/

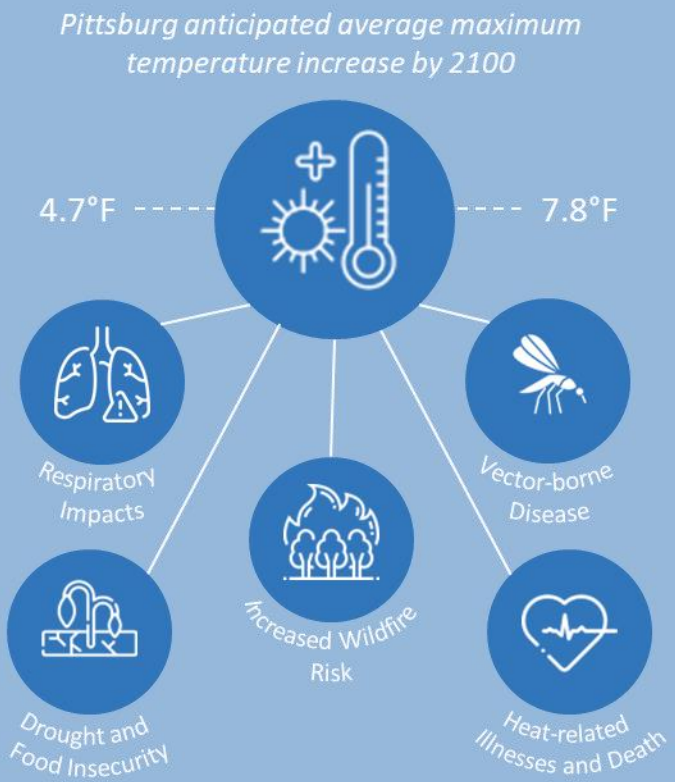


California Poppies

over the 30-year modeled average for 1961 – 1990. Simultaneously, it is anticipated that the maximum length of dry spell, which is defined as the number of consecutive days with less than 1 millimeter of rain, will also increase. Under RCP 4.5, it is anticipated that the maximum length of dry spell will increase by 10 days, from 117 days to 127 days, and under RCP 8.5, it is anticipated to increase by 15 days, to 132. Figure 5 provides a comparison of the anticipated changes in Pittsburg under both scenarios, with more information provided in Appendix B, CalAdapt.

Despite the very real impacts of climate change, there is hope. Hope that is based in science and provides a realistic path forward for us to truly change the world in which we live, work, and play. The Sustainability Plan includes actions in which every part of the community – residents, property owners, businesses, and City government – can participate to improve quality of life. The City of Pittsburg will strive to set an example by doing its part to achieve sustainable goals and fostering a safe, healthy, vibrant, and resilient community. We're excited to work together to build a more sustainable and resilient future!

Figure 4. Climate Changes and Risks in Pittsburg



Recycled Water Irrigation Signage

2. GHG Emissions Inventories, Forecasts, & Targets

Existing GHG Emissions

A GHG emissions inventory identifies the major sources and quantities of GHG emissions produced by community wide activities within a jurisdiction's boundaries for a given year, including the subset of emissions generated by City government (municipal) operations, each of which are summarized in more detail below. Estimating GHG emissions enables local governments to establish an emissions baseline, track emissions trends, identify the greatest sources of GHG emissions within their jurisdiction, and set targets for future reductions.

The Sustainability Plan builds off the 2005 baseline and updated 2016 inventory of GHG emissions from community wide and municipal activities within the City. The 2016 GHG emissions inventory was completed to provide an updated emissions inventory and help measure the GHG emissions reduction progress since 2005. Additionally, the 2005 baseline emissions inventory was updated at the time that the 2016 inventory was drafted to establish a consistent comparison of the City of Pittsburg's change in emissions over time. Both the 2005 and 2016 inventories include GHG emissions from the community, as well as municipal emissions that are generated by City buildings and operations. It is important to note that the municipal operations inventory is a portion of the community inventory, meaning that the municipal emissions are included within the community-wide inventory, and are completed to demonstrate City leadership.

Both inventories are divided into four sectors, or sources of emissions: energy (electricity and natural gas), transportation, solid waste, and water (consumption and wastewater treatment). Emissions estimates were calculated using the International Council for Local Environmental Initiatives (ICLEI) methodologies, specifically, the United States Community Protocol for Accounting and Reporting Greenhouse Gas Emissions Version 1.2 (Community Protocol) is used for community-wide emissions and the Local Government Operations Protocol Version 1.1 (LGOP) was used to quantify municipal emissions. To allow for comparison among GHG emissions sources, all emissions are translated to the equivalent of one metric ton of carbon dioxide, or MT CO_2e. One MT CO_2e is the equivalent of using 113 gallons of gasoline or driving 2,564 miles in an average gasoline-powered vehicle.[23]

2016 Community Emissions

In 2016, Pittsburg emitted approximately 284,129 MT CO_2e. As shown in Table 2 and Figure 6, the transportation sector was the largest source of emissions, generating approximately 155,918 MT CO_2e, or approximately 55 percent of total 2016 emissions. Electricity and natural gas consumption within the residential and commercial sectors was the second largest source of emissions, generating 105,037 MT CO_2e, or 37 percent of the total in 2016. Waste generation, including processing and the decomposition of waste, resulted in seven percent of the City's emissions (20,269 MT CO_2e), while water use and wastewater generation resulted in the remaining approximately one percent of total emissions in 2019, which equates to 2,906 MT CO_2e.

Changes Since 2005

Overall, GHG emissions have decreased by approximately 79,770 MT CO_2e or 22 percent between 2005 and 2016. This decrease was driven primarily by a 58 percent reduction in emissions generated by electricity due to an increase in renewable energy causing a significant decrease in the emission factor for electricity. Emissions from residential natural gas use also decreased, whereas commercial natural gas use slightly increased during the same timeframe. Together, these changes equated to a 30 percent reduction in building energy emissions over the decade. Likewise, total transportation emissions decreased by 25 percent, however, emissions from off-road vehicles and equipment increased by approximately seven percent between 2005 and 2016. Waste emissions stayed relatively constant between the two years, and emissions from water were reduced by over 50 percent. See Table 3 for details on the change in GHG emissions from 2005 to 2016. For additional details on the 2005 inventory sectors and results, see Appendix C.

23. https://www.epa.gov/energy/greenhouse-gas-equivalencies-calculator?unit=gasoline&amount=2445

Table 2. Community Greenhouse Gas Emissions Inventory (2016)

Sector and Primary Sources	2016 Emissions (MT of CO_2e)	% of 2016 Emissions
Energy	**105,037**	**37**
Electricity use in residential and non-residential buildings	30,442	11
Natural gas use in residential and non-residential buildings	71,959	25
Electricity transmission and distribution losses	2,636	1
Transportation	**155,918**	**55**
On-road transportation	145,013	51
Off-Road Vehicles and Equipment	9,928	3
BART passenger rail	163	<1
Port transport and goods movement	815	<1
Waste	**20,269**	**7**
Decomposition of solid waste sent to landfills	20,269	7
Water and Wastewater	**2,906**	**1**
Electricity used to treat, transport, and pump water	1,917	1
Wastewater collection and treatment	989	<1
Total	**284,129**	**100.0 %**

Notes: MT CO_2e = Metric tons of carbon dioxide equivalent.
Emissions have been rounded to the nearest whole number and therefore sums may not match.

Figure 6. Community Greenhouse Gas Emissions Inventory (2016)

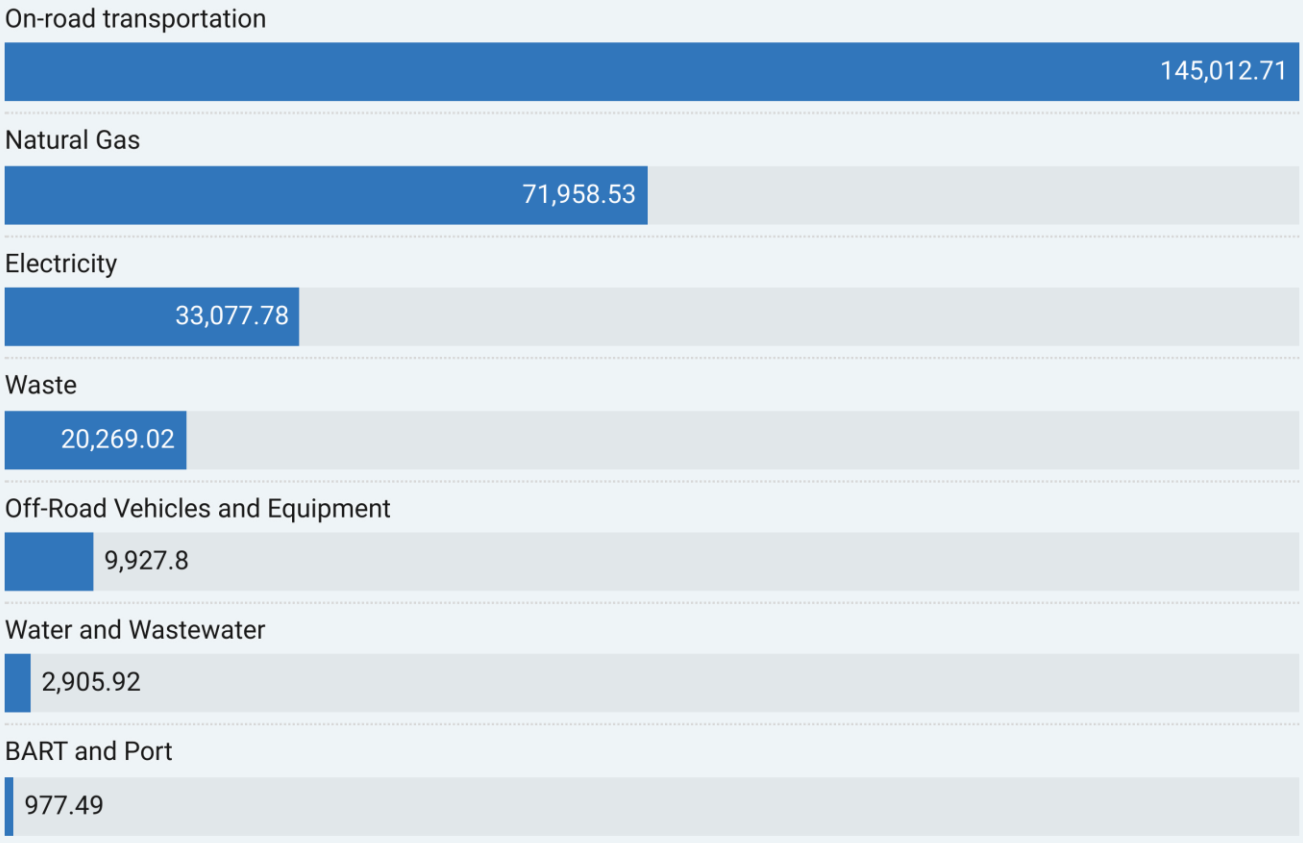


Table 3. Change in Greenhouse Gas Emissions Between 2005 and 2016

Sector and Primary Sources	2005	2016	Change	Percent Change (%)
Energy (MT of CO_2e)	**150,110**	**105,037**	**-45,074**	**-30%**
Electricity use in residential and non-residential buildings (MT of CO_2e)	72,249	30,442	-41,808	-58%
Natural gas use in residential and non-residential buildings (MT of CO_2e)	73,960	71,959	-2,001	-3%
Electricity transmission and distribution losses (MT of CO_2e)	3,901	2,636	-1,265	-32%
Transportation (MT of CO_2e)	**187,784**	**155,918**	**-31,866**	**-17%**
On-road transportation (MT of CO_2e)	175,229	145,013	-30,217	-17%
Off-Road Vehicles and Equipment (MT of CO_2e)	9,248	9,928	679	7%
BART passenger rail (MT of CO_2e)	1,170	163	-1,007	-86%
Port transport and goods movement (MT of CO_2e)	2,136	815	-1,322	-62%
Waste (MT of CO_2e)	**20,101**	**20,269**	**168**	**1%**
Decomposition of solid waste sent to landfills (MT of CO_2e)	20,101	20,269	168	1%
Water and Wastewater (MT of CO_2e)	**5,903**	**2,906**	**-2,997**	**-51%**
Electricity used to treat, transport, and pump water (MT of CO_2e)	4,708	1,917	-2,791	-59%
Wastewater collection and treatment (MT of CO_2e)	1,195	989	-206	-17%
Community-wide Total Emissions (MT of CO_2e)	**363,899**	**284,129**	**-79,770**	**-22%**
Population	61,120	69,805	8,685	14%
Community-wide Total Emissions per Capita (MT of CO_2e/person)[1]	**5.95**	**4.07**	**-1.88**	**-32%**

Notes: MT CO_2e = Metric tons of carbon dioxide equivalent.
Emissions have been rounded to the nearest whole number and therefore sums may not match.

1. The inventories are translated to per capita emissions by dividing mass emissions by population for each year.

The decrease in Pittsburg's GHG emission can also be evaluated on a per capita basis to capture the population and economic growth experienced in the period between the two GHG inventories. Even though Pittsburg's service population increased by 14 percent between 2005 and 2016, overall GHG emissions decreased by 22 percent. This equates to a reduction in per capita GHG emissions by 32 percent over the eleven-year period, as shown at the bottom of Table 3.

While the overall GHG emission reductions set us on the right path towards our 2030 GHG reduction target, more work is needed to allow Pittsburg to continue reductions. As demonstrated in Table 5, GHG emissions per capita will continue to decrease through 2045. However, this decrease will occur at a much slower rate than seen between 2005 and 2016. Historically, Pittsburg experienced emission reductions from renewable energy and efficiency gains. These reductions were enough to overcome population and economic growth. In the future, emission reductions from state regulations that can be quantified today will not overcome the projected growth in Pittsburg's population and economy. This means overall GHG emissions will increase through 2045 without local action.

Municipal Emissions

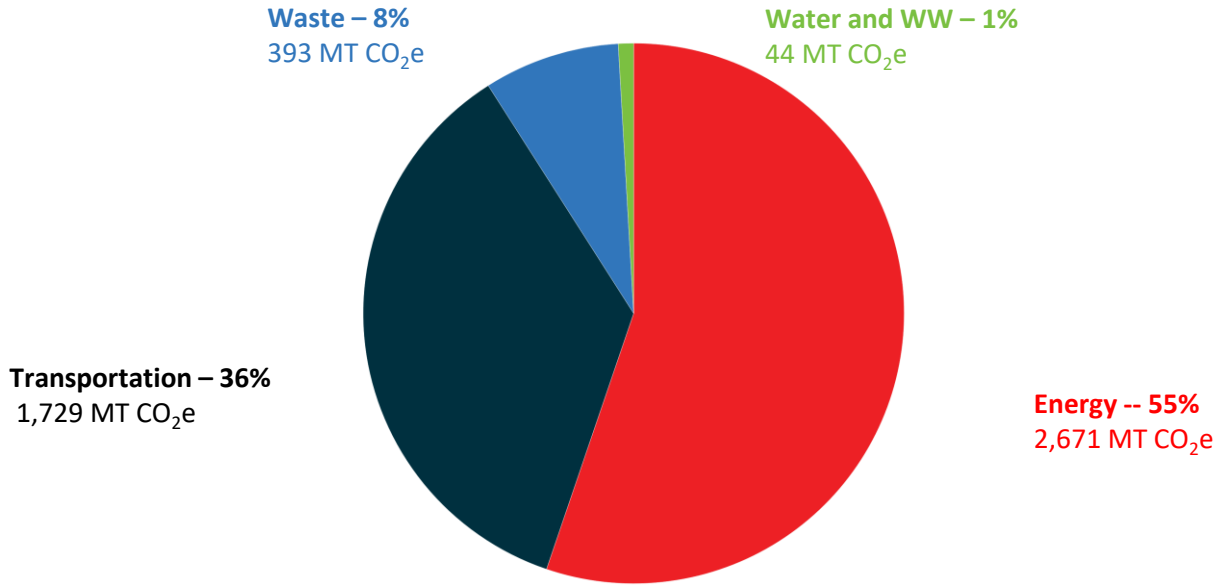
In 2016, the City of Pittsburg's GHG emissions associated with municipal operations totaled 4,837 MT CO_2e. As shown in Table 4 and Figure 7, emissions from the City's energy use were the largest sector (2,671 MT CO_2e, or 55 percent). The second largest source of emissions (1,729 MT CO_2e, or 36 percent) was from the vehicle and transit fleet, as well as employee commute to municipal facilities. The remaining emissions were generated using water and generating wastewater by municipal staff at City-owned facilities, which generated 44 and 393 MT CO_2e, respectively, resulting in a total of nine percent of the annual emissions. For additional details on the sectors included in the 2016 municipal GHG inventory, see Appendix D.

Table 4. Municipal Greenhouse Gas Emissions Inventory (2016)

Sector and Primary Sources	2016 Emissions (MT of CO_2e)	% of 2016 Emissions
Energy	**2,671**	**55%**
Electricity	2,347	48%
Natural gas	325	7%
Transportation	**1,729**	**36%**
Employee commute	339	7%
Vehicle and Transit Fleet	1,390	29%
Waste	**393**	**8%**
Methane generated from decomposition of solid waste sent to landfills	393	8%
Water	**44**	**1%**
Electricity used to treat, transport, and pump water and wastewater to City facilities	44	1%
Total	**4,837**	**100%**

Notes: MT CO_2e = Metric tons of carbon dioxide equivalent.
Emissions have been rounded to the nearest whole number and therefore sums may not match.

Figure 7. Municipal Greenhouse Gas Emissions Inventory (2016)



GHG Emissions Forecast

Emissions forecasts provide an estimate of future GHG emissions. The future GHG emissions levels are projected using the 2016 inventory based on a continuation of current activities and projected change in the community over time. The forecast accounts for current and future legislative actions from the state government and is used to help identify actions that must be taken now to meet future GHG reduction targets. This Sustainability Plan identifies GHG emissions reduction targets for the years 2030 (i.e., SB 32 target year) and 2045 (i.e., AB 1279 target year).

Business-as-Usual

A business-as-usual (BAU) forecast assumes that no additional efforts or legislative actions will be made to reduce GHG emissions in the future. The BAU forecast projects changes in population, housing, employment, and transportation activity over time, as detailed in the City's General Plan. The BAU forecast does not account for GHG emissions reductions associated with local GHG reduction strategy implementation or additional legislative actions. The BAU forecast projects how GHG emissions would change in the years 2030, 2035, 2040, and 2045. As shown in Table 5 below, Pittsburg's business-as-usual GHG emissions are projected to increase to 423,267 MT CO_2e in 2030, 481,579 MT CO_2e in 2035, 539,891 MT CO_2e in 2040, and 604,997 MT CO_2e in 2045. Appendix E provides additional details on the projected changes in Pittsburg's population, housing, and employment and the BAU forecasted GHG emissions.

Adjusted Forecast

An adjusted forecast accounts for state regulations that require the reduction of future GHG emissions within the state. Several state regulations (e.g., SB 100, 2019 Title 24 Energy Efficiency Standards, Advanced Clean Truck Rule) have been enacted that will reduce future GHG emissions.

These regulations have been incorporated into an adjusted forecast, which provides a more accurate picture of future emissions growth and the emission reduction the City and community will be responsible for after state regulations have been implemented. As shown in Table 5, Pittsburg's adjusted GHG emissions are projected to increase to 329,938 MT CO_2e in 2030, 345,821 MT CO_2e in 2035, 360,264 MT CO_2e in 2040, and 379,140 MT CO_2e in 2045. Additional details on the GHG adjusted forecast and the state regulations included are provided in Appendix B.

GHG Emissions Targets

GHG reduction targets are used for sustainability and climate action planning to establish measurable metrics intended to guide the community's commitment to begin reducing GHG emissions and help gauge progress on reducing emissions over time. After analyzing the City's 2016 inventory and forecast scenarios, emission targets were set to create quantitative goals that will further the City's ability to measure emission reduction progress from the forecasted scenarios.

Table 5. Pittsburg Business-as-Usual and Adjusted GHG Forecast

Emissions Forecast	2030	2035	2040	2045
Business as Usual Forecast (MT CO_2e)	423,267	481,579	539,891	604,997
Emission Reductions from State Initiatives (MT CO_2e)	116,506	135,758	190,401	225,857
Adjusted Forecast (MT CO_2e)	**329,938**	**345,821**	**360,264**	**379,140**
Population	85,934	90,780	95,626	101,312
Per Capita Adjusted Forecast (MT CO_2e/person)[1]	**3.84**	**3.81**	**3.77**	**3.74**

Notes: MT CO_2e = Metric tons of carbon dioxide equivalent.
Emissions have been rounded to the nearest whole number and therefore sums may not match.

1. The adjusted forecast is translated to per capita emissions by dividing mass emissions by population for each year.

In accordance with state guidance, Pittsburg has chosen to set efficiency, or per capita, GHG emission reduction targets (i.e., MT CO_2e per capita) as part of this Sustainability Plan.[24] These types of targets will guide the City towards the state's emission reduction goals while accounting for the City's expected population growth. Table 6 below shows what Pittsburg's GHG emission reduction targets would be if aligned with the state's 2030 goal (i.e., reducing 1990 per capita GHG emissions 40 percent by 2030)[25] prior to reaching the state's long-term goal of carbon neutrality by 2045. However, this target pathway allows Pittsburg's mass emissions, defined as the total emissions generated in the City, to increase above 2016 emission levels before 2030 (shown in the bottom row of Table 6), making future progress towards carbon neutrality more difficult. To account for the City's expected population growth while remaining in line with the reduction path to achieve the state's long-term 2045 goal, Pittsburg has decided to choose a more proactive 2030 GHG emission reduction target based on mass or total Citywide emissions, as shown in Table 7. As such, the following GHG reduction targets have been established by the City of Pittsburg:

- Reduce GHG emissions to 3.0 MT CO_2e per capita by 2030 (the SB 32 target year)
- Reduce GHG emissions to 0.0 MT CO_2e per capita by 2045 (the AB 1279 target year)

Table 7 and Figure 8 on the following page show Pittsburg's established emission reduction targets, the targets translated to a mass emissions pathway, and the emissions remaining each year. The emissions remaining represent the emissions between Pittsburg's adjusted forecast and the established GHG emission reduction targets—these are the emissions after state regulations that Pittsburg would need to reduce through local action to meet their targets. Pittsburg would be required to reduce 72,136 MT CO_2e by 2030, 164,261 MT CO_2e by 2035, 264,638 MT CO_2e by 2040, and 379,140 MT CO_2e by 2045 to meet their targets. The goals and actions developed by City staff and the community in the following section (Section 3, *Emissions Reductions Strategies*) will help the City begin making progress towards reducing these remaining emissions gaps and meeting their future GHG reduction targets. See Appendix E for more information on the GHG emission reduction targets and the target setting process.

24. https://ww2.arb.ca.gov/sites/default/files/2023-04/2022-sp.pdf
25. Per the General Plan Guidelines from the Governor's Office of Planning and Research, 1990 emissions were estimated under the assumption that 2005 emission levels were 15% higher than 1990 levels. https://opr.ca.gov/docs/OPR_C8_final.pdf.

Table 6. SB 32 Per Capita GHG Emissions Target Pathway Scenario

Emissions Forecast or Pathway	2030 (MT CO_2e)	2035 (MT CO_2e)	2040 (MT CO_2e)	2045 (MT CO_2e)
Adjusted Forecast (MT CO_2e)	329,938	345,821	360,264	379,140
Population	85,934	90,780	95,626	101,312
Per Capita Adjusted Forecast (MT CO_2e/person)[1]	3.84	3.81	3.77	3.74
SB 32 Per Capita Target Pathway (MT CO_2e/person)[2]	3.90	2.60	1.30	0
SB 32 Per Capita Target Pathway Translated to Mass Emissions (MT CO_2e)[3]	335,303	236,141	124,373	0
Remaining Emissions Gap (MT CO_2e)[4]	**-5,365**	**109,680**	**235,890**	**379,140**

Notes: MT CO_2e = Metric tons of carbon dioxide equivalent

Emissions have been rounded to the nearest whole number and therefore sums may not match.

1. The adjusted forecast is translated to per capita emissions by dividing mass emissions by population for each year.

2. The target pathway is calculated by reducing 1990 per capita emissions (i.e., 6.5 MT CO_2e/person) by 40% in 2030 and to zero in 2045. This provisional target pathway is consistent with both SB 32 and a trajectory set forth to achieve AB 1279.

3. The target pathways are translated to mass emissions by multiplying the per capita emissions target by the City's estimated population in the respective year. Actual mass emission targets will depend on the City's actual population in the future years.

4. The remaining emissions gaps are calculated by subtracting the mass emission targets from the adjusted forecast for each year.

5. The target pathway is calculated by reducing per capita emissions to 3.00 MT CO_2e/person in 2030 and zero in 2045.

Table 7. Pittsburg GHG Reduction Target Pathway and Remaining Emissions Gap

Emissions Forecast or Pathway	2030 (MT CO_2e)	2035 (MT CO_2e)	2040 (MT CO_2e)	2045 (MT CO_2e)
Adjusted Forecast (MT CO_2e)	329,938	345,821	360,264	379,140
Population	85,934	90,780	95,626	101,312
Per Capita Adjusted Forecast (MT CO_2e/person)[1]	3.84	3.81	3.77	3.74
SB 32 Per Capita Target Pathway (MT CO_2e/person)[2]	3.00	2.00	1.00	0
SB 32 Per Capita Target Pathway Translated to Mass Emissions (MT CO_2e)[3]	257,802	181,560	95,626	0
Remaining Emissions Gap (MT CO_2e)[4]	**72,136**	**164,261**	**264,638**	**379,140**

Notes: MT CO2e = Metric tons of carbon dioxide equivalent

Emissions have been rounded to the nearest whole number and therefore sums may not match.

