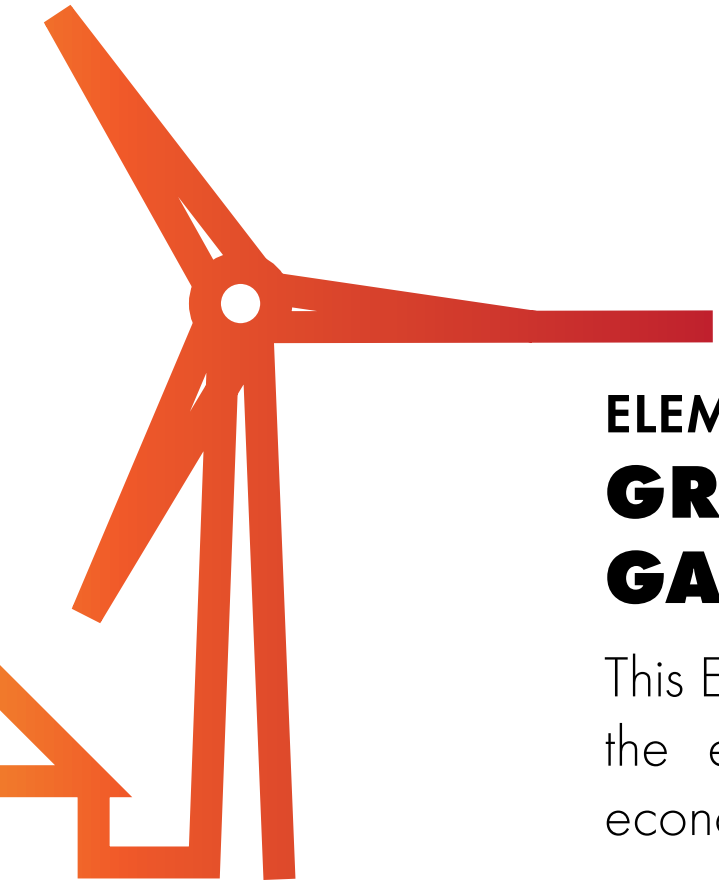
PICTURE OUR ENVIRONMENT



ELEMENT 9

GREENHOUSE GAS REDUCTION

This Element addresses sustainability and the environmental, social equity, and economic impacts from climate change.

INTRODUCTION

Human-induced climate change is already affecting many weather and climate extremes in every region across the globe. Evidence of observed changes includes heatwaves, heavy precipitation, droughts, and hurricanes.[50] California, the Los Angeles region, and Culver City are experiencing the effects of a changing climate.[51] Both gradual climate change (e.g., sea level rise) and climate hazard events (e.g., extreme heat days) expose people, infrastructure, properties, and ecosystems to a wide range of stress-inducing and hazardous situations.[52] These hazards and their impacts disproportionately affect the most sensitive populations.[53]

The extent to which Culver City is impacted by climate change is dependent on actions taken today. By curbing greenhouse gas (GHG) emissions and adapting the community to the already changing environment, the City can significantly reduce damage incurred from climate change. The City is in a unique position to become a regional climate leader by implementing city-wide policies, incentives, and education programs to deploy innovative technologies, pilot regulatory mechanisms, and spark behavioral change.

Three of the General Plan's Guiding Principles are related to climate action, with the objective to foster harmony between people and the environment, conserve resources, and decarbonize buildings and energy. The potential negative impacts of climate change substantially influence the City's desire and ability to achieve greater sustainability.

The City has multiple options for reducing GHG emissions. These strategies include continued membership in Clean Power Alliance (CPA) at the 100 percent renewable default tier, adopting energy reach codes that require electrification of both new and existing buildings, transitioning the entire community and the City's fleet to zero-emission vehicles, and expanding the urban forest and public open spaces to sequester carbon. Implementing actions from this Element will enable the City to contribute to regional climate action efforts while generating local benefits from reducing air pollutants, increasing the vitality of ecological processes, and improving quality of life. **Additional actions to adapt to the anticipated impacts of climate change are included in the Safety Element.**