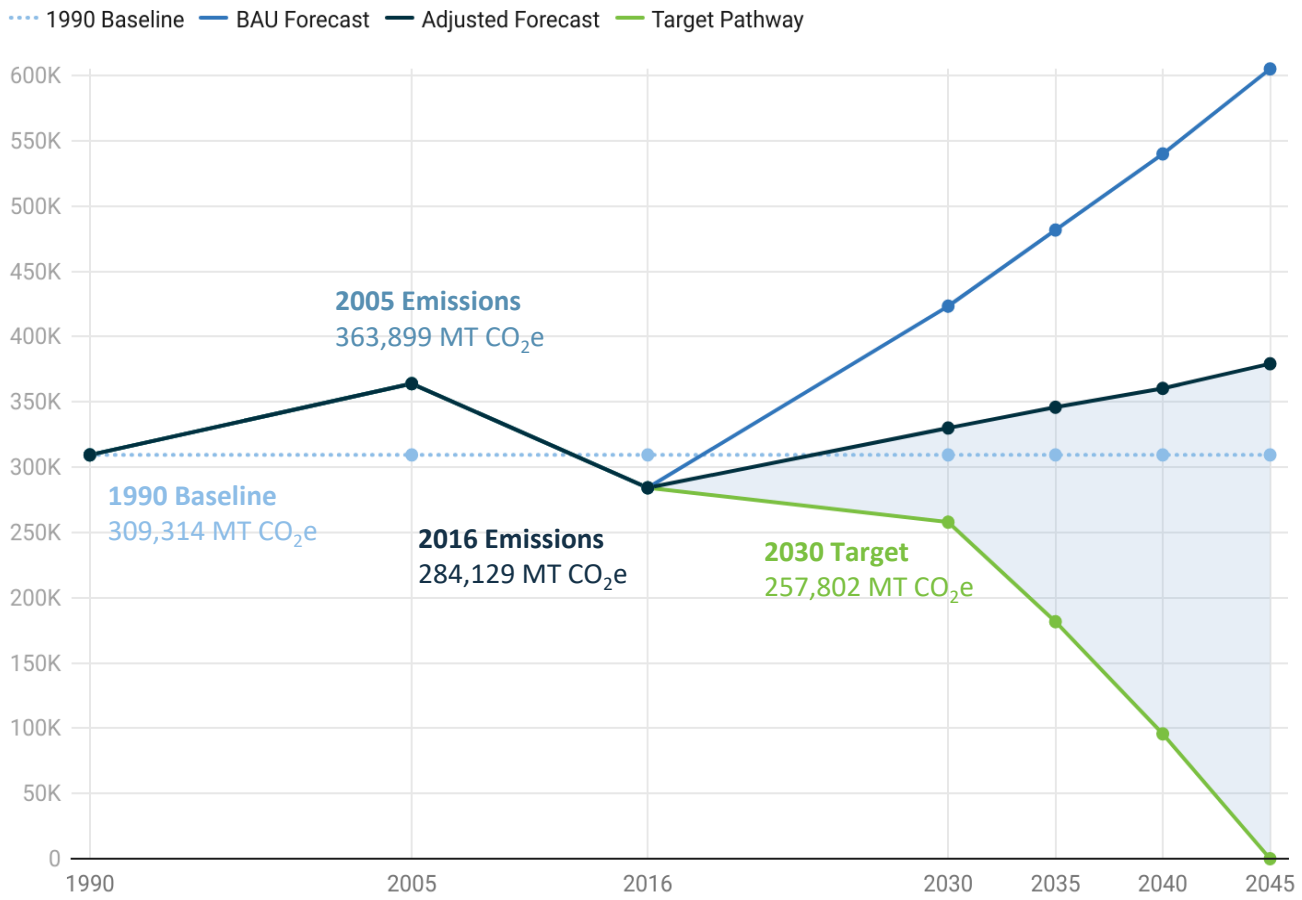
1. The adjusted forecast is translated to per capita emissions by dividing mass emissions by population for each year.

2. The target pathway is calculated by reducing per capita emissions to 3.00 MT CO2e/person in 2030 and zero in 2045.

3. The target pathways are translated to mass emissions by multiplying the per capita emissions target by the City's population in the respective year.

4. The remaining emissions gaps are calculated by subtracting the mass emission targets from the adjusted forecast for each year.

Figure 8. GHG Reduction Target Pathway and Gap Analysis



3. GHG Emissions Reduction Strategies

California Buckeye

GHG Reduction Strategy

It is not too late to limit some of the worst impacts from climate change if we act in earnest now.[26] We must work together to mitigate, or reduce, the flow of GHG emissions into the atmosphere and simultaneously adapt to the changes that have already occurred or will occur in the future.[27] Mitigation strategies are discussed throughout this section and information on how the City of Pittsburg will adapt is interwoven into the co-benefits.

This Sustainability Plan is designed to reduce GHG emissions through implementation of feasible and achievable, yet ambitions GHG emissions reduction strategies and goals that equitably benefit the entire community. The initiatives included in the Sustainability Plan are structured in a stepwise manner, with strategies, goals, and actions. Each strategy provides an overarching statement with which the goals align. The goals included under each strategy are intended to pull in the same direction, providing effective and realistic means for making progress towards the sustainability efforts and GHG emission reductions necessary to reach the 2030 target and establish the blueprint for the deep decarbonization needed to reach the 2045 target of carbon neutrality.[28] Finally, the actions provide supportive steps to begin working towards the quantified or specific targets outlined in each goal. The actions, when implemented, will help Pittsburg make progress towards the goal, however, more work will be needed to continue to move the needle forward and ultimately reach both the 2030 and 2045 targets, such as adopting reach codes and ordinances.

Reducing Emissions in Pittsburg

To develop the goals and actions in the Sustainability Plan, the City utilized guiding principles and considered factors such as co-benefits, costs, and equity. The following sections describe each element in detail. Figure 9 below depicts the structure of the plan's strategies, goals, and actions, as well as the elements used to develop them.

26. https://www.climate.gov/news-features/climate-qa/can-we-slow-or-even-reverse-global-warming#:~:text=Yes.,(%E2%80%9Cblack%20carbon%E2%80%9D).
27. According to NASA, in relation to climate change, there is a time lag between what we do and when we feel it, but that lag is less than a decade.

28. The GHG reduction targets included in this Plan are intended to align with the GHG reduction goal codified by SB 32 of reduce GHG emissions to 40 percent below 1990 levels by 2030. According to the Association of Environmental Professionals (AEP) 2016 White Paper "Beyond 2020 and Newhall," meeting the long-term target of carbon neutrality in 2045 will require substantial advances in cost-effective technological solution related to GHG reductions. As such, the GHG reduction goals will begin substantial progress toward meeting the long-term 2045 target but will need to be reassessed as future advances in technology become available.

Sustainability Pillars

High-quality sustainability and climate action planning is built on six essential pillars that, when incorporated into the design of each goal, where applicable, result in implementable and effective sustainability and GHG emissions reduction strategies. These pillars include:

- **Equity** – Goals should include programs and policies to provide disadvantaged and vulnerable communities the resources to benefit from each goal.
- **Structural change** – Goals should establish institutional and policy framework to facilitate long-term change.
- **Feasibility** – Goals should help the City understand costs, benefits, barriers, and opportunities to develop programs and policies to best serve the community.
- Partnership – Goals should focus on partnerships with outside agencies and community-based organizations to leverage expertise and resources to create programs and policies the City would not be able to achieve alone.
- Funding – Goals should identify funding and financing avenues to support the associated costs and be designed to overcome potential financial impacts of modernization.
- Education – Goals should include community engagement and empower residents and interested parties to act.

These pillars have been used to establish actions that will in-turn work towards the 2030 emissions reduction target and begin progress to the long-term 2045 target of carbon neutrality. The 2030 and 2045 targets represent the City's fair share reductions towards achieving the State's overall climate goals. During the action development process, each initiative was viewed through the

Figure 9. Strategy, Goal, and Action Structure

Over time, the Plan will be reviewed, and additional actions will be added to make greater progress on the established Goals. This Sustainability Plan serves as the City's first step in climate action planning and will continue to be refined.

lens of these pillars to build a comprehensive approach to sustainability. The Cornerstone Goal, Goal C-1.1, illustrates how each of the pillars are integrated into the supportive actions.

The Cornerstone Goal

In construction, the cornerstone is often the first stone set, and all other stones are set in reference from that point, essentially determining the direction or position of the building. Similarly, the Cornerstone Goal (C-1.1) sets the direction of this Plan and is intended to build support around an area of community pride. The Cornerstone Goal of this Plan intends to connect the Plan and the community around the opportunity to leverage sustainability efforts and climate action for continued economic development in Pittsburg. Initiatives from all-electric building retrofits to increased waste diversion will create new jobs. A recent study by the University of California, Los Angeles (UCLA) Luskin Center for Innovation found that 100,000 full-time equivalent jobs would be created across various sectors of the economy as the result of electrifying all of California's new and existing buildings by 2045.[29] Similarly, in the waste and materials sector, the process of re-using materials was found to create 200 times as many jobs as sending those materials to landfills and incinerators while recycling increased jobs by a factor of 50. Done in an intentional and holistic way, Pittsburg can leverage these job opportunities to create high-road jobs for Pittsburg residents in the sustainability industry—that is jobs that will provide Pittsburg residents family-sustaining wages, comprehensive benefits, and opportunities for continued career advancement.[30]

The sustainability pillars provide this intentional and holistic approach in a stepwise manner. Designed to embody each of the identified sustainability pillars, the Cornerstone Goal will be equipped with a framework for transformational change and community engagement to serve as a strong foundation for the Plan and the community as we work towards the City's GHG emission reduction targets.

29. https://innovation.luskin.ucla.edu/2019/11/13/move-to-all-electric-buildings-will-trigger-significant-demand-for-skilled-workers/.
30. https://www.usdn.org/uploads/cms/documents/workforce-guide_4.12.21_form.pdf

The Cornerstone Goal

Provide high-road jobs to low-income community members through a local High-road Workforce Development Program.

The Cornerstone Goal embodies each pillar in the follow ways:

- Focuses on equity by establishing a High-road Workforce Development Program targeted towards disadvantaged community members and vulnerable populations. As such, it aims to focus its employment and training resources on those with the most to gain from them.
- Focuses on structural change by amending the City's bid procurement and evaluation process to include local workforce as a criterion for evaluating capital improvement project bids. Meeting this pillar sets the goal up to create long-term change by establishing policies that will increase demand for local workforce and the program itself.
- Focuses on feasibility by analyzing current opportunities for high-road jobs. Embodying this pillar provides the City important information to design a program that best meets the community's needs.
- Focuses on partnership by collaborating with community-based organizations who have connections to community members in disadvantaged and vulnerable communities. Meeting this pillar allows the City to engage more community members than they would have been able to on their own, increasing the reach of the program across the community.
- Focuses on funding by applying for applicable grants to support the High-road Workforce Development Program's incentives for employers and developers. Meeting this pillar secures the development and sustainability of the program without putting undue pressure on the City's budget.
- Focuses on education by providing resources related to the High-road Workforce Development Program and developing an internship/apprenticeship board for local employers and Los Medanos College to share employment opportunities.

With each pillar, the Cornerstone Goal will be able to make transformational change and engage the community, paving the way for the rest of the goals in the Plan. Continuing this stepwise approach to designing each goal with the pillars, the other Sustainability Plan goals will establish their own foundations to make continued and far-reaching change.

Equity Guardrails

Integral to sustainability planning is ensuring that the impacts, co-benefits, and opportunities associated with each goal are equitably distributed amongst the community and that additional burdens on disadvantaged and vulnerable communities are avoided. The City of Pittsburg defines disadvantaged and vulnerable communities as follows:

- Disadvantaged community (DAC): a low-income area that is disproportionately affected by environmental pollution and other hazards that can lead to negative health effects, exposure, or environmental degradation.
- Vulnerable community: an area with concentrated populations of seniors, persons with a disability, and lower income residents.[31]

Such communities are often disproportionally affected by the impacts of climate change and the burdens of sustainability actions. For this reason, they must be engaged, represented, and prioritized during the planning process. This kind of equitable community planning can help cities design safe, thoughtful, and specific policies that improve public health across the community, provide equitable job opportunities and better incomes, and minimize disproportionate burdens. Altogether, equitable community planning provides a strong foundation for realistic sustainability initiatives to be developed and implemented by the community.

To engage in equitable community planning, the City developed Equity Guardrails—a set of guiding criteria designed to formalize the Sustainability Plan's foundational goal for improving environmental justice issues as outlined in the Community Health and Environmental Justice Element. The specific criteria are used to instill equity within each goal of the Sustainability Plan. Actions included in this Sustainability Plan were reviewed for each criterion to determine if its associated actions would result in disproportionate burdens, inequities, or discrimination. If determined it could, the actions associated with the goal were updated to instead benefit the community members that have the most to gain. In this way, the criteria are used to instill equity within each goal of the Sustainability Plan, guiding the City towards a paradigm shift in environmental justice and public policy to transform the behaviors, institutions, and systems that disproportionately harm disadvantaged and vulnerable communities.

Table 8, on the following page, lists and defines the Equity Guardrail criteria that were used to assess each goal during the development of the Sustainability Plan.

31. Definitions sourced from the General Plan's Community Health & Environmental Justice Element.

Co-Benefits

Sustainability goals will produce additional benefits beyond GHG emissions reductions that the community will see from implementing the goals and actions. These co-benefits will have long-term positive impacts that will help Pittsburg reach their community goals. The co-benefits identified for each Sustainability Plan actions include:

- **Improved Health and Safety**
  - Creating a healthier community with less respiratory illnesses by improving indoor and outdoor air quality; improving life and property safety through efforts to increase adaptive capacity; and improving quality of life and comfort by creating more opportunities for physical activity, increasing access to green spaces, and maintaining thermal comfort
- **High-Road Job Development**
  - Creating and training Pittsburg residents for high-quality jobs in sustainable industries that provide family-sustaining living wages, comprehensive benefits, and opportunity for career advancement.
- **Community Savings**
  - Providing the community with long-term cost savings in areas such as utility bills

- **Connected Communities** 
  - Promoting a cohesive City with a strong sense of community by creating opportunities for community members to engage in public life and build ties to their neighbors
- **Energy Security** 
  - Increasing the uninterrupted availability of energy sources in the community at an affordable price and from local sources
- **Reduced Reliance on Fossil Fuels** 
  - Reducing the community's reliance on imported, polluting, and price-variable oil and gas

Table 8. Equity Guardrail Criteria

Equity Guardrail	Criteria
Access to Health and Safety Benefits	Each goal must be supported by actions that either mitigate potential negative outcomes, or improve access to the following for DACs and vulnerable communities: ▪ Individual and population health ▪ Life and property safety ▪ Quality of life and comfort Due to the upfront costs of actions such as electrification, many households will need financial support to have access to these health and safety benefits.
Equitable Allocation of Costs and Benefits	Each goal must be supported by actions that equitably allocate both costs and benefits across the community. This could include developing programs to provide equitable access to funding and financing mechanisms that address the specific needs of DACs and vulnerable communities (e.g., mitigating the additional upfront and maintenance costs of new technologies) or by developing equitable fee structures for transit or other services.
Promotes Housing Affordability and Anti-Displacement	Each goal must be supported by actions that: ▪ Improve access to benefits for renters and residents living in multi-family buildings ▪ Do not displace renters or overburden homeowners ▪ Do not place additional disproportionate financial burdens or hardships on DACs and vulnerable communities ▪ Protect DACs and vulnerable communities from cost-of-living increases
Authentic Investment and Engagement	Each goal must be supported by actions that continue engagement with DACs and vulnerable communities over the course of implementation to address identified hurdles as well as unforeseen barriers and constraints.
Provides Local and Accessible High-Road Job Development	Each goal must be supported by actions that create and protect local and accessible high-road job development, particularly for people experiencing barriers to employment. High-road jobs refer to high-quality jobs that provide family-sustaining, living wages, comprehensive benefits, and opportunity for career advancement.

Costs

Implementing the Sustainability Plan's goals may be extremely variable in cost as goals range from outreach and education to major investments in new infrastructure such as bike lanes and electric vehicle charging networks. While it may be tempting to only consider the upfront costs of a goal, there are many other cost considerations that should be part of the decision-making process. These costs were identified for each Sustainability Plan goal and used to categorize each goal as either having no-cost, low-cost, moderate-cost, or high-cost. Each cost category has been defined as follows:

- **No Cost:** Goals associated with operational changes that do not include upfront costs or result in zero lifecycle costs.
- **Low-Cost:** Goals associated with relatively low upfront costs or City staff time, (e.g., policy updates or outreach). For community members, this represents low upfront costs compared to existing alternatives.
- **Moderate-Cost:** Goals involving consultants or moderate infrastructure changes associated with an intermediate level of costs, (e.g., feasibility studies, program development, and retrofitting existing infrastructure). For community members, this represents costs that are not comparable to existing costs nor are offset over the lifetime (e.g., new fees or upfront costs partially offset by rebate opportunities.
- **High-Cost:** Goals that involve longer term projects requiring substantial investments into major infrastructure or technology over time, (e.g., energy storage, bike lanes, or other infrastructure changes). For community members, this represents costs that are not comparable to existing costs nor are offset over the lifetime (e.g., new electric vehicle purchase.

For a complete description of the costs for the Sustainability Plan goals, please see Appendix F.

Moving Towards the State's Goals

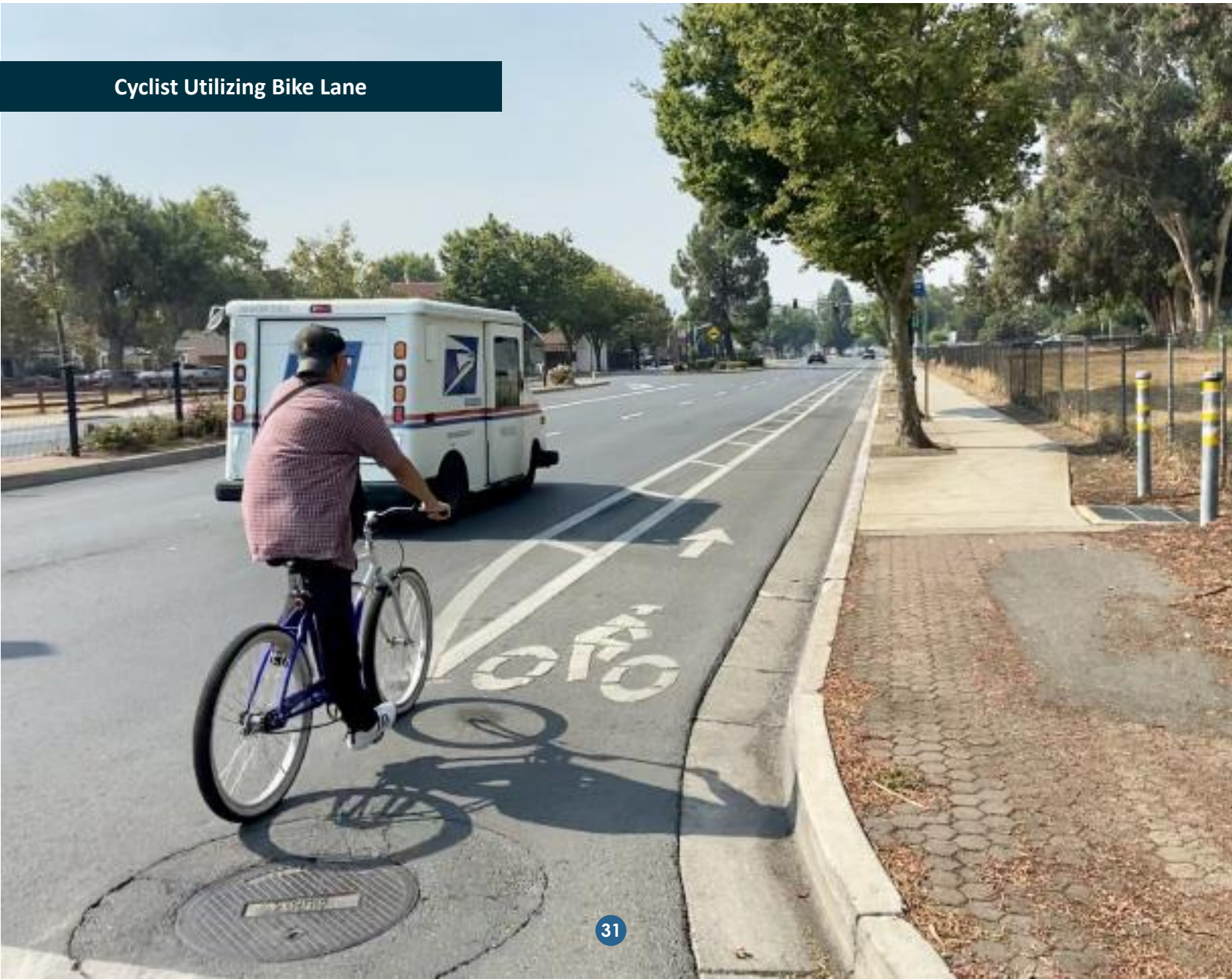
The goals and supporting actions outlined in this section were developed and refined using the elements described above and ultimately establish Pittsburg's first steps to work towards the City's 2 2030 GHG emissions reduction target and begin progress towards meeting the longer-term target of carbon neutrality by 2045. However, more work is needed to effectively reach both the 2030 target and the longer-term 2045 target. It is anticipated that the Plan will be reviewed and updated on a triennial basis, as discussed in Goal M-1.1 and Chapter 5, *Implementation*. Future iterations of the Plan will outline additional ways to meet the 2030 and 2045 emission reduction targets as new technologies and solutions become available. Continued progress will require a community-wide commitment at all levels to work towards the goals outlined in this Plan and make the necessary adjustments identified through regularly monitored progress.

Table 9 below summarizes the strategies and goals of the Sustainability Plan. The following section identify the supporting actions associated with each goal and identify the pillars, equity guardrails, co-benefits, and costs associated with each goal or action, as appropriate. In addition, the following sections identify the key performance indicators (KPI) that will be used to monitor progress made on each goal. Together, these KPI's will help gauge overall progress towards the City's GHG emission reduction targets and signal opportunities for additional actions and refinement.

Table 9. Summary of GHG Emission Reduction Goals

ID #	Goal Text
Strategy C-1: Cornerstone to Climate Action Planning	
C-1.1	Provide high-road jobs to members of disadvantaged and vulnerable communities through a local High-road Workforce Development Program.
Strategy E-1 Electrify the Building Stock	
E-1.1	Electrify 75% of new construction in the City by 2026 and 100% of new construction in the City by 2029.
E-1.2	Electrify existing residential buildings to reduce residential natural gas consumption 15% by 2030 and 100% by 2045, from 2016 levels.
E-1.3	Electrify existing commercial buildings to reduce commercial natural gas consumption 15% by 2030 and 100% by 2045, from 2016 levels.
Strategy E-2 Decarbonize Electricity and Increase Use and Storage of Local Renewable Energy	
E-2.1	Increase the number of accounts enrolled in MCE's programs to 95%, with a total of 40% of accounts enrolled in the Deep Green energy option by 2030.
E-2.2	Increase generation and storage of local renewable energy.
Strategy T-1 Reduce Passenger Car Vehicle Miles Traveled	
T-1.1	Implement Pittsburg Moves, increasing active transportation mode share from 1.5% in 2020 to 3% by 2030 and 9% by 2045.
T-1.2	Implement public and shared transit programs to increase public transit mode share from 10.1% in 2020 to 12% by 2030 and 17% by 2045.
Strategy T-2 Increase Zero-Emission Vehicle and Equipment Use	
T-2.1	Increase passenger zero-emission vehicle adoption from 2.3% in 2020 to 15% by 2030 and 100% by 2045.
T-2.2	Increase commercial zero-emission vehicle adoption from less than 1% in 2020 to 10% by 2030 and 100% by 2045.
T-2.3	Transition 5% of all (i.e., commercial and residential) off-road equipment to zero-emission alternatives by 2030 and 100% by 2045.
Strategy W-1 Increase Water Conservation and Local Water Supply	
W-1.1	Reduce per capita water consumption by 10% by 2030 and 30% by 2045, from 2016 levels.
W-1.2	Increase recycled water use in the City.
W-1.3	Increase green stormwater infrastructure.
Strategy W-2 Minimize Water Loss System-wide	
W-2.1	Reduce real and apparent system water loss from a rate of 13% in 2020 to less than 10% by 2030 and less than 7% by 2045.
Strategy SW-1 Organic Waste Diversion	
SW-1.1	Continue to take action to meet SB 1383 organics and recycling requirements, reducing organic waste disposal 75% from 2014 levels by 2025 statewide.
Strategy SW-2 Reduce Community Waste Generation	
SW-2.1	Reduce community-wide waste generation 55% by 2025 and 90% by 2040 statewide, from 2014 levels.

Strategy CS-1 Carbon Sequestration	
CS-1.1	Increase carbon sequestration by planting 150 new trees annually through 2045 to sequester carbon and create urban shade to reduce heat island effect.
CS-1.2	Increase carbon sequestration by applying 0.08 tons of compost per capita annually in the community by 2030, increasing up to 0.10 by 2045.
Strategy M-1 Commit to Climate Action	
M-1.1	Complete annual progress reports on Pittsburg's Sustainability Plan every three years.
Strategy M-2 Reduce Municipal Reliance on Natural Resources	
M-2.1	Electrify 25% of existing City facilities by 2030 and 100% of existing City facilities by 2045, as well as all newly constructed City buildings, while also increasing renewable energy use.
M-2.2	Transition 50% of the City's vehicle and equipment fleet to renewable fuels and electric by 2030 and 100% by 2045.
M-2.3	Reduce the number of single occupancy, fossil fueled vehicle annual employee commute trips 20% by 2030 and 50% by 2045.



Cyclist Utilizing Bike Lane

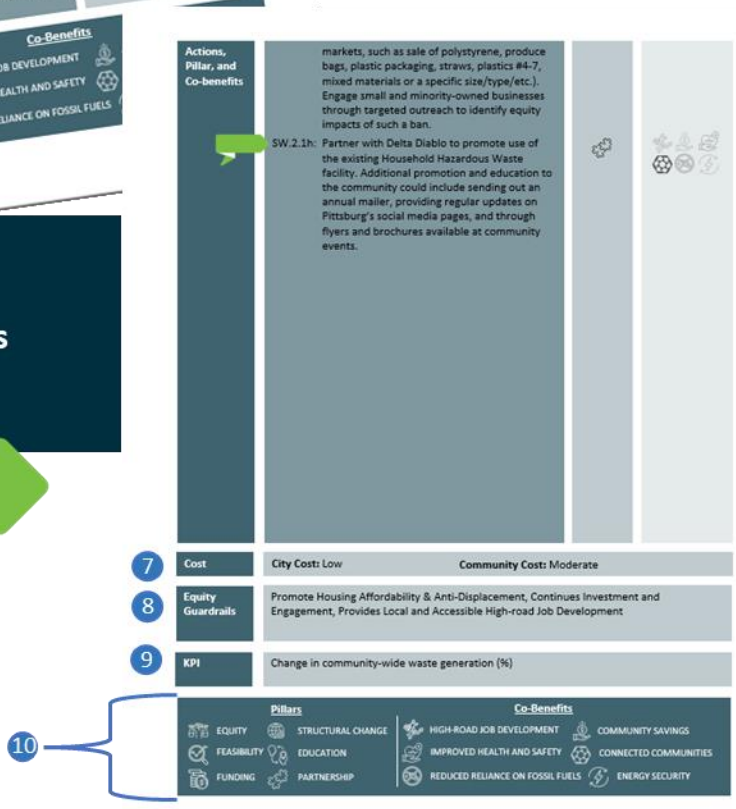
How to read the following pages:

1. Goal
2. Description of Goal
3. Actions
4. Sustainability Pillar
5. Co-benefits
6. Flag denoting inclusion revised text or additional actions based on community feedback
7. Cost
8. Equity Guardrails
9. Key Performance Indicators
10. Key showing pillar and co-benefit icons

Community feedback resulted in 13 new actions and 8 updated actions!