What We are Trying to Achieve

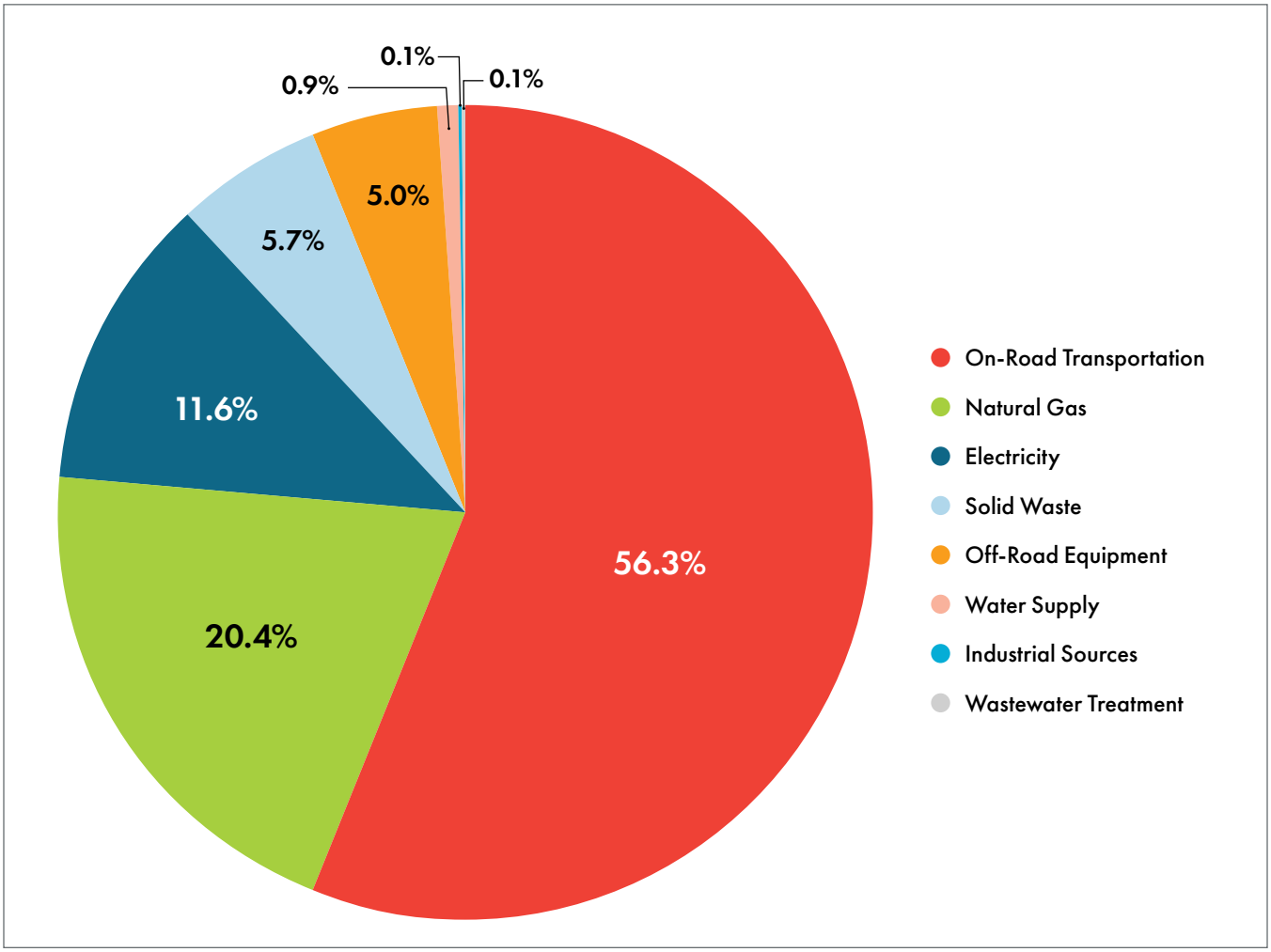
- Culver City is a regional leader by integrating sustainability and climate action into all decisions and inspiring other communities to eliminate GHG emissions.
- New and existing buildings are decarbonized and operate on carbon-free energy.