New Action

Updated Action



Cornerstone

C-1 Cornerstone to Climate Action Planning

C-1.1 Provide high-road jobs to members of disadvantaged and vulnerable communities through a local High-road Workforce Development Program.

C-1.1 – Provide high-road jobs to members of disadvantaged and vulnerable communities through a local High-road Workforce Development Program.

Reducing GHG emissions and creating a more sustainable Pittsburg will require initiatives from building retrofits to electric vehicle infrastructure buildout that demand a skilled, trained, and stable green workforce. As a community, we can leverage this demand to create high-road jobs for Pittsburg residents—jobs that will provide Pittsburg residents family-sustaining wages, comprehensive benefits, and opportunities for continued career advancement.[32] Targeted towards community members with the most to gain from these high-quality, stable jobs, we can uplift and improve economic conditions for members of disadvantaged and vulnerable communities providing meaningful social justice in Pittsburg. Through a High-road Workforce Development Program we can create a future that brings renewable energy, ecological restoration, and more scientific-based environmental education to Pittsburg, leveraging efforts to reduce GHG emissions and create a more sustainable City for continued economic development. Additionally, this goal would decrease income inequity by providing workers with better-paying jobs and opportunities for advancement, while reducing poverty through living wages.

Actions, Pillar, and Co-benefits		
	C.1.1a: Establish a High-road Workforce Development Program that provides incentives to Pittsburg businesses and potential developers to establish apprenticeships programs for Pittsburg members of disadvantaged and vulnerable communities.	
	C.1.1b: Apply for grant opportunities to offer incentives to employers and developers for implementing local workforce apprenticeship programs, through grants such as the Transformative Climate Communities Implementation Grant and High Road Training Partnerships: Resilient Workforce Fund Program.	
	C.1.1c: Perform an analysis on current workforce opportunities within the City that provide potential for high-road jobs through direct engagement with local businesses. Through this analysis establish the criteria for high-road jobs, and identify opportunities for bringing in additional developers and businesses that will provide jobs that meet these criteria.	
	C.1.1d: Partner with community-based organizations with connections to disadvantaged and vulnerable communities to perform direct	

Pillars

EQUITY
STRUCTURAL CHANGE
FEASIBILITY
EDUCATION
FUNDING
PARTNERSHIP

Co-Benefits

HIGH-ROAD JOB DEVELOPMENT
COMMUNITY SAVINGS
IMPROVED HEALTH AND SAFETY
CONNECTED COMMUNITIES
REDUCED RELIANCE ON FOSSIL FUELS
ENERGY SECURITY

32. https://cwdb.ca.gov/wp-content/uploads/sites/43/2019/09/High-Road-ECJ-Brief_UPDATED-BRANDING.pdf

Actions, Pillar, and Co-benefits	engagement promoting opportunities within the High-road Workforce Development Program. C.1.1e: Create a City webpage to provide resources related to the High-road Workforce Development Program to allow for posting of available resources and to develop an internship/apprenticeship board for local employers and Los Medanos College to share employment opportunities. C-1.1f: Amend the City's bid procurement and evaluation process to include local workforce (i.e., including Pittsburg residents in the project workforce) as a criterion for evaluating capital improvement project bids.	 	 
Cost	**City Cost:** Moderate **Community Cost:** N/A		
Equity Guardrails	Continues Investment and Engagement, Provides Local and Accessible High-road Job Development		
KPI	Number of apprenticeships created, and value of incentives provided ($)		

Pillars

- EQUITY
- STRUCTURAL CHANGE
- FEASIBILITY
- EDUCATION
- FUNDING
- PARTNERSHIP

Co-Benefits

- HIGH-ROAD JOB DEVELOPMENT
- COMMUNITY SAVINGS
- IMPROVED HEALTH AND SAFETY
- CONNECTED COMMUNITIES
- REDUCED RELIANCE ON FOSSIL FUELS
- ENERGY SECURITY

Energy

E-1 Electrify the Building Stock

E-1.1 Electrify 75% of new construction in the City by 2026 and 100% of new construction in the City by 2029.

E-1.2 Electrify existing residential buildings to reduce residential natural gas consumption 15% by 2030 and 100% by 2045, from 2016 levels.

E-1.3 Electrify existing commercial buildings to reduce commercial natural gas consumption 15% by 2030 and 100% by 2045, from 2016 levels.

E-1.1 – Electrify 75% of new construction in the City by 2026 and 100% of new construction in the City by 2029.[33]

New building electrification is a cost-effective and socially equitable way to reduce GHG emissions, lower community costs, and protect public health. All-electric buildings can be more energy efficient and produce lower energy bills than those powered by natural gas. Implemented with an emphasis on equity, these lower operating costs can help reduce energy bill burdens in the community. Additionally, constructing new all-electric buildings is more cost-effective up-front than building traditional mixed-fuel buildings due to the cost savings obtained from avoiding the installation and expansion of natural gas infrastructure. These long-term and up-front cost savings make all-electric new construction an easy choice for the community. All-electric buildings also provide a critical step towards improving public health. Burning natural gas in poorly ventilated areas (i.e., through gas stoves in particular)[34] can cause a drastic increase of harmful indoor pollutants that are linked to increased risk of respiratory illnesses. For example, studies show that using natural gas stoves is associated with increased risk of asthma in children, as well as more severe asthma symptoms.[35] Electric appliances completely mitigate these indoor air pollutant risks.

Actions, Pillar, and Co-benefits

Updated

E.1.1a:	Conduct a cost effectiveness study by 2025 to analyze the impact of adopting an electrification ordinance for all new construction to inform future consideration of an ordinance.		
E.1.1b:	Identify and partner with local community-based organizations with connections to disadvantaged and vulnerable communities to conduct targeted outreach to identify and analyze equity concerns with an electrification ordinance for all new construction to inform future consideration of an ordinance.		
E.1.1c:	Establish partnerships with the Building Decarbonization Coalition, MCE, Bay Area Regional Energy Network, the International Brotherhood of Electrical Workers, and others, to engage with local interested parties from the building industry, such as local developers, to evaluate the feasibility of adopting an electrification ordinance for all new construction and inform future consideration of an ordinance.		
E.1.1d:	Partner with organizations such as the Building Decarbonization Coalition, MCE, and Bay Area Regional Energy Network to compile a suite of		

Pillars

 EQUITY
 STRUCTURAL CHANGE
 FEASIBILITY
 EDUCATION
 FUNDING
 PARTNERSHIP

Co-Benefits

 HIGH-ROAD JOB DEVELOPMENT
 COMMUNITY SAVINGS
 IMPROVED HEALTH AND SAFETY
 CONNECTED COMMUNITIES
 REDUCED RELIANCE ON FOSSIL FUELS
 ENERGY SECURITY

33. New construction refers to new buildings and building additions and alterations
34. https://ww2.arb.ca.gov/resources/documents/indoor-air-pollution-cooking
35. https://www.apha.org/Policies-and-Advocacy/Public-Health-Policy-Statements/Policy-Database/2023/01/18/Gas-Stove-Emissions

Actions, Pillar, and Co-benefits		case studies and cost-effective strategies (e.g., energy efficiency improvements) for electric buildings by prototype, help educate building owners and the construction industry on the cost savings, environmental benefits, and versatility associated with all-electric construction, and educate developers and other interested parties on new appliances and approaches to building electrification. Share the information on the City's website, at City events, and at the City's permit counters.		
	E-1.1e:	Provide education around cooking with electric appliances and partner with local chefs and/or restaurants to host cooking demonstrations at community events such as the Farmers' Market, Green Footprint Festival, or Pittsburg First Fridays.		
	E-1.1f:	Partner with the Bay Area Regional Energy Network and the International Brotherhood of Electrical Workers, or similar entities, to provide technical resources, including hosting workforce development trainings as part of the Highroad Workforce Development Program for installers, local contractors, and building owners/operators to discuss the benefits and technical requirements of electrification. Partner with community-based organizations to connect members of disadvantaged and vulnerable communities to these training programs.		

Cost	**City Cost:** Moderate **Community Cost:** No cost
Equity Guardrails	Access to Health and Safety Benefits, Promotes Housing Affordability & Anti-Displacement, Continues Investment and Engagement, Provides Local and Accessible High-road Job Development
KPI	Share of new construction electrified (%)

Pillars

 EQUITY

 STRUCTURAL CHANGE

 FEASIBILITY

 EDUCATION

 FUNDING

 PARTNERSHIP

Co-Benefits

 HIGH-ROAD JOB DEVELOPMENT

 COMMUNITY SAVINGS

 IMPROVED HEALTH AND SAFETY

 CONNECTED COMMUNITIES

 REDUCED RELIANCE ON FOSSIL FUELS

 ENERGY SECURITY

E-1.2 – Electrify existing residential buildings to reduce residential natural gas consumption 15% by 2030 and 100% by 2045, from 2016 levels.

Existing building electrification, which is defined as the replacement of fossil-fueled systems with electric alternatives, provides the same GHG emission reduction, energy bill, and public health benefits as new building electrification. However, since the costs of electrification typically fall on homeowners, there exists additional barriers to ensuring all community members can benefit. Members of disadvantaged and vulnerable communities often face multiple and sometimes compounding economic barriers that make it difficult to prioritize electrification. Further, many members of these communities are renters lacking the property rights to electrify. Yet, these community members will also be the hardest hit if we leave them as the last customers relying on the gas distribution system because they can least afford the significant bill increases anticipated to support aging and stranded infrastructure.[36] Thus, we must pursue residential building electrification equitably to benefit all Pittsburg residents. In addition to reducing long-term cost burdens, electrification will also improve indoor air quality and increase home values.

Actions, Pillar, and Co-benefits			
	E.1.2a:	Develop a residential building electrification strategy with a detailed existing building analysis and electrification costs analysis to understand cost implications, identify potential equity concerns/impacts, and develop equitable strategies and recommended standards for electrifying existing residential buildings such as those that increase energy efficiency and tenant protections. Identify and partner with local community-based organizations with connections to disadvantaged and vulnerable communities to conduct intentional, thoughtful, and specific community outreach during development of the electrification strategy to understand the community's concerns and needs around electrification.	
	E.1.2b:	During the electrification strategy development process, engage the community to evaluate the feasibility of adopting a time of replacement electrification ordinance in the future for HVAC and water heaters.	
	E.1.2c:	Develop a permit tracking program for existing building electrification to track annual progress in achieving the electrification goals.	
Updated	E.1.2d:	Partner with stakeholders such as MCE and PG&E to understand the feasibility of,	

Pillars

EQUITY · STRUCTURAL CHANGE
FEASIBILITY · EDUCATION
FUNDING · PARTNERSHIP

Co-Benefits

HIGH-ROAD JOB DEVELOPMENT · COMMUNITY SAVINGS
IMPROVED HEALTH AND SAFETY · CONNECTED COMMUNITIES
REDUCED RELIANCE ON FOSSIL FUELS · ENERGY SECURITY

36. https://greenlining.org/wp-content/uploads/2019/10/Greenlining_EquitableElectrification_Report_2019_WEB.pdf

Actions, Pillar, and Co-benefits				
		establish, and promote funding pathways to ease community costs for electric appliances, electrification retrofits, and panel upgrades through: ▪ Federal and state grants/subsidies ▪ Tariffed On-bill financing ▪ Metered energy efficiency ▪ Linking electrification to existing weatherization programs		
New	E-1.2e:	Partner with PG&E to provide free electrification assessments to rental and multi-family properties to provide recommendations for electric upgrades and funding opportunities.		
New	E.1.2f:	Establish a working group of rental and multi-family property owners, as well as tenants that live in these units to: ▪ Identify common goals (e.g., saving money on utility bills, reducing carbon footprint, improving indoor air quality) ▪ Collaborate on initiatives, which would provide a space for tenants and homeowners to implement initiatives that align with the shared goals (e.g., installing energy-efficient lighting or appliances, adding building insulation, and/or installing solar panels). ▪ Establish communication channels to discuss progress, address hurdles, and work together on implementation. ▪ Share resources between tenants and homeowners.		
	E-1.2g:	Conduct targeted outreach to rental and multi-family property owners to distribute information about available electrification assessments, retrofit incentives, and long-term benefits associated with electrification and weatherization.		
	E-1.2h:	Review and update building codes to provide streamlined permitting for all electric retrofits. Provide Building Department staff training and information on the benefits of electrification for permit applicants.		

Pillars

 EQUITY
 STRUCTURAL CHANGE
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Actions, Pillar, and Co-benefits	E-1.2i: Partner with MCE and PG&E to review incentives, rebates, and financing options for procedural equity and ensure that existing and updated incentive programs are being equitably distributed to the community to reduce energy bill burdens. Hurdles to equitable implementation could include credit checks, excessive procedural hurdles and lack of targeted outreach.		
	E-1.2j: Work with MCE to a conduct feasibility study to evaluate the current uptake and effectiveness of Proper Assessed Clean Energy (PACE) financing for installation of renewable energy systems in single-family and multi-family homes. If feasibility study indicates effectiveness, continue to offer PACE financing for single-family and multi-family homes to install renewable energy systems.		
	E-1.2k: Partner with a financing/management company to provide electrification services and financing to the community with prioritization of members of disadvantaged and vulnerable communities.		
	E-1.2l: Partner with Pittsburg Below Market Rate (BMR) housing stock owners to develop a strategy to begin electrifying publicly owned BMR housing. Identify a group of publicly owned BMR housing to conduct a full electrification pilot to help test and further develop the strategy. Promote the pilot as an example to the wider community on the feasibility and benefits of residential electrification.		
Cost	**City Cost:** Moderate	**Community Cost:** Moderate	
Equity Guardrails	Access to Health and Safety Benefits, Equitable Allocation of Costs and Benefits, Promotes Housing Affordability & Anti-Displacement, Continues Investment and Engagement, Provides Local and Accessible High-road Job Development		
KPI	Change in residential natural gas consumption (%)		

Pillars

- EQUITY
- STRUCTURAL CHANGE
- FEASIBILITY
- EDUCATION
- FUNDING
- PARTNERSHIP

Co-Benefits

- HIGH-ROAD JOB DEVELOPMENT
- COMMUNITY SAVINGS
- IMPROVED HEALTH AND SAFETY
- CONNECTED COMMUNITIES
- REDUCED RELIANCE ON FOSSIL FUELS
- ENERGY SECURITY

E-1.3 – Electrify existing commercial buildings to reduce commercial natural gas consumption 15% by 2030 and 100% by 2045, from 2016 levels.

Electrifying existing commercial buildings also provides the same GHG emission reduction, energy bill, and public health benefits as residential building electrification. However, leveraging the benefits from electrifying businesses also faces economic and social barriers. Like residential building electrification, we must pursue commercial building electrification equitably to help small and minority-owned businesses benefit from electrification rather than be left with polluting and increasingly expensive gas appliances.[37] Furthermore, electrifying businesses involves buildings of larger sizes and different purposes. While the technology does exist today to fully electrify all commercial buildings, we must support our business owners understand the options, resources, and benefits to electrifying their business. To successfully electrify commercial buildings and mitigate the greatest impacts of climate change, it is crucial to raise awareness among business owners, provide financial incentives, and offer access to expertise regarding the options, support, and benefits of electrifying their establishments.

Actions, Pillar, and Co-benefits				
	E.1.3a:	Develop a strategy to support commercial building electrification, including initiatives and recommended standards for retrofitting commercial buildings, prioritizing appliance replacements, and avoiding expansion of natural gas infrastructure.		
	E.1.3b:	Conduct engagement efforts for the commercial sector during development of the building electrification strategy to understand potential concerns and barriers to commercial electrification and educate commercial property owners on the potential cost savings and other benefits of electrification. Include targeted outreach to small businesses and minority-owned businesses to understand potential equity concerns with commercial electrification during the strategy development process.		
	E.1.3c:	Continue to work with Bay Area Regional Energy Networks, MCE, and StopWaste to improve, implement, and promote commercial electrification rebates and financing opportunities, as well as other offered incentives. Review the incentives for procedural equity and promote them to small		

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37. https://greenlining.org/wp-content/uploads/2019/10/Greenlining_EquitableElectrification_Report_2019_WEB.pdf

Actions, Pillar, and Co-benefits	and minority-owned businesses through targeted outreach.		
	E.1.3d: Conduct focused interviews with commercial property owners to evaluate the feasibility of adopting a commercial building electrification ordinance to ban the expansion of natural infrastructure and require appliance replacements to be all-electric where technologically feasible. Include interviews specifically with small and minority-owned businesses.		
	E-1.3e: Track annual progress on commercial building electrification through the same permit tracking program developed for residential building electrification.		
	E-1.3f: Conduct engagement efforts for the commercial sector to identify ways the City can support commercial battery storage installations.		
	E-1.3g: Partner with the Chamber of Commerce to inform and facilitate electrification for commercial business owners.		
	E-1.3h: Use municipal electrification efforts to promote the cost-saving benefits and feasibility of electrification to the commercial sector. Promote municipal building electrifications on the City's website and at City permit counters with information on costs, timescale, and utility bill savings for each project.		

Cost	**City Cost:** Low **Community Cost:** Moderate
Equity Guardrails	Access to Health and Safety Benefits, Equitable Allocation of Costs and Benefits, Continues Investment and Engagement, Provides Local and Accessible High-road Job Development
KPI	Change in commercial natural gas consumption (%)

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Energy

E-2 Decarbonize Electricity and Increase Use and Storage of Local Renewable Energy

E-2.1 Increase the number of accounts enrolled in MCE's programs to 95%, with a total of 40% of accounts enrolled in the Deep Green energy option by 2030.

E-2.2 Increase generation and storage of local renewable energy.

E-2.1 – Increase the number of accounts enrolled in MCE's programs to 95%, with a total of 40% of accounts enrolled in the Deep Green energy option by 2030.

Pittsburg currently enrolls residents and businesses in MCE's Light Green electricity service. The service provides electricity sourced from 60 percent renewable energy, helping it achieve a lower carbon intensity than the electricity from Pacific Gas & Electric (PG&E). MCE's Deep Green service eliminates fossil fuels altogether, providing electricity from 100 percent renewable sources (i.e., solar and wind).[38] While the California grid will continue to get cleaner as the Renewable Portfolio Standard progresses, MCE provides Pittsburg significant GHG emission reduction potential in the meantime—especially when paired with all-electric buildings. Helping residents and businesses maintain enrollment in MCE and opt-up to Deep Green will help Pittsburg leverage the benefits of renewable energy, fostering a sustainable and resilient community while reducing GHG emissions.

Actions, Pillar, and Co-benefits			
	E.2.1a:	Continue to work with MCE to conduct an annual analysis of opt-out rates in the City and expand the research to understand why residents and businesses opt out of MCE. Include targeted outreach to residents living on low and fixed incomes and disadvantaged and vulnerable communities to identify barriers to remaining with MCE.	
	E.2.1b:	Partner with MCE to design educational campaigns, including tabling at community events, establishing informational resources on the City's website, regularly posting on social media, and developing energy bill inserts, to highlight the benefits of 100% renewable energy.	
	E.2.1c:	In collaboration with MCE, implement a pilot program to provide Pittsburg's affordable housing units managed by the Pittsburg Housing Authority MCE's Deep Green service by 2025. Identify funding options with MCE such as subsidy of pilot study through the non-discounted customers or grant funding.	
	E.2.1d:	Support an equitable transition to renewables by partnering with MCE to create a funding or	

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38. https://www.mcecleanenergy.org/energy-suppliers/

Actions, Pillar, and Co-benefits	Family Electric Rate Assistance (FERA) programs to opt-up to MCE's Deep Green option. This may include subsidizing costs to customers who participate in CARE/FERA programs through non-discounted customer rate increase or obtainment of funding for disadvantaged and vulnerable communities. Include targeted outreach to educate residents on the availability of energy savings programs to help offset potential rate increases when opting-up.
Cost	**City Cost:** Low **Community Cost:** Low
Equity Guardrails	Equitable Allocation of Costs and Benefits, Promote Housing Affordability & Anti-Displacement, Continues Investment and Engagement
KPI	Accounts enrolled in MCE and MCE's Deep Green (%)

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ENERGY SECURITY

E-2.2 – Increase generation and storage of local renewable energy.

While all-electric buildings can be more energy efficient and produce lower energy bills than those powered by gas, we must also prioritize reliability and safety. Pairing all-electric buildings with local solar photovoltaics and battery storage can insulate the community from public safety power shutoffs and grid outages, increasing the resilience of our buildings. Additionally, local solar and battery storage can reduce energy bill burdens by reducing the electricity purchased from the grid and avoiding purchase during peak hours. However, solar and battery storage come with high upfront and maintenance costs that may be difficult for members of disadvantaged and vulnerable communities to prioritize and many members of these communities live in rental or multi-family properties that come with physical and legal limitations to installing solar and battery storage. To create an equitable transition to renewable energy, the actions below develop a framework that focuses on partnerships and financing mechanisms to provide local solar to disadvantaged and vulnerable communities and explore future opportunities for community solar.

Actions, Pillar, and Co-benefits				
	E.2.2a:	Establish and streamline standards and permit requirements for electrification-related installations and battery storage systems, to allow for easier implementation of these technologies in Pittsburg.		
Updated	E.2.2b:	Consider adopting a PV (Solar) Ordinance requiring residential and nonresidential building additions and alterations to install PV systems that meet minimum requirements of Tier 2 Voluntary Standards under CalGreen. Engage with local building industry stakeholders to understand concerns and develop exemptions to the ordinance where the installation of PV systems may not be economically feasible.		
	E.2.2c:	Expand the partnership with GRID Alternatives through increased funding/promotion and promote the benefits of renewable energy through multi-lingual educational programs in order to support an equitable transition to renewable energy.		
Updated	E.2.2d:	Work with PG&E, MCE, and/or other partners to support and incentivize local on-site energy generation and storage resources. This could include: • Connecting home and business owners, particularly those in disadvantaged and vulnerable communities, to incentives for renewable energy and storage including Net Metering Programs through PG&E for bill		

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Actions, Pillar, and Co-benefits	credits, the Disadvantaged Communities-single-family Solar Homes program, Self-Generation Incentive Program, and Equity Resilience rebates that provide an upfront rebate for battery storage, as well as the federal investment tax credit. ▪ Promoting installation of storage technology in concert with renewable energy infrastructure through multilingual education programs, outreach, and information provided via City platforms. ▪ Evaluating the feasibility of installing on- and off-site co-located community solar and storage facilities and, if demonstrated effective, installing at least 3 by 2030 to provide cost-saving and resilience benefits to disadvantaged and vulnerable communities. E-2.2e: Provide educational materials and workshops to large commercial developers and large business property owners of the benefits of microgrids and energy resiliency. Provide resources to identify opportunities for solar installations and/or battery storage on site. E-2.2f: Partner with affordable housing providers to conduct a feasibility analysis of battery storage and solar projects at the affordable housing in Pittsburg that are eligible for Equity Resilience Incentives under the Self-Generation Incentive Program.	 	 
Cost	**City Cost:** Moderate	**Community Cost:** Moderate to High	
Equity Guardrails	Equitable Allocation of Costs and Benefits, Promote Housing Affordability & Anti-Displacement, Continues Investment and Engagement, Provides Local and Accessible High-road Job Development		
KPI	Renewable energy and storage capacity installed (Megawatts)		

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Transportation

T-1 Reduce Passenger Car Vehicle Miles Traveled

T-1.1 Implement Pittsburg Moves, increasing active transportation mode share from 1.5% in 2020 to 3% by 2030 and 9% by 2045.

T-1.2 Implement public and shared transit programs to increase public transit mode share from 10.1% in 2020 to 12% by 2030 and 17% by 2045.

T-1.1 – Implement Pittsburg Moves, increasing active transportation mode share from 1.5% in 2020 to 3% by 2030 and 9% by 2045.

In addition to reducing vehicle miles traveled (VMT), and in turn GHG emissions, increasing active transportation provides a robust set of health, mobility, and livability benefits. Increasing opportunities for active transportation—as in any self-propelled, human-powered form of transportation such as walking or biking—increases residents' opportunity for physical exercise and recreational activities providing important physical and mental health benefits. Active transportation also improves mobility, providing community members who cannot drive (e.g., children, seniors) affordable options to travel independently. At the same time, it helps bridge the first- and last-mile gap providing extended mobility options for community members. Lastly, a thriving active transportation network will provide Pittsburg a safe and connected network to interact with neighbors, fostering a sense of community and promoting healthy lifestyles for all residents. The actions below commit Pittsburg to planning and implementing active transportation infrastructure improvements and establish a framework of partnerships, engagement, and education to best serve the community members who have the most to gain from active transportation improvements.

Actions, Pillar, and Co-benefits			
	T.1.1a:	Based on the goals and policies outlined in Pittsburg Moves, coordinate with Contra Costa Transportation Authority to establish a target timeline and funding strategy that address each of the projects in Appendix A. The timeline should outline a path that confirms an equal focus on improvement projects that will benefit residents living in disadvantaged and vulnerable communities.	
	T.1.1b:	Complete the feasibility analysis outlined in the Pittsburg Moves Project List to begin implementing the supporting projects.	
New	T.1.1c:	Establish bicycle lockers and bicycle parking minimums for new developments by land use types.	
New	T.1.1d:	Work with existing commercial and institutional property owners to identify additional opportunities to install safe bicycle lockers and parking spaces to encourage residents and visitors to make short trips via active transportation.	
	T.1.1e:	Partner with schools, employers, transit agencies, Bike East Bay, the League of American Bicyclists, Metropolitan Transportation Commission, and/or community	

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Actions, Pillar, and Co-benefits				
		groups to teach bicycle and pedestrian safety in schools and workplaces and to educate residents and businesses about the safe route availability and the health and environmental benefits of walking, bicycling, and using public transit.		
	T.1.1f:	Develop a Specific Capital Improvement Plan for active transportation and mobility projects for disadvantaged and vulnerable communities. Partner with community-based organizations with connections to disadvantaged and vulnerable communities to engage the community in the development and implementation of the plan.		
Updated	T.1.1g:	Partner with community groups to obtain funding through the California Air Resources Board Carsharing and Clean Mobility Options Incentive Program for a pilot bike-share program for disadvantaged and vulnerable communities and to connect disadvantaged and vulnerable communities with the E-Bike Purchase Incentive Program through CalBike and the California Air Resources Board (CARB), 511 Contra Costa, Contra Costa Transportation Authority, and the Bay Area Air Quality Management District.		
	T-1.1h:	Promote active transportation through car-free events by identifying areas of the City to periodically close streets to cars, potentially coupled with the Farmer's Market or other large and regular community events.		
	T-1.1i:	Work with a partner such as Lyft, Lime, Bike East Bay, 511 Contra Costa, or Encina Bicycle Center, to establish a book-a-bike program within the Civic Center.		
	T-1.1j:	Devote staff time to tracking and applying for grant funding to complete projects that would improve active transportation or mobility in the community.		
	T-1.1k:	Implement all policy recommendations included in the Pittsburg Moves to improve pedestrian and bicycle networks and increase		

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Actions, Pillar, and Co-benefits	transit ridership based on the established timeframes. T-1.1l: Install approximately 45 miles of bikeways by 2040, including approximately 26 additional miles of shared-use paths; 7 miles of new buffered bike lanes; 8 miles of new bike boulevards; and 17 miles of new separated bikeways.		
Cost	**City Cost:** High	**Community Cost:** No cost	
Equity Guardrails	Access to Health and Safety Benefits, Equitable Allocation of Costs and Benefits, Promote Housing Affordability & Anti-Displacement, Continues Investment and Engagement, Provides Local and Accessible High-road Job Development		
KPI	Bicycle and pedestrian mode share (%)		

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T-1.2 – Implement public and shared transit programs to increase public transit mode share from 10.1% in 2020 to 12% by 2030 and 17% by 2045.

Increasing public transit mode share provides benefits beyond reducing GHG emissions from vehicles. Public transit and shared transportation can shift communities towards a healthier future by reducing local air pollutants and boosting quality of life. For Pittsburg, this means a safer and more affordable means of transportation, increased mobility, alleviating traffic congestion, improving air quality, enhancing accessibility for marginalized communities, and promoting economic growth by reducing transportation costs for individuals and businesses alike. Public transportation has substantially lower crash rates and lower crash severity[39] than automotive travel and improves public health by reducing air pollution. It also provides cost saving opportunities due to savings from less fuel, maintenance, insurance, and registration costs. Public transportation also fosters public health improvements because most public transit users regularly walk or bike to access points.[40] This trend can result in improved health and reduced medical expenses when coupled with the local air quality improvements that reduced mobile combustion of fossil fuels provides.

Actions, Pillar, and Co-benefits			
	T.1.2a:	Establish guidelines and recommended standards for new development of public space to be transit accessible and multi-functional by co-locating public facilities.	
	T.1.2b:	Consistent with the intention of Senate Bill 10, allow developers to build housing without off-street parking if they're close to frequent transit service.	
	T.1.2c:	Partner with Tri-Delta Transit to conduct a study to determine transit priority corridors and prioritize infrastructure improvements in existing neighborhoods that enable people to better access and use public transit.	
	T.1.2d:	Conduct engagement efforts for the general public and targeted to disadvantaged and vulnerable communities to understand the community's concerns around or barriers to using public and/or shared transit.	
	T.1.2e:	Through the adoption of an Overlay or Specific Plan, encourage employers to develop a Transportation Demand Management (TDM) Plan. Design a baseline TDM Plan for large employers (i.e., businesses with more than 25 employees) to adopt or model their TDM's after. TDM plans should include money-based	

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39. https://www.transportation.gov/mission/health/Expand-Public-Transportation-Systems-and-Offer-Incentives
40. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3407915/

Actions, Pillar, and Co-benefits	incentives for employees to bike, walk, carpool, or take the bus to work. T-1.2f: Conduct engagement efforts for the general public, with a targeted approach to disadvantaged and vulnerable communities to understand the potential concerns around the analysis of disincentive-based policies for driving single passenger vehicles. Through feedback from these engagement efforts, define equity metrics for the implementation of disincentive-based policies and depending on the outcome of the analysis, structure the policies to meet these metrics.		
Cost	**City Cost:** Moderate	**Community Cost:** Moderate	
Equity Guardrails	Access to Health and Safety Benefits, Equitable Allocation of Costs and Benefits, Promote Housing Affordability & Anti-Displacement, Continues Investment and Engagement		
KPI	Public transit and shared transport mode share (%)		

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Transportation

T-2 Increase Zero-Emission Vehicle and Equipment Use

- T-2.1 Increase passenger zero-emission vehicle adoption from 2.3% in 2020 to 15% by 2030 and 100% by 2045.
- T-2.2 Increase commercial zero-emission vehicle adoption from less than 1% in 2020 to 10% by 2030 and 100% by 2045.
- T-2.3 Transition 5% of all (i.e., commercial and residential) off-road equipment to zero-emission alternatives by 2030 and 100% by 2045.

T-2.1 – Increase passenger zero-emission vehicle adoption from 2.3% in 2020 to 15% by 2030 and 100% by 2045.

Widespread adoption of passenger zero-emission vehicles (ZEVs) provides a range of benefits including significantly reduced GHG emissions, improved public health, and cost savings. By avoiding the local combustion of fossil fuels, ZEVs reduce the level of smog, particulate matter, and other harmful pollutants that will, in turn, help reduce the incidence of respiratory illness.[41] Additionally, without fluids to replace and with fewer moving parts, ZEVs produce long-term costs savings through lower operating and maintenance costs than internal combustion engine vehicles. However, it is important that the transition to ZEVs is equitable and accessible to all Pittsburg residents. Purchasing a ZEV and upgrading home infrastructure to allow for charging (e.g., receptacle installation, electrical panel upgrade) can be an upfront cost difficult for members of disadvantaged and vulnerable communities to prioritize. Similarly, residents of rental and multi-family properties may lack the property rights to upgrade infrastructure for charging. The actions below focus on an equitable transition to ZEVs through the installation of publicly-available chargers across the City, the implementation of financing mechanisms for ZEVs and at-home chargers, and extensive research and engagement to begin developing a ZEV network that overcomes local barriers to implementation.

Actions, Pillar, and Co-benefits			
Updated	T.2.1a:	Establish a prioritized list of locations in Pittsburg for new publicly accessible electric vehicle charging stations with consideration for equitable distribution of chargers to renters, residents of multi-family homes, residents living on low and fixed-incomes, and disadvantaged and vulnerable communities. Include locations for Level 2 charging where residents make extended stops and locations for Level 3 charging (DC Fast Charging) for residents without access to overnight charging and for highway travelers. Install at least 50 new publicly accessible charging stations by 2030 and 100 by 2045, through public-private partnerships and on City-owned properties at the identified locations. Promote the availability of new public chargers on social media and on the City's website.		
	T.2.1b:	Continue to maintain a streamlined electric vehicle (EV) infrastructure permitting process and ordinance in accordance with AB 1236.		
	T.2.1c:	Allow for granting of zero emission vehicles (ZEVs) access to preferred parking spaces in new private parking lots, where it is logical, feasible and not cost-prohibitive.		

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41. https://www.sciencedirect.com/science/article/abs/pii/S0048969723003765?via%3Dihub

Actions, Pillar, and Co-benefits				
	T.2.1d:	Work with MCE and PG&E to incentivize residential electric vehicle charger installations and panel upgrades through on-bill financing. Promote the incentives through multi-lingual outreach material on the City's website and at community events.		
	Updated T.2.1e:	Coordinate with community-based organizations, local agencies, and non-profits to conduct ZEV education events for residents and targeted events for members of disadvantaged and vulnerable communities that would engage the community to evaluate the barriers to ZEV adoption, promote information on the costs and benefits of owning ZEVs, and promote steps on how to purchase a ZEV and receive incentives (including education on pre-owned EVs and how to determine current battery range).		
	T-2.1f:	Develop outreach and education materials and distribute to local businesses, rental and multi-family property owners, and developers on the financial (e.g., new funding streams), environmental, and health and safety benefits of ZEVs. Provide information on available funding opportunities and the City's streamlined permitting process.		
	Updated T-2.1g:	Conduct outreach, including interviews with residents and business owners to evaluate the feasibility of adopting an electric vehicle charging infrastructure reach code that meets or exceeds the minimum requirements of the Tier 2 Voluntary Standards under CALGreen. Partner with community-based organizations with connections to disadvantaged and vulnerable communities to include targeted outreach and interviews to members of disadvantaged and vulnerable communities to understand equity impacts of the reach code and barriers to adoption.		
	T-2.1h:	Explore opportunities to assist disadvantaged and vulnerable community members to purchase and operate ZEVs including:		

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Actions, Pillar, and Co-benefits	▪ Opportunities with CARB, BAAQMD, or other agencies to start a purchase rebate program and provide higher trade-in value for combustion vehicles ▪ Opportunities with MCE and other agencies to discount charger and/or electricity rates for those with an electric vehicle. T-2.1i: Collaborate with neighboring jurisdictions and the Contra Costa Transportation Authority to develop a connected network for zero emission vehicle car share. T-2.1j: Support zero-emission vehicle car share companies in coming to the City. Coordinate with car share companies and community-groups to develop an affordable, zero-emission vehicle car share to serve affordable housing and/or multifamily developments with a priority to target disadvantaged and vulnerable communities.	 	 
Cost	**City Cost:** High	**Community Cost:** Low	
Equity Guardrails	Access to Health and Safety Benefits, Equitable Allocation of Costs and Benefits, Promote Housing Affordability & Anti-Displacement, Continues Investment and Engagement, Provides Local and Accessible High-road Job Development		
KPI	Passenger ZEV adoption (%)		

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T-2.2 – Increase commercial zero-emission vehicle adoption from less than 1% in 2020 to 10% by 2030 and 100% by 2045.

In addition to improving air quality and reducing GHG emissions, increasing commercial ZEV adoption brings cost-savings, improved energy security, and increased competitiveness for businesses. Commercial ZEVs, such as electric delivery trucks, can help to reduce operating costs by minimizing fuel and maintenance expenses, while also providing cost-savings through improved energy efficiency. For this transition to be successful, it is important to confirm Pittsburg businesses of all sizes have access to the resources and support they need to make the transition. Furthermore, increasing commercial ZEV adoption can also lead to improved public health outcomes by reducing local air pollution in the City. Diesel-powered commercial vehicles are a significant source of particulate matter and other harmful pollutants, which can have negative health impacts, especially for vulnerable populations such as children, the elderly, and those with respiratory conditions. By transitioning to ZEVs, businesses can contribute to cleaner air and a healthier community and play an active role in establishing the most sustainable future. Additionally, increasing commercial ZEV adoption can also enhance energy security by reducing reliance on imported fossil fuels, which can be subject to price volatility and supply disruptions.

Actions, Pillar, and Co-benefits			
	T.2.2a: Consider establishing a licensing fee for commercial delivery vehicles operating on fossil fuels (such as Amazon and FedEx) to provide funding for new active transportation and EV charging/ZEV fueling infrastructure and discounting the fee for the proportion of electric vehicles the delivery company uses. Evaluation of the fee would include: ▪ Engaging directly with delivery service providers operating in the City ▪ Determining if phasing is needed ▪ Identifying gaps in ZEV fueling/charging infrastructure to maintain route efficiency.		
	T.2.2b: Encourage commercial vehicle fleet operators to accelerate electrification by providing them educational material on the benefits of ZEVs (e.g., fuel cost savings through networked charging and current availability of ZEVs ahead of State mandates), educating them on the City's streamlined permitting process, and compiling and distributing information on potential funding opportunities. Include Pittsburg Unified School District's zero-emission buses as a case study to demonstrate the feasibility and benefits of transitioning commercial fleets to ZEVs.		

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Cost	**City Cost:** Low **Community Cost:** Low
Equity Guardrails	Access to Health and Safety Benefits, Provides Local and Accessible High-road Job Development
KPI	Commercial ZEV adoption (%)

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T-2.3 – Transition 5% of all (i.e., commercial and residential) off-road equipment to zero-emission alternatives by 2030 and 100% by 2045.

Like the adoption of ZEVs, decarbonizing off-road equipment offers significant GHG emission reductions and air quality improvements. Off-road equipment, such as landscaping equipment and construction equipment, emit both GHG emissions and local smog-forming emissions. In California, total smog-forming emissions from small off-road engines exceed emissions from light-duty passenger vehicles. Likewise, operating a commercial leaf blower for one hour emits smog-forming pollution comparable to driving a new light-duty passenger car about 1,100 mile or over 15 hours of driving.[42] These characteristics mean zero-emission alternatives for off-road equipment can help create a cleaner and healthier Pittsburg. However, decarbonizing off-road equipment requires upfront costs that can be difficult for residential and business members of disadvantaged and vulnerable communities to navigate. An equitable transition to zero-emission alternatives requires a multi-faceted approach that addresses both the technical and financial barriers to adoption.

Actions, Pillar, and Co-benefits		
	T-2.3a:	Develop small off-road equipment (SORE) guidelines in alignment with CARB's goals encouraging that at time of replacement, zero emission landscape equipment be used starting in 2024 and portable generators be zero-emissions by 2028.
	T-2.3b:	Partner with BAAQMD to identify funding opportunities to encourage residents to replace gas-powered landscaping equipment and off-road engines with zero emission equipment with a focus on funding opportunities for members of disadvantaged and vulnerable communities and small and minority-owned businesses.
	T-2.3c:	Conduct an investigation of major commercial off-road equipment fleets in Pittsburg and identify fleets with highest decarbonization potential and fleets in disadvantaged and vulnerable communities that will need targeted support to transition.
	T-2.3d:	Develop an Off-road Equipment Replacement Outreach Campaign that provides information to contractors, residents, and fleet operators in Pittsburg, with a target towards those identified with high decarbonization potential

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42. https://ww2.arb.ca.gov/resources/fact-sheets/sore-small-engine-fact-sheet

Actions, Pillar, and Co-benefits		and small businesses owned by traditionally disadvantaged and vulnerable community members. Information should include equivalent alternatives to fossil-fueled off-road equipment, public health, and safety benefits of alternative equipment technology, and funding opportunities available (i.e., Clean Off-Road Equipment Voucher Incentive Program [CORE]).		
	T-2.3e:	Partner with BAAQMD to develop a rebate and incentive program for upgrading off-road equipment and switching to electric or biofuels. Develop the program with a focus on procedural equity and prioritize funding distribution to disadvantaged and vulnerable communities.		
	New T-2.3f	As part of the tool lending program at the library (see Action SW.2.1f), offer electric garden and landscape maintenance equipment including electric leaf blowers.		
Cost	**City Cost:** Moderate		**Community Cost:** Low	
Equity Guardrails	Access to Health and Safety Benefits, Equitable Allocation of Costs and Benefits, Promote Housing Affordability & Anti-Displacement, Continues Investment and Engagement			
KPI	Zero-emission off-road equipment adoption (%)			

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Water

W-1 Increase Water Conservation and Local Water Supply

W-1.1 Reduce per capita water consumption 10% by 2030 and 30% by 2045, from 2016 levels.

W-1.2 Increase recycled water use in the City.

W-1.3 Increase green stormwater infrastructure.

W-1.1 – Reduce per capita water consumption 10% by 2030 and 30% by 2045, from 2016 levels.

California has experienced its driest two decades in at least 1,200 years,[43] with models predicting the current "megadrought" to continue despite occasional heavy precipitation events, such as what the state experienced in winter 2023. This new reality underscores the pressing need for communities to take proactive steps to reduce water consumption, in order to build a resilient and sustainable future for all. By reducing community water consumption, we can help to preserve and protect this precious resource, ensuring that it remains available for the long-term. Moreover, reducing water consumption can also lead to significant cost savings for both residents and businesses alike, as lower utility bills can translate into real monetary savings. At the community level, reducing water consumption can enable fewer investments in water treatment and delivery infrastructure, resulting in a more efficient and cost-effective water system. In addition to the economic benefits, reducing water consumption can also have positive environmental impacts, such as reducing the energy required to pump and treat water, thus leading to energy savings.

Actions, Pillar, and Co-benefits			
Updated	W.1.1a:	Adopt a Water Conservation and Water Shortage Contingency Program Ordinance to establish a clear protocol of drought thresholds that trigger varying water use reduction strategies that focus primary on domestic water use, health and sanitation, and fire protection.	
	W.1.1b:	Continue to implement and enforce Model Water Efficient Landscape Ordinance to encourage use of efficient irrigation systems, greywater usage, onsite storm water capture, and limit the portion of landscapes that can be covered in turf.	
	W.1.1c:	Continue the "Delta Water Education Program" to promote and reinforce the importance of water resources, water conservation, and local management of watersheds and water quality, to children in the local community.	
	W.1.1d:	Continue to partner with Contra Costa Water District to promote water conservation messaging, including multi-lingual education materials such as publications, website pages, community events and booths, workshops and presentations, newsletters, newspaper ads, and bill inserts. Include targeted outreach to disadvantaged and vulnerable communities to reduce utility bill burdens.	

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43. https://www.nytimes.com/2022/02/14/climate/western-drought-megadrought.html

Actions, Pillar, and Co-benefits			
	W-1.1e: Continue to partner with Contra Costa Water District to provide water conserving fixtures/fittings and rebates for appliances to residents throughout Pittsburg, with a focus on disadvantaged and vulnerable communities to reduce utility bill burdens.		
	W-1.1f: Maintain a comprehensive, coordinated education campaign focused on property owners, landlords, property management companies, and occupants for reducing the use of water in homes and businesses. Establish a shared understanding of existing incentives for appliances, fittings and fixtures; lawns; and irrigation systems, and how to access them, including Contra Costa Water District incentive programs and rebates.		
	W-1.1g: Perform analysis to understand the feasibility and potential potable water savings of adopting a Dual Drainage Plumbing Ordinance to provide information to community members.		
	W-1.1h: Promote the Living Green Gardens, the City's water-wise public demonstration garden, to encourage efficient landscape and watering practices and to provide a hands-on learning experience for members of the community. Additionally, develop more classes on new materials and continue active maintenance of the garden.		
	W-1.1i: Implement water conservation strategies, such as increasing efficiency and use of recycled water, in City landscaping and grounds maintenance procedures.		
	W-1.1j: Consider the adoption of an ordinance in the Municipal Code that requires hospitality agencies (i.e., hotels and motels) to only provide daily services upon request and share such information with guests. Engage hospitality agencies and other stakeholders in the evaluation process.		

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Actions, Pillar, and Co-benefits	W-1.1k: Continue to partner with Contra Costa Water District (CCWD) to promote the "Lawn to Garden Rebate" to encourage residents and business owners to transition their existing lawns to waterwise landscaping. Provide specific outreach to multi-family and commercial entities, including providing flyers in water bills and partnering with "My Pittsburg Chamber" to provide information to business entities in the community.		
New	W-1.1.l: Apply for a rebate to transition non-essential municipal lawns to native, waterwise landscaping, and promote the Living Green Garden to continue offering a place for community members to visit and learn more about waterwise landscaping and available incentives and rebates, as well as information on local nurseries that provide native waterwise landscaping.		

Cost	**City Cost:** Moderate **Community Cost:** No cost
Equity Guardrails	Promote Housing Affordability & Anti-Displacement, Provides Local and Accessible High-road Job Development
KPI	Per capita water use (gallons)

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W-1.2 – Increase recycled water use in the City.

Increasing recycled water use in the City can increase adaptative capacity in Pittsburg while providing environmental and economic benefits. First and foremost, recycling water can help increase the adaptive capacity of the community by establishing an additional water supply that can be utilized during times of extreme drought or water scarcity. This additional water supply can also expand the community's access to a regenerative water source, providing strong equity benefits to Pittsburg communities. Additionally, recycling water can reduce the environmental impact of upstream water processes when compared to those for "new" water — such as extraction or the energy used to pump and deliver water long distances. When used to replace existing drinking water supplies for non-potable uses (e.g., irrigation and industrial uses), recycled water can lower water utility bills.[44] Additionally, recycled water can be used for groundwater recharge. Groundwater recharge through recycled water not only helps replenish depleted aquifers, but it also plays a crucial role in enhancing water availability during drought periods and mitigating the effects of over-extraction. By injecting treated recycled water into underground aquifers, the natural storage capacity of groundwater is replenished, creating a sustainable and reliable source of water for future generations. These characteristics equate to a dependable and affordable water supply that provides local businesses an incentive to remain in the City.

Actions, Pillar, and Co-benefits				
	W-1.2a:	Work with Delta Diablo to perform a feasibility study on increasing local recycled water supply through expansion in purple piping infrastructure or inclusion of tertiary treated wastewater effluent to supplement existing potable water supply. The feasibility study would evaluate potential impacts to cost of service and investigate ways to maintain or decrease costs of service through the projects.		
	W-1.2b:	Complete a feasibility study to identify opportunities for increased access to recycled water and to accurately determine the quantity of recycled water available to the City. The feasibility study would analyze possible land use types (i.e., landscaping and fields) and specific projects that could switch from potable to recycled water.		
	W-1.2c	Pursue funding opportunities at the State and federal level, such as the Clean Water State Revolving Fund and the US Bureau of Reclamation's WaterSMART grants, to create more financial incentive for increased recycled water infrastructure.		
	New W.1-2d	Continue to partner with Contra Costa Water District to identify new incentives and rebates		

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44. https://www.sciencedirect.com/science/article/pii/S0921344921005577

Actions, Pillar, and Co-benefits	and promote existing programs on the City's water webpage for opportunities such as the "Landscape to Laundry Greywater Rebates" to install a greywater system and "Car Wash Coupons" for car wash facilities that use recycled water to incentive residents to "go grey."		
Cost	**City Cost:** Moderate	**Community Cost:** N/A	
Equity Guardrails	Promote Housing Affordability & Anti-Displacement, Provides Local and Accessible High-road Job Development		
KPI	Change in recycled water use (million gallons)		

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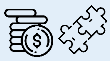
W-1.3 – Increase green stormwater infrastructure.

Green stormwater infrastructure refers to the construction and retrofit of storm drainage to reduce runoff volumes, disperse runoff to vegetated areas, harvest and use runoff where feasible, promote infiltration and evapotranspiration, and use bioretention and other natural systems to detain and clean runoff before it reaches our creeks and the Bay. It is a nature-based solution that in addition to improving water quality, increasing community resilience to precipitation events, and reducing consumption of potable water, provides a multitude of important co-benefits to the community. Green stormwater infrastructure can serve as visible green projects for the community that beautify neighborhoods, create ecological habitats, enhance economic vitality for local businesses, and demystify the groundwater management system by brining it above ground. Green stormwater infrastructure—such as pervious pavement, rain gardens, and rainwater harvesting systems—can be incorporated into construction on new and previously developed parcels, as well as new and rebuilt streets, roads, and other infrastructure within the public right-of-way. The actions below leverage the work Pittsburg is already doing to increase green stormwater infrastructure in the community and create a framework of incentives and education to increase the community's awareness of and participation in green stormwater infrastructure.

Actions, Pillar, and Co-benefits			
	W-1.3a:	Continue to implement the Green Infrastructure Plan to retrofit 4 acres of existing impervious surfaces through private and public developments; and update the plan as needed to monitor progress and revise project priorities.	 
	W-1.3b:	Continue compliance with the City's National Pollutant Discharge Elimination System (NPDES) permit to require new developments to convey runoff to engineered bioretention basins or vegetative features.	 
New	W-1.3c:	Partner with Contra Costa Water District to create incentives as part of their Rainwater Harvesting Program to help residents install rain barrels.	 
	W-1.3d:	Develop and promote incentive programs and rebates for residents and businesses to replace their impervious surfaces with pervious surfaces, including water-wise landscaping.	 
Updated	W-1.3e:	Continue to partner with Delta Diablo and Contra Costa Water District to conduct an on-going educational campaign to provide community members information on the benefits of green stormwater infrastructure and opportunities to incorporate green	 

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44. https://www.sciencedirect.com/science/article/pii/S0921344921005577

Actions, Pillar, and Co-benefits	stormwater infrastructure into their homes and business properties (including ways to harvest and use the rainwater). Consider developing an interactive map that identifies completed and ongoing green stormwater infrastructure projects in the City (including those at City-owned properties) for community members to explore.		
Cost	**City Cost:** Moderate	**Community Cost:** N/A	
Equity Guardrails	Promote Housing Affordability & Anti-Displacement, Provides Local and Accessible High-road Job Development		
KPI	Change in recycled water use (million gallons)		

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Water

W-2 Minimize Water Loss System-wide

W-2.1 Reduce real and apparent system water loss from a rate of 13% in 2020 to less than 10% by 2030 and less than 7% by 2045

W-2.1 – Reduce real and apparent system water loss from a rate of 13% in 2020 to less than 10% by 2030 and less than 7% by 2045

While reducing water consumption and increasing recycled water use helps increase resilience and affordability, a resilient and affordable water supply system is also one that minimizes real and apparent water losses. Although water loss from small household leaks might seem insignificant, leaks can seriously add up over the long-term. According to the US EPA, the average family can waste 180 gallons per week, or 9,400 gallons of water annually[45] from household leaks. These leaks are equivalent to the amount of water needed to wash more than 300 loads of laundry. These cumulative leaks not only waste water but also contribute to higher utility bills for consumers and put additional strain on water infrastructure systems. For this reason, reducing real and apparent system water loss from a rate of 13% in 2020 to less than 10% by 2030 and less than 7% by 2045 in the City can provide substantial water savings to the community and help alleviate utility bill burdens for members of disadvantaged and vulnerable communities.

Actions, Pillar, and Co-benefits

W.2.1a: Maintain and continually improve the advanced metering and public facing software that allows water customers to check real-time water consumption data and explore water conservation recommendations based on their actual water consumption history.

W.2.1b: Continue to enforce standards set by water waste prevention ordinances stipulated in the Municipal Code.

W.2.1c: Continue to partner with CCWD to promote their water efficiency rebates for residential and commercial customers. Develop flyers and other promotional material on the rebates to distribute at community events and perform targeted outreach to members of disadvantaged and vulnerable communities to help reduce utility bill burdens.

W.2.1d: Create a "How to Find and Fix a Leak at Home Guide" for distribution at public counters and events, promote "National Fix A Leak Week" in March of every year, and continue to incorporate water waste messaging into communications strategy.








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45. https://www.epa.gov/watersense/statistics-and-facts

Actions, Pillar, and Co-benefits	W.2.1e: Continue to partner with CCWD to provide Water Wise House Calls to residential customers and work with CCWD to expand the program to commercial customers to complete leak detections, provide tips to avoid high water bills, increase indoor and outdoor water efficiency, and provide information on how to monitor personal water use. Perform targeted outreach to promote the program to members of disadvantaged and vulnerable communities to help reduce utility bill burdens.		
Cost	**City Cost:** Moderate	**Community Cost:** No cost	
Equity Guardrails	Equitable Allocation of Costs and Benefits, Promote Housing Affordability & Anti-Displacement, Continues Investment and Engagement, Provides Local and Accessible High-road Job Development		
KPI	Real and apparent system water loss (%)		

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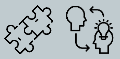
Solid Waste

SW-1 Organic Waste Diversion

SW-1.1 Continue to take action to meet SB 1383 organics and recycling requirements, reducing organic waste disposal 75% from 2014 levels by 2025.

SW-1.1 – Continue to take action to meet SB 1383 organics and recycling requirements, reducing organic waste disposal 75% from 2014 levels by 2025 statewide.