50. Intergovernmental Panel on Climate Change, Climate Change 2021: The Physical Science Basis, 2021.
51. Hall, Alex; Berg, Neil; Reich, Katharine. Los Angeles Summary Report. California's Fourth Climate Change Assessment, 2018.
52. State of California, California Climate Adaptation Strategy, 2021.
53. Ibid, 3.

KEY ISSUES AND OPPORTUNITIES

The City of Culver City's GHG inventory for calendar year 2019 estimates total community emissions of 291,919 $MTCO_2e$ (metric tons of carbon dioxide equivalent), illustrated in Figure 33. Transportation-related emissions are the largest contributor to community emissions, accounting for 56.3 percent, followed by residential and nonresidential natural gas use, accounting for 20.4 percent, and nonresidential and residential electricity use, accounting for 11.6 percent of emissions. The remaining 11.7 percent of emissions come from solid waste, off-road equipment, water and wastewater, and industrial sources.

FIGURE 33 ***Percent of Culver City Community GHG Emissions by Source in 2019***

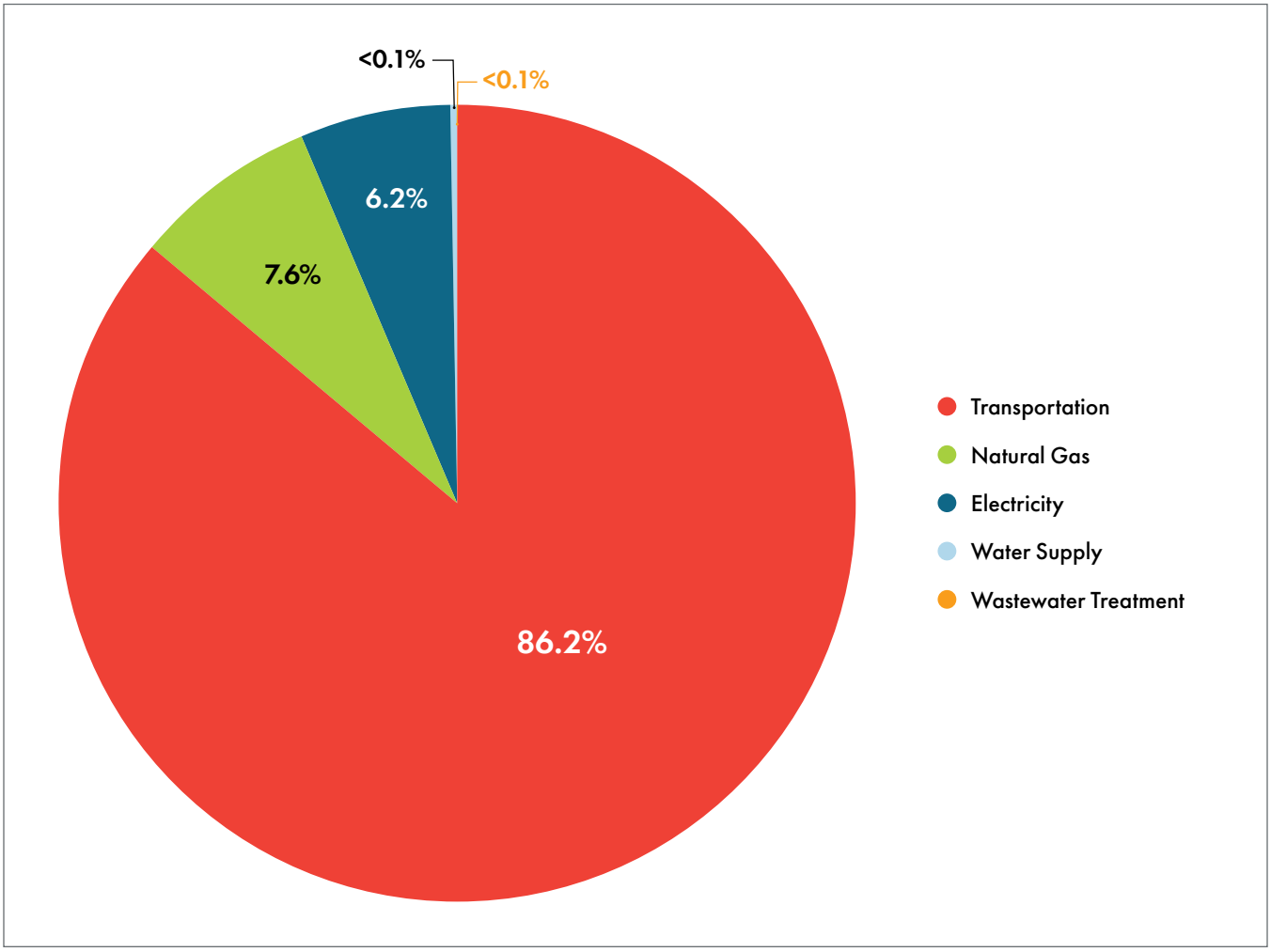


Source: City of Culver City, 2021. Note: Totals may not add due to rounding.

Municipal GHG emissions sources include electricity, natural gas, transportation, water supply, and wastewater treatment. Figure 34 shows the percent breakdown of the inventory by source. As the results show, the main source of municipal emissions is on-road transportation, representing 86.2 percent of total emissions, followed by natural gas at 7.6 percent and electricity at 6.2 percent. Building energy (electricity and natural gas) makes up a combined 13.8 percent of total emissions. Emissions from electricity are lower than many other local governments because the City primarily uses CPA's 100 percent renewable, carbon-free electricity.

Vehicle traffic in Downtown Culver City

FIGURE 34 ***Percent of Culver City Municipal GHG Emissions by Source in 2019***



Source: City of Culver City, 2021. Note: Totals may not add due to rounding.

Establishing a Carbon Neutrality Target

California is committed to achieving an equitable transition to carbon neutrality by 2045.[54] The City, through its General Plan, commits to meeting or exceeding this ambitious target. Reaching carbon neutrality will require lowering emissions across all sectors, particularly emissions from mobility and buildings. These efforts require participation in and coordination with State and regional efforts.

Decarbonizing Mobility