Sustainable solid waste management is a critical component to a healthy and inclusive Pittsburg. While waste may not be the most glamorous sector, it holds important connections to GHG emissions and community health, and when reimagined serves as a tangible touchpoint to every Pittsburg resident and business. Landfilled organic waste emits 20% of the state's total methane emissions[46]—a powerful GHG pollutant 28 times more potent than carbon dioxide. Meeting SB 1383 requirements and reducing emissions of short-lived climate pollutants (SLCP) like methane will not only have the most immediate impact on mitigating climate change, but also improve the health and safety of the community by reducing air pollutants, building access and security to healthy food through local food recovery programs, and fostering a connected Pittsburg by encouraging residents to participate in composting workshops and peer-to-peer learning events. Additionally, the implementation of these measures can lead to job creation and economic growth by stimulating the development of innovative technologies and the expansion of green industries.

Actions, Pillar, and Co-benefits			
	SW.1.1a: Adopt municipal procurement policies to comply with SB 1383 requirements for jurisdictions to purchase recovered organic waste products.		
New	SW.1.1b: Work with Mt. Diablo Resource Recovery to establish and implement a detailed outreach and engagement plan for restaurants, grocery stores, and other commercial entities that generate organic waste to provide education and available resources for increased organic diversion.		
	SW.1.1c: Support the County with information and collaborative planning to provide sufficient edible food reuse infrastructure to accept the capacity needed to recover 20% of edible food disposed or identify proposed new or expanded food recovery capacity.		
Updated	SW.1.1d: Continue working with the Bay Area Recycling Outreach Coalition and Mt. Diablo Resource Recovery and Pittsburg Unified School District to establish and provide exciting education and outreach programs for school children and adults around food waste prevention, nutrition education, and the importance of edible food recovery. The education program may include:		

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46. https://calrecycle.ca.gov/organics/slcp/

Actions, Pillar, and Co-benefits			
	▪ Composting principals, including information on what composting means and why it is important. ▪ Materials that can be composted, which typically include food scraps, yard waste, paper, and other organic matter. ▪ Methods for composting, such as aerobic, anaerobic, and vermicomposting. ▪ Composting equipment required for each potential composting methodology. ▪ Suggestions to troubleshoot or resolve any problems that arise, including information on potential odors and pests. ▪ How to efficiently apply and incorporate compost into soil.		
New	SW.1.1e: Investigate the opportunity to participate in a regional compost trading program to help meet organic waste procurement goals.		
Updated	SW.1.1f: Create relationships with local food recovery organizations, such as FoodShift, the Food Bank of Contra Costa and Solano, religious organizations, and edible food generators to support the establishment of an edible food recovery program to minimize food waste in the City.		
	SW.1.1g: Foster County partnerships to host home composting workshops in the City of Pittsburg and to provide reduced priced composting bins.		
	SW.1.1h: Provide free compost bins and kitchen-top food waste containers to members of disadvantaged and vulnerable communities and elderly households to increase participation in Mt. Diablo Resource Recovery's residential organics curbside program.		
	SW.1.1i: Monitor bill increases from participation in the residential organics curbside program and consider City incentive programs for members of disadvantaged and vulnerable communities to increase participation and reduce utility bill burdens.		

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Actions, Pillar, and Co-benefits New	SW.1.1j: Establish a Pittsburg Food System Alliance organization to build a network of leaders in Pittsburg to foster a local food system that eliminates food waste, alleviates the food desert, and brings affordable, organic produce to all. Partner with the City's Chamber of Commerce connect with business owners and serve as a conduit for the City.
Cost	**City Cost:** Moderate **Community Cost:** No cost
Equity Guardrails	Access to Health and Safety Benefits, Equitable Allocation of Costs and Benefits, Promote Housing Affordability & Anti-Displacement, Continues Investment and Engagement, Provides Local and Accessible High-road Job Development
KPI	Change in landfilled organic waste (%)

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Solid Waste

SW-2 Reduce Community Waste Generation

SW-2.1 Reduce community-wide waste generation 55% by 2025 and 90% by 2040 statewide, from 2014 levels.

SW-2.1 – Reduce community-wide waste generation 55% by 2025 and 90% by 2040 statewide, from 2014 levels.

Reducing waste conserves the energy and water that goes into the manufacturing and transportation of the products while mitigating the potential air, soil, and water contamination its disposal would cause. Additionally, minimizing waste also contributes to the overall sustainability and long-term well-being of our planet by preserving natural resources and reducing GHG emissions. Achieving communitywide waste reduction, and eventually a state-envisioned zero waste future,[47] starts at the local level and requires improving existing recycling programs and creating new pathways for waste reduction and reuse. Leveraging critical partnerships with groups like Mt. Diablo Resource Recovery and implementing waste diversion plans and targeted education/outreach will prove instrumental to supporting the community's efforts in waste generation reduction. Other actions include waste characterization studies to inform waste management planning, potential "problem material" bans, and additional partnerships to promote repair and reuse, all of which will help reduce, directly or indirectly, the environmental and health impacts of landfilled material.

Actions, Pillar, and Co-benefits			
	SW.2.1a: In partnership with Mt. Diablo Resource Recovery, create a Waste Diversion Plan to reduce waste and increase reuse in the City. Upon finalization, provide the plan to Pittsburg Unified School District, Los Medanos College, retirement communities, and other large institutions to use as a model for adopting their own policies to reduce waste and increase reuse.		
	SW.2.1b: Require large events, as defined in SB 1383, and encourage smaller events to employ or designate an event waste management team and have easy to understand waste, recycling, and organics bin signage to assist with source separation of waste generated at events.		
	SW.2.1c: Conduct periodic waste characterization studies of all City waste streams at the Recycling Center & Transfer Station to evaluate progress, hone approaches, customize outreach/policy, and inform targeted campaigns and policy. Fill in waste generation gaps by collecting data from take-back locations (e.g., grocery stores, auto shops, carpets, mattresses, battery collection).		

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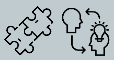
47. https://calrecycle.ca.gov/zerowaste/

Actions, Pillar, and Co-benefits			
	SW.2.1d: Partner with Mt. Diablo Resource Recovery to conduct targeted, multi-lingual, culturally appropriate, and geographically diverse waste prevention educational and technical assistance campaigns based on outcomes of waste characterization studies (e.g., food waste prevention, edible food recovery strategies, proper storage, how to fix clothes/electronics, how to donate, reusable alternatives, effects of over consumption, sustainable consumption habits, buying second hand, buying durable, sharing, and repurposing).		
	SW.2.1e: Impose a fee on single use bags and foodware to fund the waste reduction programs and studies.		
Updated	SW.2.1f: Partner with local businesses, nonprofits, and community groups or organizations to establish pop-up repair cafes for commonly broken and easily repaired items. Additionally, partner with the library to promote reuse by increasing accessibility to shared tools through a tool lending program. In addition to providing available resources, also work with experts in various fields to provide quick reference guidance documents or record short videos that residents can refer to when borrowing specific equipment to learn the most effective ways of using the tools available. Tools provided through the library could include: ▪ Power tools ▪ Hand tools ▪ Electrical tools ▪ Gardening tools ▪ Auto repair tools ▪ Bike repair tools ▪ Sewing and clothing repair tools		
	SW.2.1g: Based on waste characterization studies explore banning top "problem materials" (i.e., items without means of recycling or recycling		

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- IMPROVED HEALTH AND SAFETY
- CONNECTED COMMUNITIES
- REDUCED RELIANCE ON FOSSIL FUELS
- ENERGY SECURITY

Actions, Pillar, and Co-benefits	markets, such as sale of polystyrene, produce bags, plastic packaging, straws, plastics #4-7, mixed materials or a specific size/type/etc.). Engage small and minority-owned businesses through targeted outreach to identify equity impacts of such a ban. **New** SW.2.1h: Partner with Delta Diablo to promote use of the existing Household Hazardous Waste facility. Additional promotion and education to the community could include sending out an annual mailer, providing regular updates on Pittsburg's social media pages, and through flyers and brochures available at community events.		
Cost	**City Cost:** Low	**Community Cost:** Moderate	
Equity Guardrails	Promote Housing Affordability & Anti-Displacement, Continues Investment and Engagement, Provides Local and Accessible High-road Job Development		
KPI	Change in community-wide waste generation (%)		

Pillars

- EQUITY
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- PARTNERSHIP

Co-Benefits

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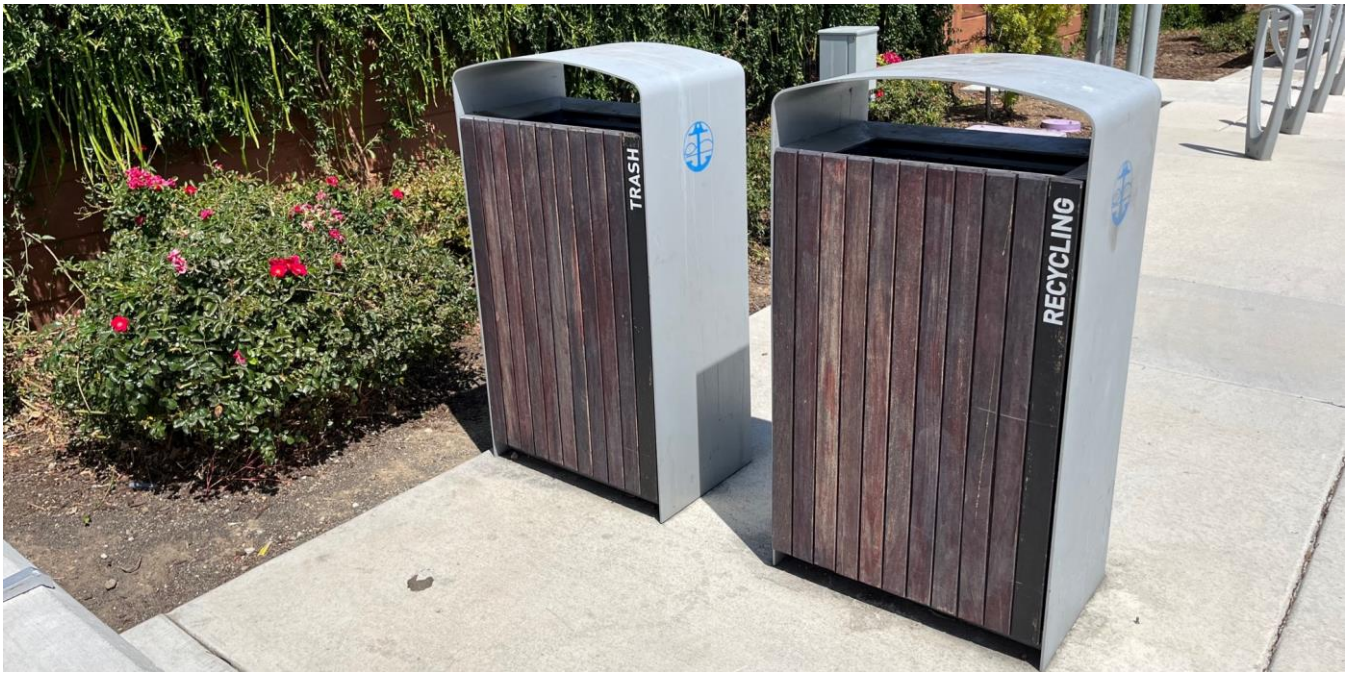
- IMPROVED HEALTH AND SAFETY
- CONNECTED COMMUNITIES
- REDUCED RELIANCE ON FOSSIL FUELS
- ENERGY SECURITY



Carbon Sequestration

CS-1 Carbon Sequestration

CS.1.1 Increase carbon sequestration by planting 150 new trees annually through 2045 to sequester carbon and create urban shade to reduce heat island effect.

CS.1.2 Increase carbon sequestration by applying 0.08 tons of compost per capita annually in the community by 2030, increasing up to 0.10 by 2045.

CS-1.1 – Increase carbon sequestration by planting 150 new trees annually through 2045 to sequester carbon and create urban shade to reduce heat island effect.

Increasing urban tree canopy coverage and protecting existing trees is essential for a healthier, more livable Pittsburg. Along with carbon sequestering benefits, a healthy urban tree canopy can support local cooling, stormwater absorption, and provide a wide variety of health benefits[48] for residents. By providing shade and cooling the air, adequate canopy coverage can reduce the urban heat island effect and mitigate the effects of climate change. For disadvantaged and vulnerable communities where there is below average tree equity, this can prove especially beneficial for both reducing energy costs due to cooling and minimizing disproportionate heat-health related problems. Further, by absorbing and filtering rainwater, trees can help to reduce stormwater runoff and improve water quality. This benefit can help to reduce the strain on the City's stormwater systems and prevent flooding. Studies have also shown that individuals have less mental distress, less anxiety and depression, greater wellbeing and healthier cortisol profiles[49] when living in urban areas with more greenspace. The wide-ranging benefits of a healthy urban tree canopy are clear, and the actions provide a framework for Pittsburg to economically and equitably implement tree planting and urban forestry management programs.

Actions, Pillar, and Co-benefits			
	CS.1.1a:	Conduct an urban forest inventory and canopy study to inventory the existing urban forest as a baseline and continue to identify areas in Pittsburg that have below average canopy coverage, such as census block group 60133141033 and 60133120001, to design and implement a tree planting program focusing on the least covered portions of the City. As part of the Urban Forest Inventory, establish a goal of having no significant difference in canopy coverage between census blocks by 2040.		
	CS.1.1b:	Continue protecting existing trees on private property through the Tree Preservation and Protection Ordinance and create a City incentive program (e.g., water bill rebate) for new tree plantings on private properties with a focus on members of disadvantaged and vulnerable communities and in areas where there is below average tree equity or canopy coverage.		
	CS.1.1c:	Amend the Municipal Code to include street tree requirements for all zoning districts, strengthen shade tree requirements for new developments, and include permeable surface requirements for new development.		

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 REDUCED RELIANCE ON FOSSIL FUELS
 ENERGY SECURITY

48. https://www.frontiersin.org/articles/10.3389/fevo.2021.603757/full
49. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5663018/

Actions, Pillar, and Co-benefits			
	CS.1.1d: Continue to dedicate staff time or create a staff position for obtaining grant funding for tree planting and urban forest management. Identify and apply for applicable federal (e.g., USDA) and state (e.g., California ReLeaf, Affordable Housing and Sustainable Communities Program (AHSC), Urban and Community Forestry Program) available grants for Tree Planting projects.		
	CS.1.1e: Develop and adopt an Urban Forest Management Plan that identifies the City's potential capacity for new tree planting, identifies a timeframe for implementation, provides a management plan for existing trees, and establishes a tracking system to assess progress towards annual benchmarks. Collaborate with community-based organizations with connections to disadvantaged and vulnerable communities in the development of the plan.		
	CS.1.1f: As an expansion to the Adopt-a-Spot Program, establish an Adopt-a-Tree program that enables individuals, businesses, and community organizations to plant and care for trees in selected communities with below average canopy coverage and disadvantaged and vulnerable communities. Program should provide formalized information on appropriate trees eligible for planting in Pittsburg (i.e., native, drought tolerant, locations).		
	CS.1.1g: Establish a Tree Trust or Tree Endowment where the interest on the principal can be used for purchasing trees in selected communities with below average tree canopy coverage, paying for tree maintenance in disadvantaged and vulnerable communities, or supporting staff resources for the Urban Forest Management Program.		
New	CS-1.1h: Continue the City's annual Citywide celebration Arbor Day event that encourages and educates residents on the importance of planting native trees and provides resources and support for		

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 ENERGY SECURITY

Actions, Pillar, and Co-benefits		community-led tree planting initiatives. Grow this event to include distributing free or discounted tree seedlings, hosting educational workshops on proper planting techniques and tree maintenance, partnering with local organizations and businesses to sponsor and organize planting events, and establishing a volunteer network to help maintain newly planted trees.		
	New CS-1.1i	Work with the Contra Costa County Resource Conservation District, East Bay Regional Park District, and community-based organizations such as Save Mount Diablo to preserve and expand greenspaces (i.e., large open spaces and regional parks) in Pittsburg to increase carbon sequestration and increase access to greenspaces.		
	New CS-1.1j	Partner with community-based organizations such as Healthy Hearts and the John Muir Land Trust to increase the number of and access to urban community gardens in Pittsburg. Utilize such gardens to increase carbon sequestration; increase access to greenspaces for renters, residents living in multi-family housing, and members of vulnerable and disadvantaged communities; and provide high-road job development opportunities for members of vulnerable and disadvantaged communities.		
Cost	**City Cost:** Moderate		**Community Cost:** No cost	
Equity Guardrails	Access to Health and Safety Benefits, Equitable Allocation of Costs and Benefits, Promote Housing Affordability & Anti-Displacement, Continues Investment and Engagement, Provides Local and Accessible High-road Job Development			
KPI	Number of new trees planted annually			

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ENERGY SECURITY

CS-1.2 – Increase carbon sequestration by applying 0.08 tons of compost per capita annually in the community by 2030, increasing up to 0.10 by 2045.

Beginning in 2022, Senate Bill (SB) 1383 requires cities to annually procure 0.08 tons of compost per capita. Meeting this annual procurement target provides Pittsburg an opportunity to reduce GHG emissions, leverage economic development, and foster environmental benefits. Applying compost to lands is an effective way to sequester carbon by storing it in the soil rather than releasing it to the atmosphere. Compost also provides additional environmental benefits including improving soil health, increasing water conservation, and providing erosion control—all of which can be important benefits for community parks, institutions, and other natural working lands. Moreover, applying compost at scale to meet the SB 1383 requirement will require new programs and investments in infrastructure. These investments provide Pittsburg an opportunity to support a green, self-sustaining economy that leverages high-road jobs development for the local workforce.

Actions, Pillar, and Co-benefits			
	CS.1.2a:	Conduct an informal audit of compost needs in the City to establish a baseline procurement and application level that meets City needs and increases over time.	
	CS.1.2b:	Complete a feasibility study to identify locations within the City to apply mulch to help meet the procurement requirements of SB 1383 and maximize the application of compost over time, working with the City's Parks Department to maximize compost usage at City parks.	
	CS.1.2c:	Collaborate with Los Medanos College and local schools to identify opportunities to apply compost to landscaping.	
	CS.1.2d:	Work with Alameda County and StopWaste to identify opportunities for a regional compost procurement program.	
	CS.1.2e:	Develop and adopt urban park guidelines that 1) provide flexible solutions for developing urban parks in infill areas where traditional neighborhood and community parks are not feasible; 2) establishes guidelines for achieving the greatest carbon sequestration potential of parks via design; 3) are equitable in ensuring such urban parks are accessible for members of disadvantaged and vulnerable communities while avoiding displacement; and	

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- ENERGY SECURITY

Actions, Pillar, and Co-benefits	4) align with requirements of the Clean California Local Grant Program for potential funding opportunities. Encourage urban parks as an opportunity to beautify the community and integrate art into sustainability projects.		
Cost	**City Cost:** Moderate	**Community Cost:** N/A	
Equity Guardrails	Promote Housing Affordability & Anti-Displacement, Continues Investment and Engagement, Provides Local and Accessible High-road Job Development		
KPI	Compost applied annually (tons per capita)		

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- ENERGY SECURITY

Municipal

M-1 Commit to Climate Action

M-1.1 Complete annual progress reports on Pittsburg's Sustainability Plan every three years.

M-1.1 – Complete annual progress reports on Pittsburg's Sustainability Plan every three years.

Municipal leadership is essential to effective climate policy implementation and serves as a sustainability model the community can follow. With changes in lifestyle and behaviors playing a significant role in mitigating climate change, Pittsburg will lead by example through the promotion of effective and accelerative actions, and the exhibition of their work through publicly available progress reports on the City's Sustainability Plan every three years. Assessing, tracking, and reporting key sustainability metrics over time will help targets be met, continuously address equity, and confirm that local actions are in line with state climate legislation. Additionally, fostering strong partnerships with local businesses and organizations will further enhance the city's climate efforts and create a more comprehensive and collaborative approach towards sustainability. Completing annual progress reports, increasing transparency, and spurring the progression of the Sustainability Plan will also further connect the community by providing a sense of accountability for goals that can only be reached through a collaborative effort.

Actions, Pillar, and Co-benefits			
	M.1.1a:	Designate staff to manage sustainability programs that implement the Sustainability Plan actions by managing technical studies, leading outreach efforts, updating the website, networking with partners and stakeholders, and pursuing grant opportunities.	
	M.1.1b:	Update the community wide GHG emissions inventory and progress on goals biannually in the monitoring tool and share the results with the community on the City's website to measure progress and maintain transparent accountability in making progress towards the Sustainability Plan goals.	
	M.1.1c:	Update the Environmental Services webpage at least annually to provide updates on policies implemented as part of the Sustainability Plan.	
	M.1.1d:	Devote staff time to tracking and applying for grant funding to complete regular Sustainability Plan updates.	
	M.1.1e:	Hold regular sustainability outreach events, such as workshops, presentations, focus groups targeted at specific community groups, public contests or challenges, and an annual event such as Earth Day. Inform the community on	

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ENERGY SECURITY

Actions, Pillar, and Co-benefits	potential climate change impacts, as well as weatherization and other actions that community members can take to implement actions outlined throughout the Plan. M-1.1f: Track and audit where goals are geographically implemented to determine that communities who are most impacted by climate change, including traditionally disadvantaged and vulnerable communities who would benefit the most from adaptation and mitigation efforts.		
Cost	**City Cost:** Moderate	**Community Cost:** N/A	
Equity Guardrails	Continues Investment and Engagement		
KPI	Number of community outreach events hosted, and value of grants acquired ($), annual progress report published		

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Co-Benefits

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- ENERGY SECURITY

Municipal

M-2 Reduce Municipal Reliance on Natural Resources

M-2.1 Electrify 25% of existing City facilities by 2030 and 100% of existing City facilities by 2045, as well as all newly constructed City buildings, while also increasing renewable energy use.

M-2.2 Transition 50% of the City's vehicle and equipment fleet to renewable fuels and electric by 2030 and 100% by 2045.

M-2.3 Reduce the number of single occupancy, fossil fueled vehicle annual employee commute trips 20% by 2030 and 50% by 2045.

M-2.1 – Electrify 25% of existing City facilities by 2030 and 100% of existing City facilities by 2045, as well as all newly constructed City buildings, while also increasing renewable energy use.

As the sustainability leader for the community, the City of Pittsburg will implement programs, policies, and objectives within our own operations to demonstrate the feasibility, cost-effectiveness, and climate and health benefits of various sustainability initiatives. These initiatives includes electrifying 25% of existing City facilities by 2030 and 100% of existing City facilities by 2045, as well as requiring all newly constructed City buildings to be all-electric. Electrification of the built environment will be critical to reducing municipal GHG emissions from fossil fuel combustion and eliminate the health risks of natural gas use in poorly ventilated areas. Leading by example is crucial because when the community witnesses the City's commitment to sustainability through tangible actions, it inspires and motivates them to adopt similar practices, fostering a collective effort towards a greener future.

Actions, Pillar, and Co-benefits			
	M.2.1a:	Complete energy audits for all City facilities and implement feasible recommendations for fuel switching and efficiency upgrades.	 
	M.2.1b:	Opt-up 100% of municipal accounts to MCE's Deep Green energy option by 2030.	 
Updated	M.2.1c:	Establish a policy requiring all new City-owned buildings be all-electric and a policy requiring all existing natural gas-powered equipment in City-owned buildings be replaced with electric or other zero-emission alternatives at the end of useful life, where technologically feasible.	 
	M.2.1d:	Identify a municipal building to pilot an all-electric retrofit. Track the change in energy usage and utility bill costs before and after the retrofit to study net benefits.	 
	M.2.1e:	Partner with PG&E through the Sustainable Solutions Turnkey (SST) program to install renewable energy technology at municipal facilities (such as City Hall) and become a net-zero energy organization.	 
	M-2.1f:	Partner with PG&E to identify and install battery energy storage systems at appropriate City facilities (including the City Hall/Police Station and the Pittsburg Marina), and leverage projects to further promote benefits of	 

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Actions, Pillar, and Co-benefits	distributed energy storage, which are directly connected to a renewable resource. M-2.1g: Complete analysis to identify the electrical capacity and utility infrastructure upgrades needed to electrify the recreational pool heating system. Pursue replacement funding through PG&E on-bill financing and California Energy Commission 1% Loans, or other funding sources.		
Cost	**City Cost:** Moderate	**Community Cost:** N/A	
Equity Guardrails	Access to Health and Safety Benefits, Provides Local and Accessible High-road Job Development		
KPI	Facilities electrified (%), share of new municipal construction electrified (%), and capacity of renewable energy installed (Megawatt)		

Pillars

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- ENERGY SECURITY

M-2.2 – Transition 50% of the City's vehicle and equipment fleet to renewable fuels and electric by 2030 and 100% by 2045.

The City of Pittsburg will continue to position ourselves as a sustainability leader and role model for the community by leveraging fleet electrification. We will transition 50% of our vehicle and equipment fleet to renewable fuels and electric alternatives by 2030 and 100% by 2045. Reducing GHG emissions from the transportation sector can have arguably the largest impact on mitigating climate change, and with the prices of EV batteries[50] and renewable energy[51] near all time lows. Making the switch now has never been more favorable. With more federal and state funding becoming available through the Inflation Reduction Act and various clean vehicle programs, the transition will also be cost-competitive and provide cost savings (from reduced fossil fuel, maintenance, etc.) over the life cycle of the vehicles and equipment.

Actions, Pillar, and Co-benefits			
	M.2.2a:	Conduct a study to assess the technological and economic feasibility of replacing the City-owned fleets and off-road equipment and develop a time of replacement schedule for applicable vehicle and equipment types.	
	M.2.2b:	Upon completion of the study, adopt a ZEV-first purchasing policy for non-essential City fleet vehicles, using the transition to encourage residents to convert as well.	
	M.2.2c:	Upon completion of the study, develop and implement a plan to replace all City owned end-of-life off-road equipment with zero-emission equipment. The plan should include evaluation of current City-owned equipment, alternative low or zero-emission options, prioritize equipment to replace first (e.g., largest GHG emission reduction potential), and a timeline for replacements that align with goals and feasibility of replacement.	
	M.2.2d:	Secure funding from programs such as the California Air Resources Board's Clean Vehicle Rebate Project and the Truck and Bus Voucher Incentive Program to increase procurement of EV or ZEV cars, trucks, and other vehicles and installation of EV/ZEV charging/fueling infrastructure at municipal facilities. Additionally explore opportunities for Low Carbon Fuel Standard credit generation from	




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- REDUCED RELIANCE ON FOSSIL FUELS
- ENERGY SECURITY

50. https://www.energy.gov/eere/vehicles/articles/fotw-1272-january-9-2023-electric-vehicle-battery-pack-costs-2022-are-nearly
51. https://www.washingtonpost.com/politics/2022/09/16/clean-energy-just-got-lot-more-cost-competitive-report-says/

Actions, Pillar, and Co-benefits	use of low carbon fuels/electricity for fleet vehicles. M-2.1e: Install new public and employee EV chargers at City-owned facilities. M-2.1f: Transition to all-electric landscaping equipment, including leaf blowers, for municipal operations. Use this to promote all-electric equipment in the community, providing information on the City website outlining available incentives for residents and businesses.		
Cost	**City Cost:** High	**Community Cost:** N/A	
Equity Guardrails	Access to Health and Safety Benefits, Provides Local and Accessible High-road Job Development		
KPI	Percent of fleet and equipment decarbonized (%)		

Pillars

- EQUITY
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Co-Benefits

- HIGH-ROAD JOB DEVELOPMENT
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M-2.3 – Reduce the number of single occupancy, fossil fueled vehicle annual employee commute trips 20% by 2030 and 50% by 2045.

Reducing the number of single occupancy, fossil-fueled vehicle employee commute trips annually can significantly reduce the GHG emissions resulting from municipal employee travel. Alongside GHG emissions reductions, reducing the number of single occupancy, fossil-fueled vehicle commute trips can provide cost-savings for employees and the City. While not as high during peak inflation periods in 2022, average California motor gasoline prices[52] are still hovering close to the highest they've been in two decades. Reducing single occupancy, fossil-fueled vehicle employee commute trips can equate to reduced fuel demands and therefore reduced commute/travel expenses for employees and the City. By exploring alternative modes of transportation for employees and offering telecommute or flexible schedule options to reduce commute/travel time, the City can heavily influence the transition to more efficient and economical employee commuting.

Actions, Pillar, and Co-benefits

M.2.3a: Complete a survey to understand how staff currently travel and what would make them change their patterns to establish an accurate baseline in which to build future goals.

M.2.3b: Expand EV charging at public facilities: Install new public and employee EV chargers at City-owned facilities, and:

- Consider developing and implement a fee for use of City-owned chargers to encourage efficient use and turnover, especially for those without home charging capability
- Consider allocating EV charger fee revenue towards projects that support EV infrastructure, alternative fuel projects, and active transportation projects in neighborhoods that are historically underrepresented

M.2.3c: Provide bicycles and bicycle storage for employees to use during work hours for short business or personal trips. Additionally, establish bike lockers at City Hall that are usable to the public.

M.2.3d: Expand the subsidized transit commute program to reduce employee commute miles in single occupancy vehicles.

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52. https://www.eia.gov/dnav/pet/pet_pri_gnd_dcus_sca_a.htm

Actions, Pillar, and Co-benefits	M-2.3e: Partner with Tri-Delta Transit, BAAQMD, Bike East Bay, the League of American Bicyclists, and/or Metropolitan Transportation Commission to expand employee use of carbon-free and low carbon transportation by providing education programs on the benefits of commute options including public transportation, EV/ZEV options, and vanpools. M-2.3f: Permit 25% of employees located at the City of Pittsburg to telecommute or utilize flexible schedules through 2030 to reduce travel time, vehicle miles traveled (VMT), and GHG emissions.	 	 
Cost	**City Cost:** High	**Community Cost:** N/A	
Equity Guardrails	Access to Health and Safety Benefits, Promote Housing Affordability & Anti-Displacement		
KPI	Change in annual single occupancy, fossil fueled vehicle employee commute trips (%)		

Pillars

- EQUITY
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Co-Benefits

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4. Implementation & Monitoring

Sustainability Plan: The First Step

The Sustainability Plan is the City's roadmap to work towards the established 2030 target which is consistent with the state's goal to reduce GHG emissions 40 percent below 1990 levels by 2030 While the Sustainability Plan goals and actions establish the City's first steps to work towards the 2030 target, more local work, goal development, and state actions will be needed to effectively reach the 2030 target and the longer-term carbon neutrality target in 2045. Additionally, the actions included in this Plan were developed to meet minimum state requirements, but the City reserves the right to exceed these requirements if determined beneficial for the community. Therefore, this plan should be viewed as a strategic framework that will be reevaluated on a triennial basis. This section details how the City will implement the actions, monitor progress, and prepare updates over time.

Team Pittsburg

Achieving long-term GHG emission reduction targets will require participation from everyone. The City can help provide new services and technologies by implementing actions from training the local workforce and providing electric vehicle charging infrastructure to designating bike lanes, but it is up to the broader community to embrace these new services and technologies and gain the benefits outlined in this plan. Making meaningful progress towards reducing our GHG emissions starts with City leadership, through policies, education, and investments that act as catalysts for change throughout the wider community. Community partners like MCE, Tri Delta Transit, and local utility providers also support these policies with incentives and programs. Businesses can then leverage these policies to provide new services and adopt more sustainable practices. Finally, residents and visitors that have been provided with the incentives and education can actively work together to reduce our environmental impacts, become more sustainable, and decrease GHG emissions. As policies and programs are developed and infrastructure is constructed, City staff will continue to engage the community, provide progress updates and create ongoing opportunities to solicit community feedback.

The City looks forward to working together with you to become more sustainable and reduce our long-term impact from GHG emissions through new/updated programs and opportunities that will help us meet our goals. *Thank you for being part of our team!*

Cost of Implementation

Anticipated cost estimates for each goal are provided as a range in Section 3, *GHG Reduction Strategy*. For each goal, the cost estimate focuses on both internal costs (municipal-focused) and external costs (community-focused) and provides insight into the variability of these costs. The primary variables that may affect cost effectiveness include upfront versus lifecycle costs and the cost of inaction, which are discussed further below in more detail.

Upfront versus Lifetime Costs

When evaluating how much specific initiatives cost, it is important to differentiate between the upfront costs, such as purchasing an electric vehicle, versus the lifecycle costs which include purchasing, operating, maintaining, and ultimately disposing of that vehicle. Purchasing an electric vehicle could cost more than the industry average vehicle. However, the lifecycle costs of owning an electric vehicle are comparable and sometimes lower than the lifecycle costs of owning an internal combustion engine vehicle. While electric vehicles are more expensive upfront, their operating and maintenance costs are lower since they do not have fluids to replace, have fewer moving parts like transmissions, and experience less brake wear. These lower operating and maintenance costs make the lifecycle costs of owning an electric vehicle comparable and many times lower than an internal combustion engine vehicle, even though the upfront costs were higher. This example demonstrates the importance of considering the lifecycle costs for each goal rather than just the upfront costs.

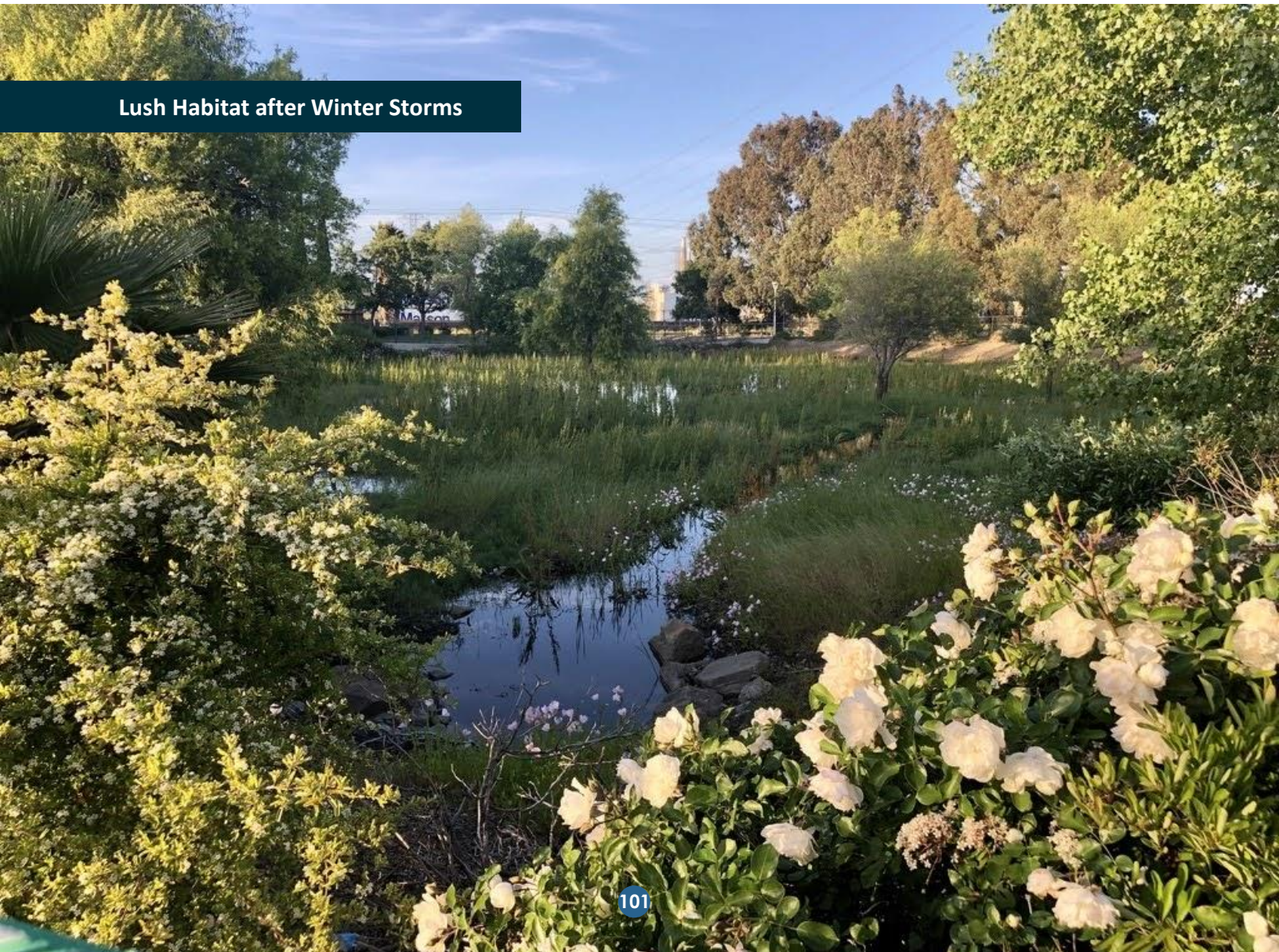
Additionally, it is anticipated that the cost of electric vehicles will continue to go down as manufacturers continue to implement innovative battery technologies and refine the process to build more affordable models.

It is important to keep in mind that doing nothing to prepare for and mitigate climate change will also carry a cost. The alternative to implementing these goals is not zero.

The Cost of Inaction

One immediate example demonstrating the cost of inaction is installing conduit and panel capacity for electric vehicle chargers for all new construction. While this action increases upfront can be an order of magnitude higher (~$3,000). Given the move towards electric vehicles, the cost of not installing EV infrastructure today could cost the community significantly more in the future. In a similar vein, adaptation goals will cost the City and the community today. Planting trees, installing microgrids, and setting up cooling centers all have upfront costs. However, it's important to weigh these costs against the costs of a future without these adaptive goals given what we know about impacts from a changing climate. Research published in the journal Nature, predict the global cost of not decreasing emissions to reach carbon neutrality by mid-century could range between $149.78 trillion to $791.98 trillion by the end of the century.[53] That same study found that if we

53. https://www.nature.com/articles/s41467-020-15453-z



Lush Habitat after Winter Storms

mitigate climate change and achieve carbon neutrality by mid-century the world could see a $127 to $616 trillion economic benefit after considering the cost of mitigation. The humanitarian impact is also significant. The Red Cross and Red Crescent Societies estimate that the number of people in need of humanitarian aid each year could double to 200 million annually by 2050 due to climate change, costing approximately $20 billion per year.[54] Furthermore, the World Resources Institute has found that investing in adaptation and resilience provides a benefit-cost ratio ranging from 2:1 to 10:1, meaning that for every dollar invested in resilience and adaptation can equate to $2 to $10 dollars' worth of benefits.

Prioritization of Funding

In general, three main principles guide how strategies and future sustainability initiatives should be prioritized, which include:

1. **Equity.** The costs of implementing policies should be equitably spread amongst the community, taking extra care to limit new costs being placed upon segments of the population that are least able to shoulder them (i.e., disadvantaged and vulnerable communities). Where certain segments of the community will benefit disproportionately from an action, the costs should be spread accordingly.

2. **Cost-Effectiveness.** Strategy implementation should prioritize cost-effective actions, which can generate cost savings that will offset the costs to those who are required to pay for its implementation. While some actions may require some initial capital outlay, whenever possible these actions should generate long-term cost savings that will repay and even generate a return on investment.

3. **Ability to Leverage Local Resources.** Leveraging will involve using outside sources of funding to augment local resources to fund implementation of the Sustainability Plan whenever possible. The City will seek grants, matching funds, in-kind contributions, and other resources from State, Federal, and philanthropic sources to help pay for actions and limit the cost to the City, residents, and businesses.

These components were identified and analyzed for each of the goal during the development phase to establish a plan that can be successfully implemented over time, with the smallest burden on the community.

What can we do Today?

One of the main goals of the Sustainability Plan is to bring awareness to sustainability in the community across all sectors and provide information about what we can each do today to make a difference and set our community on the path towards a more sustainable future with significant GHG emission reductions.

City Leadership

Due to the systemic nature of climate change, relying on voluntary, individual actions will not be enough to reduce GHG emissions in a significant way. However, that does not derail the progress of our individual actions, which could collectively result in real change. Local governments across the United States are stepping up as leaders of climate action and innovation. Reducing GHG emissions is going to require serious commitment, and communities like Pittsburg are perfectly situated to begin implementing new solutions to reduce GHG emissions in our local municipalities.

Making meaningful progress towards reducing Pittsburg's GHG emissions starts with the leadership of City government, through strong actions like providing permit incentives and developing equitable outreach programs that spur change in the community. There is a wealth of opportunities for the City of Pittsburg to take action to improve the community while also reducing its GHG emissions. It is important that these opportunities are taken advantage of, so

54. https://reliefweb.int/report/world/cost-doing-nothing-humanitarian-price-climate-change-and-how-it-can-be-avoided

real momentum can be built upon, and Pittsburg can establish a path towards the 2030 GHG emission reduction targets.

Actions that the Pittsburg City government can take today to lead the way on local sustainability action include:

- Providing incentives for residential and commercial electrification that have been reviewed and updated for procedural equity
- Developing outreach programs to educate residents about available incentives for energy efficiency retrofits, such as installing LED lightbulbs or upgrading old appliances
- Applying for grants to provide funding for sustainability programs and green infrastructure, such as building new bike lanes or improving the City's urban canopy

Community Role

As a resident or visitor of Pittsburg, we can also create direct change by making conscientious choices and actively engaging in sustainable initiatives. Figure 10 shows six example actions that individuals can take to be more sustainable and reduce their personal GHG emissions in the short-term. For additional actions that you can take today that will reduce your GHG emissions, see Section 3 (*GHG Emission Reduction Strategies*), where individual actions for residents and businesses are discussed that align with the City's emission reduction and adaptation strategies, respectively.

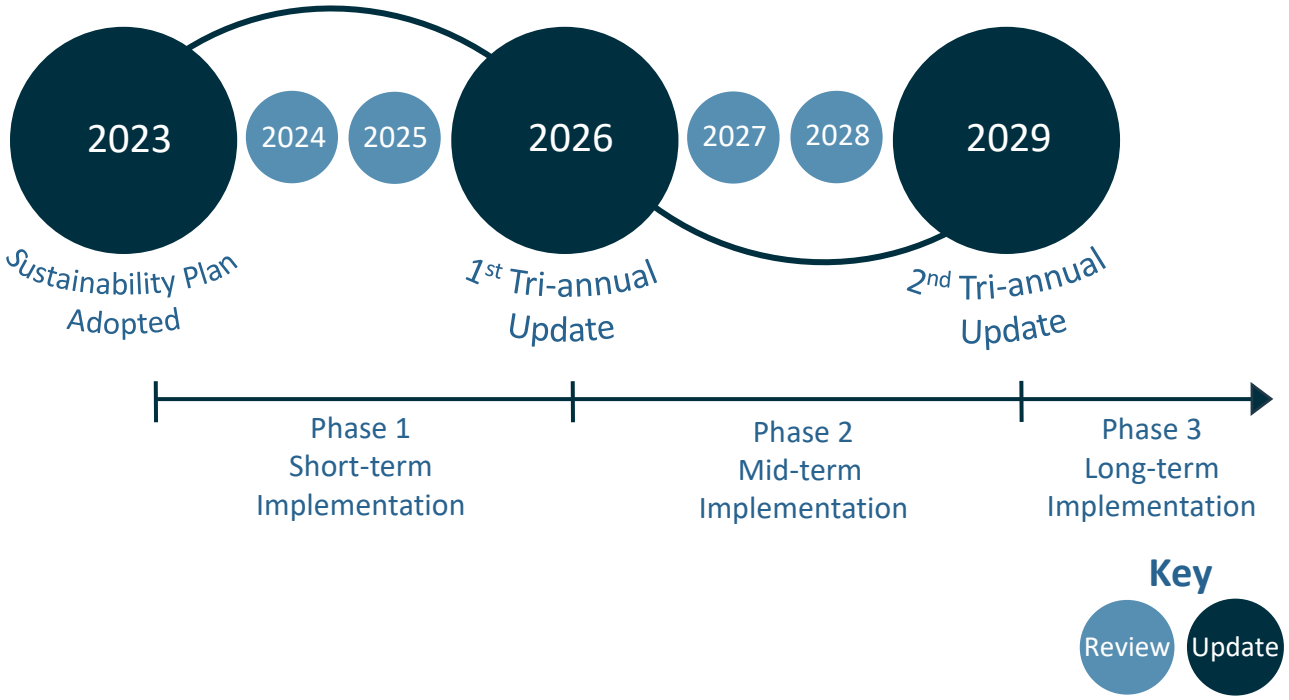
Monitoring Timeframe and Tools

As part of the Sustainability Plan, the City will complete an annual progress report using CAPDash as well as a triennial review and update of the plan. The timeline in Figure 11 shows the monitoring and triennial update schedule for the plan, with a phased approach to goal implementation. The annual progress reports will include calculating an annual community wide GHG emissions inventory in CAPDash, as well as updating the progress of the emission reduction measures in the tool.

The City will conduct internal annual implementation monitoring of the GHG emissions reduction goals and report on this progress to City Council every third year beginning in 2026. The process for monitoring and quantifying goal implementation status relies on key target metrics identified for each of the goals and actions, as summarized in Section 3.

Figure 10. What Can I do Today?

Figure 11. Monitoring Timeline



By committing to annual monitoring of implementation progress and adjusting where necessary, Pittsburg can rise to meet the local and global imperative of reducing GHG emissions. In the process of meeting that challenge, we will benefit from the supplemental health, economic, resilience, and other co-benefits of the GHG emissions reduction measures. This plan marks another major milestone in the City's commitment to a sustainable future. A full implementation summary is saved in Table 10.

Table 10. Implementation and Monitoring Table

Strategies, Goals, and Actions		Lead	Phase	Notes/Comments (Future Use)
Strategy C-1 Cornerstone to Climate Action Planning				
Goal C-1.1 Provide high-road jobs to members of disadvantaged and vulnerable communities through a local High-road Workforce Development Program.				
C-1.1a	Establish a High-road Workforce Development Program that provides incentives to Pittsburg businesses and potential developers to establish apprenticeships programs for Pittsburg members of disadvantaged and vulnerable communities.	Community Development – Economic Development	1	
C.1.1b:	Apply for grant opportunities to offer incentives to employers and developers for implementing local workforce apprenticeship programs, through grants such as Transformative Climate Communities Implementation Grant and High Road Training Partnerships: Resilient Workforce Fund Program.	Community Development – Economic Development	1	
C.1.1c:	Perform an analysis on current workforce opportunities within the City that provide potential for high-road jobs through direct engagement with local businesses. Through this analysis establish the criteria for high-road jobs and identify opportunities for bringing in additional developers and businesses that will provide jobs that meet these criteria.	Community Development – Economic Development	1	
C.1.1d:	Partner with community-based organizations with connections to disadvantaged and vulnerable communities to perform direct engagement promoting opportunities within the High-road Workforce Development Program.	Community Development – Planning and Economic Development	1	
C.1.1e:	Create a City webpage to provide resources related to the High-road Workforce Development Program to allow for posting of available resources and to develop an internship/apprenticeship board for local employers and Los Medanos College to share employment opportunities.	Community Development – Economic Development	1	

Strategies, Goals, and Actions		Lead	Phase	Notes/Comments (Future Use)
Goal C-1.1 Provide high-road jobs to members of disadvantaged and vulnerable communities through a local High-road Workforce Development Program.				
C.1.1f:	Amend the City's bid procurement and evaluation process to include local workforce (i.e., including Pittsburg residents in the project workforce) as a criterion for evaluating capital improvement project bids.	Public Works – Engineering	1	
Strategy E-1 Electrify the Building Stock				
Goal E-1.1 Electrify 75% of new construction in the City by 2026 and 100% of new construction in the City by 2029.				
E-1.1a	Conduct a cost effectiveness study by 2025 to analyze the impact of adopting an electrification ordinance for all new construction to inform future consideration of an ordinance.	Community Development – Planning and Building, Environmental Services	1	
E-1.1b	Identify and partner with local community-based organizations with connections to disadvantaged and vulnerable communities to conduct targeted outreach to identify and analyze equity concerns with an electrification ordinance for all new construction to inform future consideration of an ordinance.	Community Development – Planning and Building, Environmental Services	1	
E-1.1c	Establish partnerships with the Building Decarbonization Coalition, MCE, Bay Area Regional Energy Network, the International Brotherhood of Electrical Workers, and others, to engage with local interested parties from the building industry, such as local developers, to evaluate the feasibility of adopting an electrification ordinance for all new construction and inform future consideration of an ordinance.	Community Development – Planning and Building, Environmental Services	1	
E-1.1d	Partner with organizations such as the Building Decarbonization Coalition, MCE, and Bay Area Regional Energy Network to compile a suite of case studies and cost-effective strategies (e.g., energy efficiency improvements) for electric buildings by prototype, help educate building owners and the construction	Environmental Services, Community Development – Planning and Building	1	

Strategies, Goals, and Actions		Lead	Phase	Notes/Comments (Future Use)
Goal E-1.1 Electrify 100% of new construction in the City by 2026.				
	industry on the cost savings, environmental benefits, and versatility associated with all-electric construction, and educate developers and other interested parties on new appliances and approaches to building electrification. Share the information on the City's website, at City events, and at the City's permit counters.			
E-1.1e	Provide education around cooking with electric appliances partner with local chefs and/or restaurants to host cooking demonstrations at community events such as the Farmers' Market, Green Footprint Festival, or Pittsburg First Fridays.	Community Development – Economic Development, Environmental Services	1	
E-1.1f	Partner with the Bay Area Regional Energy Network and the International Brotherhood of Electrical Workers, or similar entities, to provide technical resources, including hosting workforce development trainings as part of the Highroad Workforce Development Program for installers, local contractors, and building owners/operators to discuss the benefits and technical requirements of electrification. Partner with community-based organizations to connect members of disadvantaged and vulnerable communities to these training programs.	Community Development – Economic Development, Environmental Services	1	
Goal E-1.2 Electrify existing residential buildings to reduce residential natural gas consumption 15% by 2030 and 100% by 2045, from 2016 levels.				
E-1.2a	Develop a residential building electrification strategy with a detailed existing building analysis and electrification costs analysis to understand cost implications, identify potential equity concerns/impacts, and develop equitable strategies and recommended standards for electrifying existing residential buildings such as those that increase energy efficiency and tenant protections. Identify and partner with local community-based organizations with connections to disadvantaged and vulnerable communities to conduct	Community Development – Building, Environmental Services	1	

Strategies, Goals, and Actions		Lead	Phase	Notes/Comments (Future Use)
Goal E-1.2 Electrify existing residential buildings to reduce residential natural gas consumption 15% by 2030 and 100% by 2045, from 2016 levels.				
	intentional, thoughtful, and specific community outreach during development of the electrification strategy to understand the community's concerns and needs around electrification.	Community Development – Planning and Building	2	
E-1.2b	During the electrification strategy development process, engage the community to evaluate the feasibility of adopting a time of replacement electrification ordinance in the future for HVAC and hot water heaters.	Community Development – Building, Environmental Services	1	
E-1.2c	Develop a permit tracking program for existing building electrification to track annual progress in achieving the electrification goals.	Community Development – Planning, Environmental Services	1	
E-1.2d	Partner with stakeholders such as MCE and PG&E to understand the feasibility of, establish, and promote funding pathways to ease community costs for electric appliances, electrification retrofits, and panel upgrades through: • Federal and state grants/subsidies • Tariffed On-bill financing • Metered energy efficiency • Linking electrification to existing weatherization programs	Community Development – Economic Development, Environmental Services	1	
E-1.2e	Partner with PG&E to provide free electrification assessments to rental and multi-family properties to provide recommendations on electric upgrades and funding opportunities.	Community Development – Planning and Building, Environmental Services	1	
E-1.2f	Establish a working group of rental and multi-family property owners, as well as tenants that live in these units to: • Identify common goals (e.g., saving money on utility bills, reducing carbon footprint, improving indoor air quality) • Collaborate on initiatives, which would provide a space for tenants and homeowners to implement initiatives that align with the shared goals (e.g., installing energy-efficient lighting or appliances, adding building insulation, and/or installing solar panels).	Environmental Services	1	

Strategies, Goals, and Actions		Lead	Phase	Notes/Comments (Future Use)
Goal E-1.2 Electrify existing residential buildings to reduce residential natural gas consumption 15% by 2030 and 100% by 2045, from 2016 levels.				
	• Establish communication channels to discuss progress, address hurdles, and work together on implementation. • Share resources between tenants and homeowners.			
E-1.2g	Conduct targeted outreach to rental and multi-family property owners to distribute information about available retrofit incentives and long-term benefits, associated with electrification and weatherization.	Community Development – Planning and Building, Environmental Services	1	
E-1.2h	Review and update building codes to provide streamlined permitting for all electric retrofits. Provide Building Department staff training and information on the benefits of electrification for permit applicants.	Community Development – Building	1	
E-1.2i	Partner with MCE and PG&E to review incentives, rebates, and financing options for procedural equity and ensure that existing and updated incentive programs are being equitably distributed to the community to reduce energy bill burdens. Hurdles to equitable implementation could include credit checks, excessive procedural hurdles and lack of targeted outreach.	Environmental Services	1	
E-1.2j	Work with MCE to a conduct feasibility study to evaluate the current uptake and effectiveness of Proper Assessed Clean Energy (PACE) financing for installation of renewable energy systems in single-family and multi-family homes. If feasibility study indicates effectiveness, continue to offer PACE financing for single-family and multi-family homes to install renewable energy systems.	Community Development –Building	1	
E-1.2k	Partner with a financing/management company - to provide electrification services and financing to the community with prioritization of members of disadvantaged and vulnerable communities.	Community Development – Economic Development, Environmental Services	2	