Transportation and land use programs are a fundamental part of Culver City's plan to reach carbon neutrality by 2045. Transportation-related emissions are the largest contributor to community-wide and municipal emissions. Reducing emissions to achieve the City's target will require significant investments in active transportation infrastructure, transit service, transportation demand and parking management programs that reduce single-occupancy vehicle travel, and investment in electric vehicle infrastructure. It also means investing in pedestrian, cyclists, micromobility, and mass transit modes, thereby guaranteeing these modes are more convenient and less costly to use. Likewise, land use and neighborhood design impact where people travel, how far people go, and by what vehicle mode they make their trips. Compact, mixed-use neighborhoods encourage non-auto travel to meet daily needs.

Reducing GHG emissions offers co-benefits to the city. For example, reducing vehicle miles traveled (VMT) reduces GHG emissions, but also helps to improve air quality, lessen traffic and congestion, and create safer roadways for pedestrians and cyclists.

In concert with the Greenhouse Gas Reduction Element, both the Land Use and Community Design and Mobility Elements establish the pathways toward the ambitious carbon neutrality target.

Compressed natural gas (CNG) buses in the Culver CityBus fleet

54. State of California, Executive Order B-55-018, 2018.

Access Culver City mixed use residential development—LEED Silver

Decarbonizing Energy Supply and Buildings

The second greatest source of emissions is energy use in buildings. Culver City is a member of the Clean Power Alliance and thus able to provide 100 percent renewable energy to residents, businesses, and municipal buildings. Maintaining a high level of participation in CPA at the 100 percent renewable level is an efficient method to decrease emissions.

Most building-related emissions are attributable to the existing building stock, which are much less efficient than new construction due to being built when building energy standards were less stringent or nonexistent. The three ways to reduce building related emissions are energy efficiency, sustainable construction practices, and electrification. The supply of clean electricity needs to be coupled with electrifying both new and existing buildings so that GHG emissions from buildings decrease steadily over time. Additional benefits of removing natural gas from buildings include improved indoor air quality and public safety around gas infrastructure. Decarbonizing existing building operations through electrification is critical to meeting emissions reduction targets.

Storing Carbon in the Urban Ecosystem

Culver City's natural lands sequester carbon in the soil and plants, which absorb carbon dioxide from the atmosphere and store it as organic carbon through photosynthesis.[55] The City maintains an urban forest of approximately 15,000 trees that are located in the public right-of-way and open spaces. These trees represent a stock of stored carbon that should be maintained and expanded. This is accomplished by both replacing trees lost to damage or disease and identifying locations for additional tree planting. Expanding the urban forest is beneficial beyond carbon storage. It helps reduce the urban heat island effect, improve air quality and stormwater management, and foster a sense of connection to nature. Additionally, parks and other public open spaces can serve as receptor locations for compost generated through organic waste diversion, which stores carbon in the soil and can help create a local market for compost to support organic waste diversion goals.

Climate change impacts, such as extreme heat, drought, and wildfires degrade the health of those natural systems, which impact the landscapes' ability to sequester carbon. Healthy landscapes are also important to protect biodiversity and ecological connection, improve water quality, and improve public health by improving access to quality green space. The City must actively manage its trees, parks, and other open spaces in ways that support healthy soils and foster plants that can thrive in the Los Angeles Basin as the climate changes.

55. California Natural Resources Agency, Natural and Working Lands Climate Smart Strategy, 2022.

POLICY FRAMEWORK

Key: Goal attributes.

- Equity & Inclusion
- Innovation & Creativity
- Sustainability
- Compassion & Community

GOAL GHG-1

Carbon neutrality. A carbon neutral community by 2045 in line with or exceeding State targets.

GHG-1.1: GHG inventory. Update the community and municipal GHG inventories every five years to track progress toward achieving the City's GHG reduction goal.

GHG-1.2: Reduction measures. Maintain and regularly update GHG reduction measures in the General Plan to reduce GHG emissions generated within the city. Formalize and make necessary changes to the City's climate action strategy based on results of the five-year GHG inventory updates to achieve the City's GHG reduction goals.

GHG-1.3: New technologies. Regularly evaluate new and emerging technology changes that can help to reduce GHG emissions and encourage using technology that is demonstrated to be effective at reducing GHG emissions in a fiscally responsible manner.

GHG-1.4: Funding sources. Seek additional funding sources to support implementing GHG reduction projects for the City, residents, and businesses.

GHG-1.5: Support GHG reduction. Initiate or support legislation and regulations that are designed to establish achievable targets and to fund programs that ensure that all cities can achieve their GHG reduction goals.

GOAL GHG-2

Green buildings. Green and decarbonized buildings are the standard for new construction, major renovations, and existing building retrofits.

For related policies and implementation actions connected to fossil fuel free energy, see Infrastructure Goal 7 and for efficient municipal facilities, see Parks, Recreation, and Public Facilities Goal 7.

GHG-2.1: Clean power access. Maintain access for residents and businesses to carbon-free and renewable energy sources through the Clean Power Alliance and partnerships with Southern California Edison.

GHG-2.2: All-electric buildings. Foster a transition to all-electric buildings.

GHG-2.3: Water efficiency. Encourage implementation of both residential and nonresidential voluntary measures of the California Green Building Standards Code (CALGreen) to reduce or eliminate potable water use outdoors.

GHG-2.4: Energy and water efficiency. Improve the energy and water efficiency of new and existing buildings.

GHG-2.5: Productive roofs. Maintain and distribute guidelines for solar generation or green roofs on available roof space in new developments and major renovations, in alignment with City solar photovoltaic requirements. Encourage the use of green and/or cool roofs in new construction.

GHG-2.6: Passive heating and cooling. Encourage and ensure dissemination of resources for solar energy generation and passive heating and cooling strategies.

GHG-2.7: Efficiency outreach. Educate residents and businesses on available incentive and rebate opportunities to reduce energy and water use.

GOAL GHG-3

Municipal buildings and facilities. ***The environmental efficiencies and performance of municipal buildings, facilities, landscaping, and parks in Culver City is improved.***

GHG-3.1: Green rating system. Encourage all new municipal buildings and facilities to meet a minimum LEED silver rating as certified by the US Green Building Council or equivalent green building rating system. Consider feasibility studies for zero net energy use via on-site renewable energy generation and on-site battery storage.

GHG-3.2: Benchmarking. Regularly benchmark the environmental performance of municipal buildings, landscaping, parks, and facilities.