Strategies, Goals, and Actions		Lead	Phase	Notes/Comments (Future Use)
Goal E-1.2 Electrify existing residential buildings to reduce residential natural gas consumption 15% by 2030 and 100% by 2045, from 2016 levels.				
E-1.2l	Partner with Pittsburg Below Market Rate (BMR) housing stock owners to develop a strategy to begin electrifying publicly owned BMR housing. Identify a group of publicly owned BMR housing to conduct a full electrification pilot to help test and further develop the strategy. Promote the pilot as an example to the wider community on the feasibility and benefits of residential electrification.	Community Services-Building, Community Services – Housing Authority, Environmental Services	2 – 3	
Goal E-1.3. Electrify existing commercial buildings to reduce commercial natural gas consumption 15% by 2030 and 100% by 2045, from 2016 levels.				
E-1.3a	Develop a strategy to support commercial building electrification, including initiatives and recommended standards for retrofitting commercial buildings, prioritizing appliance replacements, and avoiding expansion of natural gas infrastructure.	Community Development – Building, Environmental Services	1	
E-1.3b	Conduct engagement efforts for the commercial sector during development of the building electrification strategy to understand potential concerns and barriers to commercial electrification and educate commercial property owners on the potential cost savings and other benefits of electrification. Include targeted outreach to small businesses and minority-owned businesses to understand potential equity concerns with commercial electrification during the strategy development process.	Community Development – Building, Planning, and Economic Development, Environmental Services	1	
E-1.3c	Continue to work with Bay Area Regional Energy Networks, MCE, and StopWaste to improve, implement, and promote commercial electrification rebates and financing opportunities, as well as other offered incentives. Review the incentives for procedural equity and promote them to small and minority-owned businesses through targeted outreach.	Environmental Services, Community Development – Economic Development	1	
E-1.3d	Conduct focused interviews with commercial property owners to evaluate the feasibility of adopting a commercial building	Community Development –	2	

Strategies, Goals, and Actions		Lead	Phase	Notes/Comments (Future Use)
Goal E-1.3. Electrify existing commercial buildings to reduce commercial natural gas consumption 15% by 2030 and 100% by 2045, from 2016 levels.				
	electrification ordinance to ban the expansion of natural gas infrastructure and require appliance replacements to be all-electric where technologically feasible. Include interviews specifically with small and minority-owned businesses.	Economic Development and Building, Environmental Services		
E-1.3e	Track annual progress on commercial building electrification through the same permit tracking program developed for residential building electrification.	Community Development – Building	2	
E-1.3f	Conduct engagement efforts for the commercial sector to identify ways the City can support commercial battery storage installations.	Community Development – Building and Economic Development	2	
E-1.3g	Partner with the Chamber of Commerce to inform and facilitate electrification for commercial business owners.	Environmental Services, Community Development – Economic Development	2	
E-1.3h	Use municipal electrification efforts to promote the cost-saving benefits and feasibility of electrification to the commercial sector. Promote municipal building electrifications on the City's website and at City permit counters with information on costs, timescale, and utility bill savings for each project.	Community Development – Economic Development and Building, Environmental Services	2	
Strategy E-2 Decarbonize Electricity and Increase Use and Storage of Local Renewable Energy				
Goal E-2.1. Increase the number of accounts enrolled in MCE's programs to 95%, with a total of 40% of accounts enrolled in the Deep Green energy option by 2030.				
E-2.1a	Continue to work with MCE to conduct an annual analysis of opt-out rates in the City and expand the research to understand why residents and businesses opt out of MCE. Include targeted outreach to residents living on low and fixed incomes and disadvantaged and vulnerable communities to identify barriers to remaining with MCE.	Environmental Services	1	

Strategies, Goals, and Actions		Lead	Phase	Notes/Comments (Future Use)
Goal E-2.1. Increase the number of accounts enrolled in MCE's programs to 95%, with a total of 40% of accounts enrolled in the Deep Green energy option by 2030.				
E-2.1b	Partner with MCE to design educational campaigns, including tabling at community events, establishing informational resources on the City's website, regularly posting on social media, and developing energy bill inserts, to highlight the benefits of 100% renewable energy.	Environmental Services	1	
E-2.1c	In collaboration with MCE, implement a pilot program to provide Pittsburg's affordable housing units managed by the Pittsburg Housing Authority MCE's Deep Green service by 2025. Identify funding options with MCE such as subsidy of pilot study through the non-discounted customers or grant funding.	Community Services – Housing Authority	1	
E-2.1d	Support an equitable transition to renewables by partnering with MCE to create a funding or subsidy program for customers enrolled in the California Alternate Rates for Energy (CARE) or Family Electric Rate Assistance (FERA) programs to opt-up to MCE's Deep Green option. This may include subsidizing costs to customers who participate in CARE/FERA programs through non-discounted customer rate increase or obtainment of funding for disadvantaged and vulnerable communities. Include targeted outreach to educate residents on the availability of energy savings programs to help offset potential rate increases when opting-up.	Community Development – Economic Development	2	
Goal E-2.2. Increase generation and storage of local renewable energy.				
E-2.2a	Establish and streamline standards and permit requirements for electrification-related installations and battery storage systems, to allow for easier implementation of these technologies in Pittsburg.	Community Development – Building	1	

Strategies, Goals, and Actions		Lead	Phase	Notes/Comments (Future Use)
Goal E-2.2. Increase generation and storage of local renewable energy.				
E-2.2b	Consider adopting a PV (Solar) Ordinance requiring residential and nonresidential building additions and alterations to install PV systems that meet minimum requirements of Tier 2 Voluntary Standards under CalGreen. Engage with local building industry stakeholders to understand concerns and develop exemptions to the ordinance where the installation of PV systems may not be economically feasible.	Community Development – Planning, Building, and Economic Development	1	
E-2.2c	Expand the partnership with GRID Alternatives through increased funding/promotion and promote the benefits of renewable energy through multi-lingual educational programs in order to support an equitable transition to renewable energy.	Environmental Services	2	
E-2.2d	Work with PG&E, MCE, and/or other community partners to support and incentivize local on-site energy generation and storage resources. This could include: • Connecting home and business owners, particularly those in disadvantaged and vulnerable communities, to incentives for renewable energy and storage including Net Metering Programs through PG&E for bill credits, the Disadvantaged Communities-single-family Solar Homes (DAC_SASH) program, Self-Generation Incentive Program (SGIP), and Equity Resilience rebates that provide an upfront rebate for battery storage, as well as the federal investment tax credit. • Promoting installation of storage technology in concert with renewable energy infrastructure through multilingual education programs, outreach, and information provided via City platforms. • Evaluating the feasibility of installing on- and off-site co-located community solar and storage facilities and, if demonstrated effective, installing at least 3 by 2030 to provide cost-saving and resilience benefits to disadvantaged and vulnerable communities.	Community Development – Economic Development, Environmental Services	2	

Strategies, Goals, and Actions		Lead	Phase	Notes/Comments (Future Use)
Goal E-2.2. Increase generation and storage of local renewable energy.				
E-2.2e	Provide educational materials and workshops to large commercial developers and large business property owners of the benefits of microgrids and energy resiliency resources to identify opportunities for solar installations and/or battery storage on site.	Community Development – Economic Development, Environmental Services	2	
E-2.2f	Partner with affordable housing providers to conduct a feasibility analysis of battery storage and solar projects at the affordable housing in Pittsburg that are eligible for Equity Resilience Incentives under the Self-Generation Incentive Program.	Environmental Services, Community Services – Housing Authority	3	
Strategy T-1 Reduce Passenger Car Vehicle Miles Traveled				
Goal T-1.1 Implement Pittsburg Moves, increasing active transportation mode share from 1.5% in 2020 to 3% by 2030 and 9% by 2045.				
T-1.1a	Based on the goals and policies outlined in Pittsburg Moves, coordinate with Contra Costa Transportation Authority to establish a target timeline and funding strategy that address each of the projects in Appendix A. The timeline should outline a path that confirms an equal focus on improvement projects that will benefit residents living in disadvantaged and vulnerable communities.	Public Works – Engineering	1	
T-1.1b	Complete the feasibility analysis outlined in the Pittsburg Moves Project List to begin implementing the supporting projects.	Community Development – Planning	1	
T-1.1c	Establish bicycle lockers and bicycle parking minimums for new developments by land use types.	Community Development – Planning	1	
T-1.1d	Work with existing commercial and institutional property owners to identify additional opportunities to install safe bicycle lockers and parking spaces to encourage residents and visitors to make short trips via active transportation.	Community Development – Planning	1	
T-1.1e	Partner with schools, employers, transit agencies, Bike East Bay, the League of American Bicyclists, Metropolitan Transportation Commission, and/or community groups to teach bicycle and	Community Development – Planning, Environmental	1	

Strategies, Goals, and Actions		Lead	Phase	Notes/Comments (Future Use)
Goal T-1.1 Implement Pittsburg Moves, increasing active transportation mode share from 1.5% in 2020 to 3% by 2030 and 9% by 2045.				
	pedestrian safety in schools and workplaces and to educate residents and businesses about the safe route availability and the health and environmental benefits of walking, bicycling, and using public transit.	Services		
T-1.1f	Develop a Specific Capital Improvement Plan for active transportation and mobility projects for disadvantaged and vulnerable communities. Partner with community-based organizations with connections to disadvantaged and vulnerable communities to engage the community in the development and implementation of the plan.	Community Development – Planning, Public Works – Engineering	1	
T-1.1g	Partner with community groups to obtain funding through the California Air Resources Board Car Sharing and mobility Options program for a pilot bike-share program for disadvantaged and vulnerable communities and to connect disadvantaged and vulnerable communities with the E-Bike Purchase Incentive Program through CalBike and the California Air Resources Board (CARB), 511 Contra Costa, Contra Costa Transportation Authority, and the Bay Area Air Quality Management District.	Community Development – Planning, Public Works – Engineering	1	
T-1.1h	Promote active transportation through car-free events by identifying areas of the City to periodically close streets to cars, potentially coupled with the Farmer's Market or other large and regular community events.	Community Development – Economic Development, Environmental Services	1	
T-1.1i	Work with partners such as Lyft, Lime, Bike East Bay, 511 Contra Costa, or Encina Bicycle Center to establish a book-a-bike program within the Civic Center.	Community Development – Economic Development and Planning, Public Works – Engineering	1 – 2	
T-1.1j	Devote staff time to tracking and applying for grant funding to complete projects that would improve active transportation or mobility in the community.	Community Development – Economic Development and Planning, Public Works – Engineering	1 – 3	

Strategies, Goals, and Actions		Lead	Phase	Notes/Comments (Future Use)
Goal T-1.1 Implement Pittsburg Moves, increasing active transportation mode share from 1.5% in 2020 to 3% by 2030 and 9% by 2045.				
T-1.1k	Implement all policy recommendations included in the Pittsburg Moves to improve pedestrian and bicycle networks and increase transit ridership based on the established timeframes.	Community Development – Economic Development and Planning, Public Works – Engineering	1 – 3	
T-1.1l	Install approximately 45 miles of bikeways by 2040, including approximately 26 additional miles of shared-use paths; 7 miles of new buffered bike lanes; 8 miles of new bike boulevards; and 17 miles of new separated bikeways.	Public Works – Engineering	1 – 3	
Goal T-1.2 Implement public and shared transit programs to increase public transit mode share from 10.1% in 2020 to 12% by 2030 and 17% by 2045.				
T-1.2a	Establish guidelines and recommended standards for new development of public space to be transit accessible and multi-functional by co-locating public facilities.	Community Development – Economic Development, Public Works – Engineering	1	
T-1.2b	Consistent with the intention of Senate Bill 10, allow developers to build housing without off-street parking if they're close to frequent transit service	Community Development – Planning	1	
T-1.2c	Partner with Tri-Delta Transit to conduct a study to determine transit priority corridors and prioritize infrastructure improvements in existing neighborhoods that enable people to better access and use public transit.	Community Development – Planning, Public Works – Engineering	1	
T-1.2d	Conduct engagement efforts for the general public and targeted to disadvantaged and vulnerable communities to understand the community's concerns around or barriers to using public and/or shared transit.	Community Development – Economic Development	1	
T-1.2e	Through the adoption of an Overlay or Specific Plan, encourage employers to develop a Transportation Demand Management (TDM) Plan. Design a baseline TDM Plan for large employers (i.e., businesses with more than 25 employees) to adopt or model their TDM's after. TDM plans should include money-	Community Development – Economic Development and Planning	1	

Strategies, Goals, and Actions		Lead	Phase	Notes/Comments (Future Use)
Goal T-1.2 Implement public and shared transit programs to increase public transit mode share from 10.1% in 2020 to 12% by 2030 and 17% by 2045.				
	based incentives for employees to bike, walk, carpool, or take the bus to work.	Community Development – Economic Development and Planning	2	
T-1.2f	Conduct engagement efforts for the general public, with a targeted approach to disadvantaged and vulnerable communities to understand the potential concerns around the analysis of disincentive-based policies for driving single passenger vehicles. Through feedback from these engagement efforts, define equity metrics for the implementation of disincentive-based policies and depending on the outcome of the analysis, structure the policies to meet these metrics.	Community Development – Economic Development and Planning	3	
Strategy T-2.1 Increase Zero-Emission Vehicle and Equipment Use				
Goal T-2.1 Increase passenger zero-emission vehicle adoption from 2.3% in 2020 to 15% by 2030 and 100% by 2045.				
T-2.1a	Establish a prioritized list of locations in Pittsburg for new publicly accessible electric vehicle charging stations with consideration for equitable distribution of chargers to renters, residents of multi-family homes, residents living on low and fixed-incomes, and disadvantaged and vulnerable communities. Include locations for Level 2 charging where residents make extended stops and locations for Level 3 charging (DC Fast Charging) for residents without access to overnight charging and for highway travelers. Install at least 50 new publicly accessible charging stations by 2030 and 100 by 2045, through public-private partnerships and on City-owned properties at the identified locations. Promote the availability of new public chargers on social media and on the City's website.	Community Development – Planning, Environmental Services	1	
T-2.1b	Continue to maintain a streamlined electric vehicle (EV) infrastructure permitting process and ordinance in accordance with AB 1236.	Community Development – Planning and Building	1	

Strategies, Goals, and Actions		Lead	Phase	Notes/Comments (Future Use)
Goal T-2.1 Increase passenger zero-emission vehicle adoption from 2.3% in 2020 to 15% by 2030 and 100% by 2045.				
T-**2.1**c	Allow for granting of zero emission vehicles (ZEVs) access to preferred parking spaces in new private parking lots, where it is logical, feasible and not cost-prohibitive.	Community Development – Planning, Public Works – Engineering	1	
T-2.1d	Work with MCE and PG&E to incentivize residential electric vehicle charger installations and panel upgrades through on-bill financing. Promote the incentives through multi-lingual outreach material on the City's website and at community events.	Community Development – Economic Development and Planning	1	
T-2.1e	Coordinate with community-based organizations, local agencies, and non-profits to conduct ZEV education events for residents and targeted events for members of disadvantaged and vulnerable communities that would engage the community to evaluate the barriers to ZEV adoption, promote information on the costs and benefits of owning ZEVs, and promote steps on how to purchase a ZEV and receive incentives (including education on pre-owned EVs and how to determine current battery range).	Environmental Services	1	
T-2.1f	Develop outreach and education materials and distribute to local businesses, property owners, and developers on the financial (e.g., new funding streams), environmental, and health and safety benefits of ZEVs. Provide information on available funding opportunities and the City's streamlined permitting process.	Community Development – Economic Development, Environmental Services	1	
T-2.1g	Conduct outreach, including interviews with residents and business owners to evaluate the feasibility of adopting an electric vehicle charging infrastructure reach code that meets or exceeds the minimum requirements of the Tier 2 Voluntary Standards under CALGreen. Partner with community-based organizations with connections to disadvantaged and vulnerable communities to include targeted outreach and interviews to members of disadvantaged and vulnerable communities to	Community Development – Economic Development, Environmental Services	1	

Strategies, Goals, and Actions		Lead	Phase	Notes/Comments (Future Use)
Goal T-2.1 Increase Zero-Emission Vehicle and Equipment Use Goals and Actions				
	understand equity impacts of the reach code and barriers to adoption.			
T-2.1h	Explore opportunities to assist disadvantaged and vulnerable community members to purchase and operate ZEVs including: • Opportunities with CARB, BAAQMD, or other agencies to start a purchase rebate program and provide higher trade-in value for combustion vehicles • Opportunities with MCE and other agencies to discount charger and/or electricity rates for those with an electric vehicle.	Community Development – Economic Development, Environmental Services	2	
T-2.1i	Collaborate with neighboring jurisdictions and the Contra Costa Transportation Authority to develop a connected network on zero-emission vehicle car share.	Public Works – Engineering	2	
T-2.1j	Support zero-emission vehicle car share companies in coming to the City. Coordinate with car share companies and community-groups to develop an affordable, zero-emission vehicle car share to serve affordable housing and/or multifamily developments with a priority to target disadvantaged and vulnerable communities.	Community Development – Economic Development	3	
Goal T-2.2 Increase commercial zero-emission vehicle adoption from less than 1% in 2020 to 10% by 2030 and 100% by 2045.				
T-2.2a	Consider establishing a licensing fee for commercial delivery vehicles operating on fossil fuels (such as Amazon and FedEx) to provide funding for new active transportation and EV charging/ZEV fueling infrastructure and discounting the fee for the proportion of electric vehicles the delivery company uses. Evaluation of the fee would include: • Engaging directly with delivery service providers operating in the City to understand zero emission vehicle capacity • Determining if phasing is needed to allow for time to increase available zero-emission vehicles in fleet • Identifying gaps in the zero-emission vehicle fueling/charging infrastructure to maintain route efficiency.	Community Development – Economic Development, Public Works – Engineering	1	

Strategies, Goals, and Actions		Lead	Phase	Notes/Comments (Future Use)
Goal T-2.2 Increase commercial zero-emission vehicle adoption from less than 1% in 2020 to 10% by 2030 and 100% by 2045.				
T-2.2b	Encourage commercial vehicle fleet operators to accelerate electrification by providing them educational material on the benefits of zero emission vehicles (e.g., fuel cost savings through networked charging and current availability of zero emission vehicles ahead of State mandates), educating them on the City's streamlined permitting process, and compiling and distributing information on potential funding opportunities. Include Pittsburg Unified School District's zero-emission buses as a case study to demonstrate the feasibility and benefits of transitioning commercial fleets to ZEVs.	Community Development – Economic Development, Environmental Services	1	
Goal T-2.3 Transition 5% of all (i.e., commercial and residential) off-road equipment to zero-emission alternatives by 2030 and 100% by 2045.				
T-2.3a	Develop small off-road equipment (SORE) guidelines in alignment with CARB's goals encouraging that at time of replacement, zero emission landscape equipment be used starting in 2025 and portable generators be zero-emissions by 2029.	Community Development – Planning and Economic Development	1	
T-2.3b	Partner with BAAQMD to identify funding opportunities to encourage residents to replace gas-powered landscaping equipment and off-road engines with zero emission equipment with a focus on funding opportunities for members of disadvantaged and vulnerable communities and small and minority-owned businesses.	Community Development – Planning and Economic Development	1	
T-2.3c	Conduct an investigation of major commercial off-road equipment fleets in Pittsburg and identify fleets with highest decarbonization potential and fleets in disadvantaged and vulnerable communities that will need targeted support to transition.	Community Development – Public Works – Engineering	1	

Strategies, Goals, and Actions		Lead	Phase	Notes/Comments (Future Use)
Goal T-2.2 Increase commercial zero-emission vehicle adoption from less than 1% in 2020 to 10% by 2030 and 100% by 2045.				
T-2.3d	Develop an Off-road Equipment Replacement Outreach Campaign that provides information to contractors, residents, and fleet operators in Pittsburg, with a target towards those identified with high decarbonization potential and small businesses owned by traditionally disadvantaged and vulnerable community members. Information should include equivalent alternatives to fossil-fueled off-road equipment, public health, and safety benefits of alternative equipment technology, and funding opportunities available (i.e., Clean Off-Road Equipment Voucher Incentive Program [CORE]).	Community Development – Planning and Economic Development, Environmental Services	1	
T-2.3e	Partner with BAAQMD to develop a rebate and incentive program for upgrading off-road equipment and switching to electric or biofuels. Develop the program with a focus on procedural equity and prioritize funding distribution to disadvantaged and vulnerable communities.	Community Development – Planning and Economic Development	2	
T-2.3f	As part of the tool lending program at the library (see Action SW.2.1f), offer electric garden and landscape maintenance equipment including electric leaf blowers.	Environmental Services	2	
Strategy W-1 Increase Water Conservation and Local Water Supply				
Goal W-1.1 Reduce per capita water consumption 10% by 2030 and 30% by 2045, from 2016 levels.				
W-1.1a	Adopt a Water Conservation and Water Shortage Contingency Program Ordinance to establish a clear protocol of drought thresholds that trigger varying water use reduction strategies that focus primary on domestic water use, health and sanitation, and fire protection.	Environmental Services, Public Works – Water	1	
W-1.1b	Continue to implement and enforce Model Water Efficient Landscape Ordinance to encourage use of efficient irrigation systems, greywater usage, onsite storm water capture, and limit the portion of landscapes that can be covered in turf.	Public Works – Operations & Maintenance **(Future state – Public Works – Water)*	1	

Strategies, Goals, and Actions		Lead	Phase	Notes/Comments (Future Use)
Goal W-1.1 Reduce per capita water consumption 10% by 2030 and 30% by 2045, from 2016 levels.				
W-1.1c	Continue the “Delta Water Education Program" to promote and reinforce the importance of water resources, water conservation, and local management of watersheds and water quality, to children in the local community.	Environmental Services	1	
W-1.1d	Continue to partner with Contra Costa Water District (CCWD) to promote water conservation messaging, including multi-lingual education materials such as publications, website pages, community events and booths, workshops and presentations, newsletters, newspaper ads, and bill inserts. Include targeted outreach to disadvantaged and vulnerable communities to reduce utility bill burdens.	Environmental Services, Public Works - Water	1	
W-1.1e	Continue to partner with Contra Costa Water District to provide water conserving fixtures/fittings and rebates for appliances to residents throughout Pittsburg, with a focus on disadvantaged and vulnerable communities to reduce utility bill burdens.	Environmental Services	1	
W-1.1f	Maintain a comprehensive, coordinated education campaign focused on property owners, landlords, property management companies, and occupants for reducing the use of water in homes and businesses. Establish a shared understanding of existing incentives for appliances, fittings and fixtures; lawns; and irrigation systems, and how to access them, including Contra Costa Water District incentive programs and rebates	Environmental Services, Public Works – Operations & Maintenance *(*Future state – Public Works – Water)*	1	
W-1.1g	Perform analysis to understand the feasibility and potential potable water savings of adopting a Dual Drainage Plumbing Ordinance to provide information to community members.	Community Development – Building	1	
W-1.1h	Promote the Living Green Gardens, the City's water-wise public demonstration garden, to encourage efficient landscape and watering practices and to provide a hands-on learning experience for members of the community. Additionally, develop more classes on new materials and continue active maintenance of the garden.	Environmental Services	1	

Strategies, Goals, and Actions		Lead	Phase	Notes/Comments (Future Use)
Goal W-1.1 Reduce per capita water consumption 10% by 2030 and 30% by 2045, from 2016 levels.				
W-1.1i	Implement water conservation strategies, such as increasing efficiency and use of recycled water, in City landscaping and grounds maintenance procedures.	Services, Public Works – Operations & Maintenance *(Future state – Public Works – Water)*	1	
W-1.1j	Consider the adoption of an ordinance in the Municipal Code that requires hospitality agencies (i.e., hotels and motels) to only provide daily services upon request and share such information with guests. Engage hospitality agencies and other stakeholders in the evaluation process.	Community Development – Planning and Building	1	
W-1.1k	Continue to partner with Contra Costa Water District to promote the "Lawn to Garden Rebate" to encourage residents and business owners to transition their existing lawns to waterwise landscaping. Provide specific outreach to multi-family and commercial entities, including providing flyers in water bills and partnering with "My Pittsburg Chamber" to provide information to business entities in the community.	Environmental Services, Parks	1	
W-1.1l	Apply for a rebate to transition non-essential municipal lawns to native, waterwise landscaping, and promote the Living Green Garden to continue offering a place for community members to visit and learn more about waterwise landscaping and available incentives and rebates, as well as information on local nurseries that provide native waterwise landscaping.	Environmental Services, Parks	1	
Goal W-1.2 Increase recycled water use in the City.				
W-1.2a	Work with Delta Diablo to perform a feasibility study on increasing local recycled water supply through either expansion in purple piping infrastructure or inclusion of tertiary treated wastewater effluent to supplement existing potable water supply. The feasibility study would evaluate potential impacts to cost of service and investigate ways to maintain or decrease costs of service through the projects.	Public Works – Engineering, Operations & Maintenance, and Water	1	

Strategies, Goals, and Actions		Lead	Phase	Notes/Comments (Future Use)
Goal W-1.2 Increase recycled water use in the City.				
W-1.2b	Complete a feasibility study to identify opportunities for increased access to recycled water and to accurately determine the quantity of recycled water available to the City. The feasibility study would analyze possible land use types (i.e., landscaping and fields) and specific projects that could switch from potable to recycled water. The feasibility study would also evaluate potential impacts to cost of service and investigate ways to maintain or decrease costs of service through the projects.	Public Works – Operations & Maintenance *(Future state – Public Works – Water)*	1	
W-1.2c	Pursue funding opportunities at the State and federal level, such as the Clean Water State Revolving Fund and the US Bureau of Reclamation's WaterSMART grants, to create more financial incentive for increased recycled water infrastructure.	Environmental Services, Public Works – Engineering *(Future state – Public Works – Water)*	1	
W-1.2d	Continue to partner with Contra Costa Water District to identify new incentives and rebates and promote existing programs on the City's water webpage for opportunities such as the "Landscape to Laundry Greywater Rebates" to install a greywater system and "Car Wash Coupons" for car wash facilities that use recycled water to incentive residents to "go-grey."	Environmental Services, Public Works -– Water	1	
Goal W-1.3 Increase green stormwater infrastructure.				
W-1.3a	Continue to implement the Green Infrastructure Plan to retrofit 4 acres of existing impervious surfaces through private and public developments; and update the plan as needed to monitor progress and revise project priorities.	Environmental Services, Public Works -– Water	1	
W-1.3b	Continue compliance with the City's National Pollutant Discharge Elimination System (NPDES) permit to require new developments to convey runoff to engineered bioretention basins or vegetative features.	Environmental Services, Public Works -– Water	1	
W-1.3c	Partner with Contra Costa Water District to create incentives as part of their Rainwater Harvesting Program to help residents install rain barrels.	Environmental Services, Public Works -– Water	1	