GHG-3.3: Energy efficiency improvements. To reduce operating and maintenance costs, use benchmarking data to identify opportunities for environmental performance improvements through equipment replacements, audits, retro-commissioning, and building retrofits.

GHG-3.4: Waste diversion. Encourage municipal construction projects to achieve 75 percent waste diversion from the landfill.

GHG-3.5: Battery storage. Encourage municipal building and new facility construction and major renovation projects to evaluate the feasibility of incorporating onsite batteries that store electricity from onsite renewable energy generation to supply the building and community with electricity in the event of a disaster.

GOAL GHG-4

Decarbonized transportation sector. ***GHG emissions from the transportation sector are eliminated.***

For related policies and implementation actions connected to mobility, see the Mobility Element.

GHG-4.1: Zero emission vehicles. Enable the shift to zero emission vehicles.

GHG-4.2: Public electric vehicle (EV) chargers. Install additional EV chargers at suitable public facilities and curbside, including Downtown parking structures, community parks, and mobility hubs.

GHG-4.3: Multi-unit residential dwelling EV chargers. Develop policies, and incentive/rebate programs designed to encourage installation of additional EV chargers in multi-unit residential and mixed-use dwellings, single-family homes, workplaces, and shopping centers.

GHG-4.4: Zero-emission vehicle fleet purchases. When buying new City vehicles, purchase zero emission vehicles when feasible.

GHG-4.5: Zero emission fuels. Transition existing vehicles and construction and maintenance equipment to zero-emission fuels.

GOAL GHG-5

Zero waste. ***Increase resource capture and decrease waste sent to landfills.***

GHG-5.1: Zero waste. Achieve zero waste through adoption of circular economy principles such as recovery, reuse, and sharing of resources.

GHG-5.2: Extended producer responsibility. Support producer responsibility policies that place a shared responsibility for end-of-life product management on producers, instead of the general public; while encouraging product design changes that minimize negative impacts on human health and the environment.

GHG-5.3: Zero waste textile program. Explore establishing a zero-waste textile initiative and collection system.

GOAL GHG-6

Sustainability. ***A city that is aware of its ecology and environmental past and present.***

GHG-6.1: Sustainability in City decision-making. Integrate environmental and sustainability outcomes and issues into City decision-making processes, operations, and community activities.

GHG-6.2: Sustainability education. Coordinate with the Culver City Unified School District (CCUSD) to integrate environmental literacy into their student curriculum and in City-sponsored programs or events.

IMPLEMENTATION ACTIONS

Key: Types of actions may include partnership, program, study, plan, physical improvements, and more.

Key: Timeframe icons for implementation actions table.

- ● Short-term 1-5 Years
- ●● Medium-term 5-10 Years
- ●●● Long-term 10+ Years
- Ongoing

Implementation Action	Associated Goal(s)	Timeframe	Type of Action	Primary Responsibility	Secondary Responsibility
IA.GHG-1: Greenhouse Gas (GHG) Reduction Strategy. Determine the GHG emission reduction targets for the City to be consistent with California's GHG reduction goals. Develop goals, policies, and actions designed to ensure that the City will achieve the GHG reduction goal.	GHG-1	●	Study, Plan	Public Works; Transportation	Planning and Development
IA.GHG-2: GHG emissions thresholds. Establish GHG emission thresholds for use in evaluating non-exempt discretionary project consistent with the California Environmental Quality Act and require projects above that threshold to substantially mitigate all feasible GHG emissions and reduce emissions at or below the established thresholds.	GHG-1	●	Study	Planning and Development	–
IA.GHG-3: GHG inventory. Update the community and municipal GHG inventories in 2025.	GHG-1	●	Study	Transportation	Planning and Development
IA.GHG-4: Evaluate new technologies. Regularly evaluate new and emerging technology changes that can help to reduce GHG emissions and encourage using technology that is demonstrated to be effective at reducing GHG emissions and a fiscally responsible investment.	GHG-1	Ongoing	Study	Public Works	City Manager

Implementation Action	Associated Goal(s)	Timeframe	Type of Action	Primary Responsibility	Secondary Responsibility
IA.GHG-5: Existing incentives and one-stop shop. Explore grant funding, rebates, and other incentive opportunities. Compile incentives into a one-stop shop for businesses and residents. Create and distribute outreach materials about opportunities for grant funding, rebates, and other incentive opportunities.	GHG-1		Study	Public Works	City Manager
IA.GHG-6: Decarbonized new buildings. Study new building decarbonization options, such as building performance standards, source energy thresholds, or indoor air quality standards in collaboration with the CPA, SCAQMD, and other regional partners.	GHG-2		Ordinance/ Code Amendment	Planning and Development	–
IA.GHG-7: Existing building decarbonization phasing. Study existing building decarbonization and electric-ready policy options, such as building performance standards and indoor air quality standards to support building decarbonization.	GHG-2		Plan	Planning and Development	Public Works
IA.GHG-8: Battery storage system streamlining. Establish a streamlined approval process for battery storage systems.	GHG-2		Ordinance / Code Amendment	Planning and Development	–
IA.GHG-9: Solar energy streamlining. Streamline the permitting process for homeowners and businesses to implement solar energy generation.	GHG-2		Ordinance / Code Amendment	Planning and Development	–
IA.GHG-10: Existing building efficiency. Study an energy and water efficiency upgrade program for existing buildings.	GHG-2		Program	Planning and Development	Public Works

Implementation Action	Associated Goal(s)	Timeframe	Type of Action	Primary Responsibility	Secondary Responsibility
IA.GHG-11: New building energy efficiency standards. Conduct a feasibility analysis to require energy efficiency in new construction buildings that exceeds California's Building Energy Efficiency Standards outlined in Title 24, Part 6. Develop ordinance or code amendments to implement, as appropriate.	GHG-2	●	Ordinance / Code Amendment	Planning and Development	Public Works
IA.GHG-12: Productive roofs. Maintain and distribute guidelines for solar generation or green roofs on available roof space in new developments and major renovations, in alignment with City solar photovoltaic requirements via information on the City's website and via pamphlets.	GHG-2	●	Outreach	Planning and Development	Public Works
IA.GHG-13: Electric Vehicle Infrastructure Plan. Implement the citywide Electric Vehicle (EV) Infrastructure Plan.	GHG-4	● ●	Plan	Public Works	Planning and Development
IA.GHG-14: Public EV chargers. Install additional EV chargers at suitable public facilities and curbside, including Downtown parking structures, community parks, and mobility hubs.	GHG-4	●	Physical improvements	Public Works	–
IA.GHG-15: Electric vehicle charger incentives. Develop policies, and incentive/rebate programs designed to encourage installation of additional EV chargers in new developments.	GHG-4	●	Program	Planning and Development	Public Works
IA.GHG-16: Commercial zero-emission vehicles. Create a program that requires or incentivizes businesses that operate in the city to shift to zero-emission vehicles.	GHG-4	● ●	Program	Transportation	Planning and Development
IA.GHG-17: Reduce consumption. Develop a communications and outreach program to encourage reduced consumption and increased resource reuse and sharing.	GHG-5	● ●	Program	Public Works	City Manager

Implementation Action	Associated Goal(s)	Timeframe	Type of Action	Primary Responsibility	Secondary Responsibility
IA.GHG-18: Zero waste plan Implementation. Continue the zero-waste plan that institutes cost-effective diversion programs for municipal operations and the community by: • Ensuring all properties in the city have access to recycling services. • Providing hazardous materials drop facilities or events. • Ensuring curbside collection of residential organics and food waste and from commercial facilities. • Maintaining organics collection facilities for household organics. • Conducting a regular waste composition analysis to target education and diversion programs.	GHG-5	● ●	Program	Public Works	–
IA.GHG-19: SB 1383. Enforce Ordinances implementing Senate Bill 1383 that: • Establish compliance pathways and enforcement mechanisms for organics and food waste diversion. • Update trash enclosure space and access requirements based on hauler recommendations to accommodate all waste streams (e.g., recycling, trash, organics).	GHG-5	● ●	Program	Public Works	–
IA.GHG-20: Sustainability criteria in budgeting and prioritization efforts. Develop and include sustainability criteria in budgeting and prioritization efforts through an approach that integrates environmental, economic, and social equity concerns.	GHG-6	● ●	Policy/ program	Finance	City Manager