Strategies, Goals, and Actions		Lead	Phase	Notes/Comments (Future Use)
Goal W-1.3 Increase green stormwater infrastructure.				
W-1.3d	Develop and promote incentive programs and rebates for residents and businesses to replace their impervious surfaces with pervious surfaces, including native water-wise landscaping.	Environmental Services, Public Works -– Water	1	
W-1.3e	Continue to partner with Delta Diablo and Contra Costa Water District to conduct an on-going educational campaign to provide community members information on the benefits of green stormwater infrastructure and opportunities to incorporate green stormwater infrastructure into their homes and business properties (including ways to harvest and use the rainwater). Consider developing an interactive map that identifies completed and ongoing green stormwater infrastructure projects in the City (including those at City-owned properties) for community members to explore.	Environmental Services, Public Works – Engineering **(Future state – Public Works – Water)*	1 – 3	
Strategy W-2 Minimize Water Loss System-wide				
Goal W-2.1 Reduce real and apparent system water loss from a rate of 13% in 2020 to less than 10% by 2030 and less than 7% by 2045.				
W-2.1a	Maintain and continually improve the advanced metering and public facing software that allows water customers to check real-time water consumption data and explore water conservation recommendations based on their actual water consumption history.	Public Works – Operations & Maintenance	1	
W-2.1b	Continue to enforce standards set by water waste prevention ordinances stipulated in the Municipal Code.	Public Works - Water	1	
W-2.1c	Continue to partner with CCWD to promote their water efficiency rebates for residential and commercial customers. Develop flyers and other promotional material on the rebates to distribute at community events and perform targeted outreach to members of disadvantaged and vulnerable communities to help reduce utility bill burdens.	Public Works – Operations & Maintenance, Environmental Services	1	
W-2.1d	Create a "How to Find and Fix a Leak at Home Guide" for distribution at public counters and events, promote "National Fix A Leak Week" in March of every year, and continue to incorporate water waste messaging into communications strategy.	Community Development – Building, Public Works – Water, Environmental Services	2	

Strategies, Goals, and Actions		Lead	Phase	Notes/Comments (Future Use)
Goal W-2.1 Reduce real and apparent system water loss from a rate of 13% in 2020 to less than 10% by 2030 and less than 7% by 2045.				
W-2.1e	Continue to partner with CCWD to provide Water Wise House Calls to residential customers and work with CCWD to expand the program to commercial customers to complete leak detections, provide tips to avoid high water bills, increase indoor and outdoor water efficiency, and provide information on how to monitor personal water use. Perform targeted outreach to promote the program to members of disadvantaged and vulnerable communities to help reduce utility bill burdens.	Public Works – Operations & Maintenance, Environmental Services	1-2	
Strategy SW-1 Organic Waste Diversion				
Goal SW-1.1 Continue to take action to meet SB 1383 organics and recycling requirements, reducing organic waste disposal 75% from 2014 levels by 2025 statewide.				
SW-1.1a	Adopt municipal procurement policies to comply with SB 1383 requirements for jurisdictions to purchase recovered organic waste products.	Public Works – Engineering and Water	1	
SW-1.1b	Work with Mt. Diablo Resource Recovery to establish and implement a detailed outreach and engagement plan for restaurants, grocery stores, and other commercial entities that generate organic waste to provide education and available resources for increased organic diversion.	Environmental Services	1	
SW-1.1c	Support the County with information and collaborative planning to provide sufficient edible food reuse infrastructure to accept the capacity needed to recover 20% of edible food disposed or identify proposed new or expanded food recovery capacity.	Environmental Services	1	
SW-1.1d	Continue working with the Bay Area Recycling Outreach Coalition and Mt. Diablo Resource Recovery and Pittsburg Unified School District to establish and provide exciting education and outreach programs for school children and adults around food waste prevention, nutrition education, and the importance of edible food recovery. The education program may include: • Composting principals, including information on what composting means and why it is important.	Environmental Services	1	

Strategies, Goals, and Actions		Lead	Phase	Notes/Comments (Future Use)
Goal SW-1.1 Continue to take action to meet SB 1383 organics and recycling requirements, reducing organic waste disposal 75% from 2014 levels by 2025 statewide.				
	• Materials that can be composted, which typically include food scraps, yard waste, paper, and other organic matter. • Methods for composting, such as aerobic, anaerobic, and vermicomposting. • Composting equipment required for each potential composting methodology. • Suggestions to troubleshoot or resolve any problems that arise, including information on potential odors and pests. • How to efficiently apply and incorporate compost into soil.			
SW-1.1e	Investigate the opportunity to participate in a regional compost trading program to help meet organic waste procurement goals.	Environmental Services	1	
SW-1.1f	Create relationships with local food recovery organizations, such as FoodShift, the Food Bank of Contra Costa and Solano, religious organizations, and edible food generators to support the establishment of an edible food recovery program to minimize food waste in the City.	Environmental Services	1	
SW-1.1g	Foster County partnerships to host home composting workshops in the City of Pittsburg and to provide reduced priced composting bins.	Environmental Services	1	
SW-1.1h	Provide free compost bins and kitchen-top food waste containers to members of disadvantaged and vulnerable communities and elderly households to increase participation in Mt. Diablo Resource Recovery's residential organics curbside program.	Environmental Services	1	
SW-1.1i	Monitor bill increases from participation in the residential organics curbside program and consider City incentive programs for members of disadvantaged and vulnerable communities to increase participation and reduce utility bill burdens.	Environmental Services	1	
SW-1.1j	Establish a Pittsburg Food System Alliance organization to build a network of leaders in Pittsburg to foster a local food system	Environmental Services	1	

Strategies, Goals, and Actions		Lead	Phase	Notes/Comments (Future Use)
Goal SW-1.1 Continue to take action to meet SB 1383 organics and recycling requirements, reducing organic waste disposal 75% from 2014 levels by 2025 statewide.				
	that eliminates food waste, alleviates the food desert, and brings affordable, organic produce to all. Partner with the City's Chamber of Commerce connect with business owners and serve as a conduit for the City.			
Strategy SW-2 Reduce Community Waste Generation				
Goal SW-2.1 Reduce community-wide waste generation 55% by 2025 and 90% by 2040 statewide, from 2014 levels.				
SW-2.1a	In partnership with Mt. Diablo Resource Recovery, create a Waste Diversion Plan to reduce waste and increase reuse in the City. Upon finalization, provide the plan to Pittsburg Unified School District, Los Medanos College, retirement communities, and other large institutions to use as a model for adopting their own policies to reduce waste and increase reuse.	Environmental Services	1	
SW-2.1b	Require large events, as defined in SB 1383, and encourage smaller events to employ or designate an event waste management team and have easy to understand waste, recycling, and organics bin signage to assist with source separation of waste generated at events.	Environmental Services, Community Development –	1	
SW-2.1c	Conduct periodic waste characterization studies of all City waste streams at the Recycling Center & Transfer Station to evaluate progress, hone approaches, customize outreach/policy, and inform targeted campaigns and policy. Fill in waste generation gaps by collecting data from take-back locations (e.g., grocery stores, auto shops, carpets, mattresses, battery collection).	Environmental Services	1	
SW-2.1d	Partner with Mt. Diablo Resource Recovery to conduct targeted, multi-lingual, culturally appropriate, and geographically diverse waste prevention educational and technical assistance campaigns based on outcomes of waste characterization studies (e.g., food waste prevention, edible food recovery strategies, proper storage, how to fix clothes/electronics, how to donate, reusable alternatives, effects of over consumption, sustainable	Environmental Services	1	

Strategies, Goals, and Actions		Lead	Phase	Notes/Comments (Future Use)
Goal SW-2.2 Continue to take action to meet SB 1383 organics and recycling requirements, reducing organic waste disposal 75% from 2014 levels by 2025 statewide.				
	consumption habits, buying second hand, buying durable, sharing, and repurposing).	Environmental Services	1	
SW-2.1e	Impose a fee on singe use bags and foodware to fund the waste reduction programs and studies.	Environmental Services	1	
SW-2.1f	Partner with local businesses, nonprofits, and community groups or organizations to establish pop-up repair cafes for commonly broken and easily repaired items. Additionally, partner with the library to promote reuse by increasing accessibility to shared tools through a tool lending program. In addition to providing available resources, also work with experts in various fields to provide quick reference guidance documents or record short videos that residents can refer to when borrowing specific equipment to learn the most effective ways of using the tools available. Tools provided through the library could include: power tools, hand tools, electrical tools, gardening tools, auto repair tools, bike repair tools, and sewing and clothing repair tools.	Environmental Services	2	
SW-2.1g	Based on waste characterization studies explore banning top "problem materials" (i.e., items without means of recycling or recycling markets, such as sale of polystyrene, produce bags, plastic packaging, straws, plastics #4-7, mixed materials or a specific size/type/etc.). Engage small and minority-owned businesses through targeted outreach to identify equity impacts of such a ban.	Environmental Services, Community Development –	2	
SW-2.1h	Partner with Delta Diablo to promote use of the existing Household Hazardous Waste facility. Additional promotion and education to the community could include sending out an annual mailer, providing regular updates on Pittsburg's social media pages, and through flyers and brochures available at community events.	Environmental Services	1	

Strategies, Goals, and Actions		Lead	Phase	Notes/Comments (Future Use)
Strategy CS-1 Carbon Sequestration				
Goal CS-1.1 Increase carbon sequestration by planting 150 new trees annually through 2045 to sequester carbon and create urban shade to reduce heat island effect.				
CS-1.1a	Conduct an urban forest inventory and canopy study to inventory the existing urban forest as a baseline and continue to identify areas in Pittsburg that have below average canopy coverage, such as census block group 60133141033 and 60133120001, to design and implement a tree planting program focusing on the least covered portions of the City. As part of the Urban Forest Inventory, establish a goal of having no significant difference in canopy coverage between census blocks by 2040.	Parks	1	
CS-1.1b	Continue protecting existing trees on private property through the Tree Preservation and Protection Ordinance and create a City incentive program (e.g., water bill rebate) for new tree plantings on private properties with a focus on members of disadvantaged and vulnerable communities and in areas where there is below average tree equity or canopy coverage.	Community Development – Planning, Public Works – Operations & Maintenance	1	
CS-1.1c	Amend the Municipal Code to include street tree requirements for all zoning districts, strengthen shade tree requirements for new developments, and include permeable surface requirements for new development.	Community Development – Planning, Public Works – Operations & Maintenance	1	
CS-1.1d	Continue to dedicate staff time or create a staff position for obtaining grant funding for tree planting and urban forest management. Identify and apply for applicable federal (e.g., USDA) and state (e.g., California ReLeaf, Affordable Housing and Sustainable Communities Program (AHSC), Urban and Community Forestry Program) available grants for Tree Planting projects.	Parks	1	
CS-1.1e	Develop and adopt an Urban Forest Management Plan that identifies the City's potential capacity for new tree planting, identifies a timeframe for implementation, provides a management plan for existing trees, and establishes a tracking	Parks	2	

Strategies, Goals, and Actions		Lead	Phase	Notes/Comments (Future Use)
Goal CS-1.1 Continue to take action to meet SB 1383 organics and recycling requirements, reducing organic waste disposal 75% from 2014 levels by 2025 statewide.				
	system to assess progress towards annual benchmarks. Collaborate with community-based organizations with connections to disadvantaged and vulnerable communities in the development of the plan.			
CS-1.1f	As an expansion to the Adopt-a-Spot Program, establish an Adopt-a-Tree program that enables individuals, businesses, and community organizations to plant and care for trees in selected communities with below average canopy coverage and disadvantaged and vulnerable communities. Program should provide formalized information on appropriate trees eligible for planting in Pittsburg (i.e., native, drought tolerant, locations).	Environmental Services, Parks	2	
CS-1.1g	Establish a Tree Trust or Tree Endowment where the interest on the principal can be used for purchasing trees in selected communities with below average tree canopy coverage, paying for tree maintenance in disadvantaged and vulnerable communities, or supporting staff resources for the Urban Forest Management Program.	Environmental Services, Parks	2	
CS-1.1h	Continue the City's annual Arbor Day celebration event that encourages and educates residents on the importance of planting native trees and provides resources and support for community-led tree planting initiatives. Grow this event to include distributing free or discounted tree seedlings, hosting educational workshops on proper planting techniques and tree maintenance, partnering with local organizations and businesses to sponsor and organize planting events, and establishing a volunteer network to help maintain newly planted trees.	Public Works – Operation & Maintenance	1	
CS-1.1i	Work with the Contra Costa County Resource Conservation District, East Bay Regional Park District, and community-based organizations such as Save Mount Diablo to preserve and expand greenspaces (i.e., large open spaces and regional parks) in Pittsburg to increase carbon sequestration and increase access to greenspaces.	Environmental Services, Parks	1 – 3	

Strategies, Goals, and Actions		Lead	Phase	Notes/Comments (Future Use)
Goal CS-1.1 Continue to take action to meet SB 1383 organics and recycling requirements, reducing organic waste disposal 75% from 2014 levels by 2025 statewide.				
CS-1.1j	Partner with community-based organizations such as Healthy Hearts and the John Muir Land Trust to increase the number of and access to urban community gardens in Pittsburg. Utilize such gardens to increase carbon sequestration; increase access to greenspaces for renters, residents living in multi-family housing, and members of vulnerable and disadvantaged communities; and provide high-road job development opportunities for members of vulnerable and disadvantaged communities.	Environmental Services, Parks	1 – 3	
Goal CS-1.2 Increase carbon sequestration by applying 0.08 tons of compost per capita annually in the community by 2030, increasing up to 0.10 by 2045.				
CS-1.2a	Conduct an informal audit of compost needs in the City to establish a baseline procurement and application level that meets City needs and increases over time.	Environmental Services	1	
CS-1.2b	Complete a feasibility study to identify locations within the City to apply mulch to help meet the procurement requirements of SB 1383 and maximize the application of compost over time, working with the City's Parks Department to maximize compost usage at City parks.	Environmental Services, Parks	1	
CS-1.2c	Collaborate with Los Medanos College and local schools to identify opportunities to apply compost to landscaping.	Environmental Services	1	
CS-1.2d	Work with Alameda County and StopWaste to identify opportunities for a regional compost procurement program.	Environmental Services	2	
CS-2.2e	Develop and adopt urban park guidelines that 1) provide flexible solutions for developing urban parks in infill areas where traditional neighborhood and community parks are not feasible; 2) establishes guidelines for achieving the greatest carbon sequestration potential of parks via design; and 3) are equitable in ensuring such urban parks are accessible for members of disadvantaged and vulnerable communities while avoiding displacement; and 4) align with requirements of the Clean	Community Development – Planning, Parks	2	

Strategies, Goals, and Actions		Lead	Phase	Notes/Comments (Future Use)
Goal CS-1.2 Increase carbon sequestration by applying 0.08 tons of compost per capita annually in the community by 2030, increasing up to 0.10 by 2045.				
	California Local Grant Program for potential funding opportunities. Encourage urban parks as an opportunity to beautify the community and integrate art into sustainability projects.	Community Development – Planning, Parks	2	
Strategy M-1 Commit to Climate Action				
Goal M-1.1 Complete annual progress reports on Pittsburg's Sustainability Plan every three years.				
M-1.1a	Designate staff to manage sustainability programs that implement the SUS Plan actions by managing technical studies, leading outreach efforts, updating the website, networking with partners and stakeholders, and pursuing grant opportunities.	Environmental Services, Community Development – Planning, Building, and Code Enforcement	1	
M-1.1b	Update the community wide GHG emissions inventory and progress on measures biannually in the monitoring tool and share the results with the community on the City's website to measure progress and maintain transparent accountability in making progress towards the Sustainability Plan goals.	Environmental Services	1 – 3	
M-1.1c	Update the Environmental Services webpage at least annually to provide updates on policies implemented as part of the Sustainability Plan.	Environmental Services	1 – 3	
M-1.1d	Devote staff time to tracking and applying for grant funding to complete regular Sustainability Plan updates.	Environmental Services	1 – 3	
M-1.1e	Hold regular sustainability outreach events, such as workshops, presentations, focus groups targeted at specific community groups, public contests or challenges, and an annual event such as Earth Day. Inform the community on potential climate change impacts, as well as weatherization and other actions that community members can take to implement actions outlined throughout the Sustainability Plan.	Environmental Services	1 – 3	

Strategies, Goals, and Actions		Lead	Phase	Notes/Comments (Future Use)
Goal M-1.1 Complete annual progress reports on Pittsburg's Sustainability Plan every three years.				
M-1.1f	Track and audit where measures are geographically implemented to determine that communities who are most impacted by climate change, including traditionally disadvantaged and vulnerable communities who would benefit the most from adaptation and mitigation efforts.	Environmental Services	1 – 3	
Strategy M-2 Reduce Municipal Reliance on Natural Resources				
Goal M-2.1 Electrify 25% of existing City facilities by 2030 and 100% of existing City facilities by 2045, as well as all newly constructed City buildings, while also increasing renewable energy use.				
M-2.1a	Complete energy audits for all City facilities and implement feasible recommendations for fuel switching and efficiency upgrades.	Public Works – Operations & Maintenance	1	
M-2.1b	Opt-up 100% of municipal accounts to MCE's Deep Green energy option by 2030.	Public Works – Operations & Maintenance	1	
M-2.1c	Establish a policy requiring all new City-owned buildings be all-electric and a policy requiring all existing natural gas-powered equipment in City-owned buildings be replaced with electric or other zero-emission alternatives at the end of useful life, where technologically feasible.	Public Works – Operations & Maintenance	1	
M-2.1d	Identify a municipal building to pilot an all-electric retrofit. Track the change in energy usage and utility bill costs before and after the retrofit to study net benefits.	Public Works – Operations & Maintenance	1	
M-2.1e	Partner with PG&E through the Sustainable Solutions Turnkey (SST) program to install renewable energy technology at municipal facilities (such as City Hall) and become a zero net energy organization.	Environmental Services, Public Works – Operations & Maintenance	2 - 3	
M-2.1f	Partner with PG&E to identify and install battery energy storage systems at appropriate City facilities (including the City Hall/Police Station and the Pittsburg Marina), and leverage projects to further promote benefits of distributed energy storage, which are directly connected to a renewable resource.	Environmental Services	2 - 3	

Strategies, Goals, and Actions		Lead	Phase	Notes/Comments (Future Use)
Goal M-2.1 Electrify 25% of existing City facilities by 2030 and 100% of existing City facilities by 2045, as well as all newly constructed City buildings, while also increasing renewable energy use.				
M-2.1g	Complete an analysis to identify the electrical capacity and utility infrastructure upgrades needed to electrify the recreational pool heating system. Pursue replacement funding through PG&E on-bill financing and California Energy Commission 1% Loans, or other funding sources.	Public Works – Operations & Maintenance	2	
Goal M-2.2 Transition 50% of the City's vehicle and equipment fleet to renewable fuels and electric by 2030 and 100% by 2045.				
M-2.2a	Conduct a study to assess the technological and economic feasibility of replacing the City-owned fleets and off-road equipment and develop a time of replacement schedule for applicable vehicle and equipment types.	Environmental Services, Public Works – Engineering and Operations & Maintenance	1	
M-2.2b	Upon completion of the study, adopt a ZEV-first purchasing policy for non-essential City fleet vehicles, using the transition to encourage residents to convert as well.	Environmental Services	1	
M-2.2c	Upon completion of the study, develop and implement a plan to replace all City owned end-of-life off-road equipment with zero-emission equipment. The plan should include evaluation of current City-owned equipment, alternative low or zero-emission options, prioritize equipment to replace first (e.g., largest GHG emission reduction potential), and a timeline for replacements that align with goals and feasibility of replacement.	Public Works – Operations & Maintenance, Parks	1	
M-2.2d	Secure funding from programs such as the California Air Resources Board's Clean Vehicle Rebate Project and the Truck and Bus Voucher Incentive Program to increase procurement of EV or ZEV cars, trucks, and other vehicles and installation of EV/ZEV charging/fueling infrastructure at municipal facilities. Additionally explore opportunities for Low Carbon Fuel Standard credit generation from use of low carbon fuels/electricity for fleet vehicles.	Environmental Services	1	

Strategies, Goals, and Actions		Lead	Phase	Notes/Comments (Future Use)
Goal M-2.2 Transition 50% of the City's vehicle and equipment fleet to renewable fuels and electric by 2030 and 100% by 2045.				
M-2.2e	Install new public and employee EV chargers at City-owned facilities.	Public Works – Engineering and Operations & Maintenance	1	
M-2.2f	Transition to all-electric landscaping equipment, including leaf blowers, for municipal operations. Use this to promote all-electric equipment in the community, providing information on the City website outlining available incentives for residents and businesses.	Parks, Public Works – Operations & Maintenance	2	
Goal M-2.3 Reduce the number of single occupancy, fossil fueled vehicle annual employee commute trips 20% by 2030 and 50% by 2045.				
M-2.3a	Complete a survey to understand how staff currently travel and what would make them change their patterns to establish an accurate baseline in which to build future goals.	Environmental Services	1	
M-2.3b	Expand EV charging at public facilities: Install new public and employee EV chargers at City-owned facilities, and: • Consider developing and implement a fee for use of City-owned chargers to encourage efficient use and turnover, especially for those without home charging capability Consider allocating EV charger fee revenue towards projects that support EV infrastructure, alternative fuel projects, and active transportation projects in neighborhoods that are historically underrepresented • Provide bicycles and bicycle storage for employees to use during work hours for short business or personal trips. Additionally, establish bike lockers at City Hall that are usable to the public.	Public Works – Engineering, Environmental Services	1	
M-2.3c	Provide bicycles and bicycle storage for employees to use during work hours for short business or personal trips. Additionally, establish bike lockers at City Hall that are usable to the public.	Environmental Services	1	

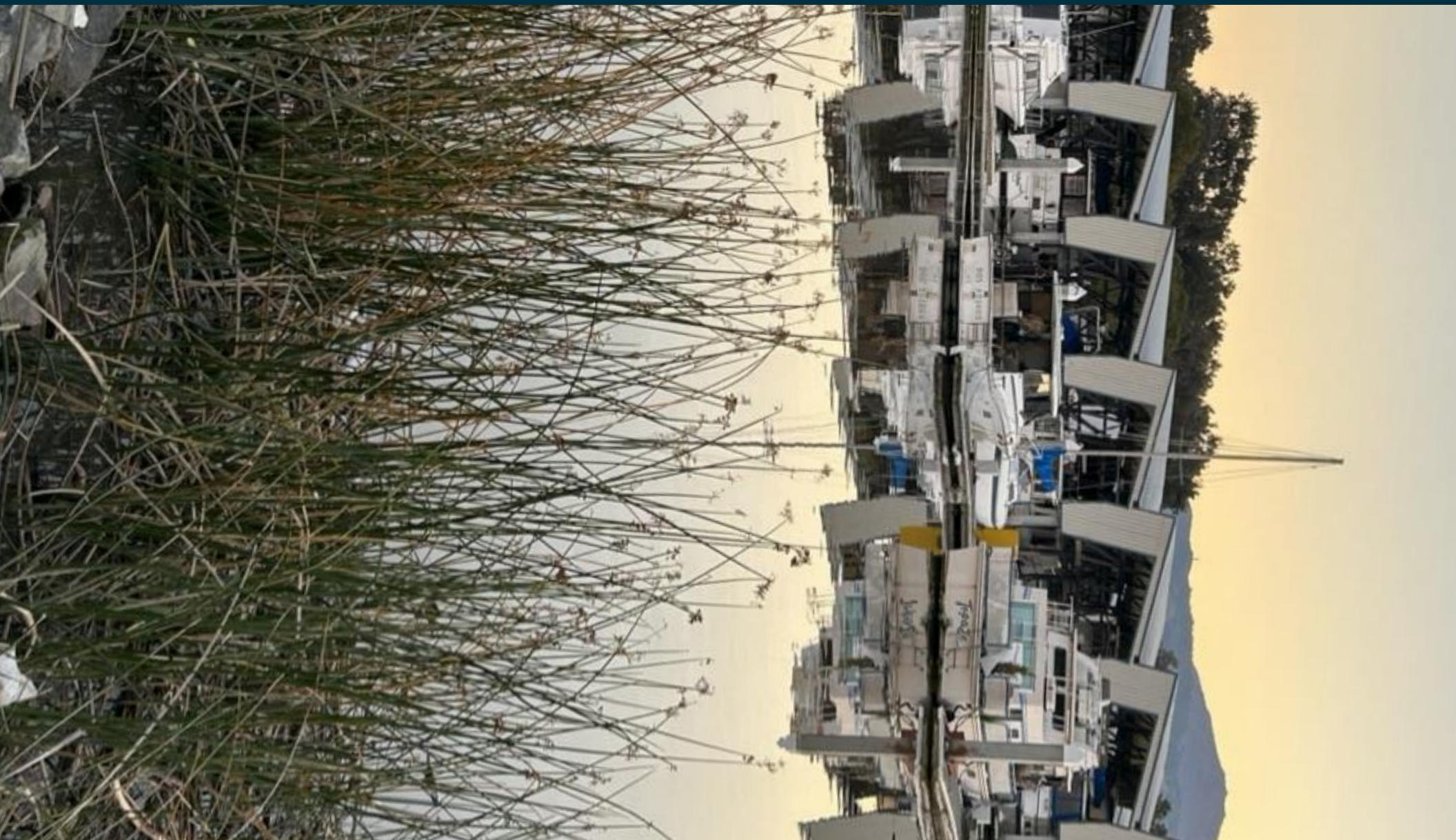
Strategies, Goals, and Actions		Lead	Phase	Notes/Comments (Future Use)
Goal M-2.3 Reduce the number of single occupancy, fossil fueled vehicle annual employee commute trips 20% by 2030 and 50% by 2045.				
M-2.3d	Expand the subsidized transit commute program to reduce employee commute miles in single occupancy vehicles.	Human Resources	1	
M-2.3e	Partner with Tri-Delta Transit, BAAQMD, Bike East Bay, the League of American Bicyclists, and/or Metropolitan Transportation Commission to expand employee use of carbon-free and low carbon transportation by providing education programs on the benefits of commute options including public transportation, EV/ZEV options, and vanpools.	Environmental Services	1 - 2	
M-2.3f	Permit 25% of employees located at the City of Pittsburg to telecommute or utilize flexible schedules through 2030 to reduce travel time, vehicle miles traveled (VMT), and GHG emissions.	Human Resources	2 - 3	


381 PITTSBURG MARINA
TRI DELTA TRANSIT

Appendix A: Regulatory Context

Appendix B: Cal-Adapt

Appendix C: 2005 GHG Inventory Methodology



Appendix D: 2016 GHG Inventory Methodology

Appendix E: GHG Forecast and Targets Analysis

Appendix F: Cost Summary

Appendix G: Categorical Exemption