City of Burbank Greenhouse Gas Reduction Plan Update

Final Draft
Adopted May 3, 2022


BURBANK

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Appendices

Acronyms & Abbreviations

AB	Assembly Bill
BAU	Business as usual
BWP	Burbank Water and Power
CalRecycle	California Department of Resources, Recycling, and Recovery -
Caltrans	California Department of Transportation
CARB	California Air Resources Board
CDC	Centers for Disease Control and Prevention
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CH_4	Methane
CO_2	Carbon dioxide
CO_2e	Carbon dioxide equivalent
COVID-19	Coronavirus disease 2019
EO	Executive Order
EV	Electric Vehicle
GGRP	Greenhouse Gas Reduction Plan
GHG	Greenhouse Gas
GWP	Global Warming Potential
HFCs	Hydrofluorocarbons
ICLEI	International Council for Local Environmental Initiatives
IPCC	United Nations Intergovernmental Panel on Climate Change
kW	kilowatt
kWh	Kilowatt hour

MT	Metric ton
MT CO_2e	Metric tons of carbon dioxide equivalent
NASA	National Aeronautics and Space Administration
NF_3	Nitrogen trifluoride
N_2O	Nitrous oxide
PFCs	Perfluorocarbons
PV	Photovoltaic
RCP	Representative Concentration Pathway
RPS	Renewable Portfolio Standard
RTP/SCS	Regional Transportation Plan/Sustainable Communities Strategy
SCAG	Southern California Association of Governments
SB	Senate Bill
SF_6	Sulfur hexafluoride
U.S. EPA	United States Environmental Protection Agency
VMT	Vehicle Miles Traveled
ZEV	Zero Emission Vehicle

Introduction

Background

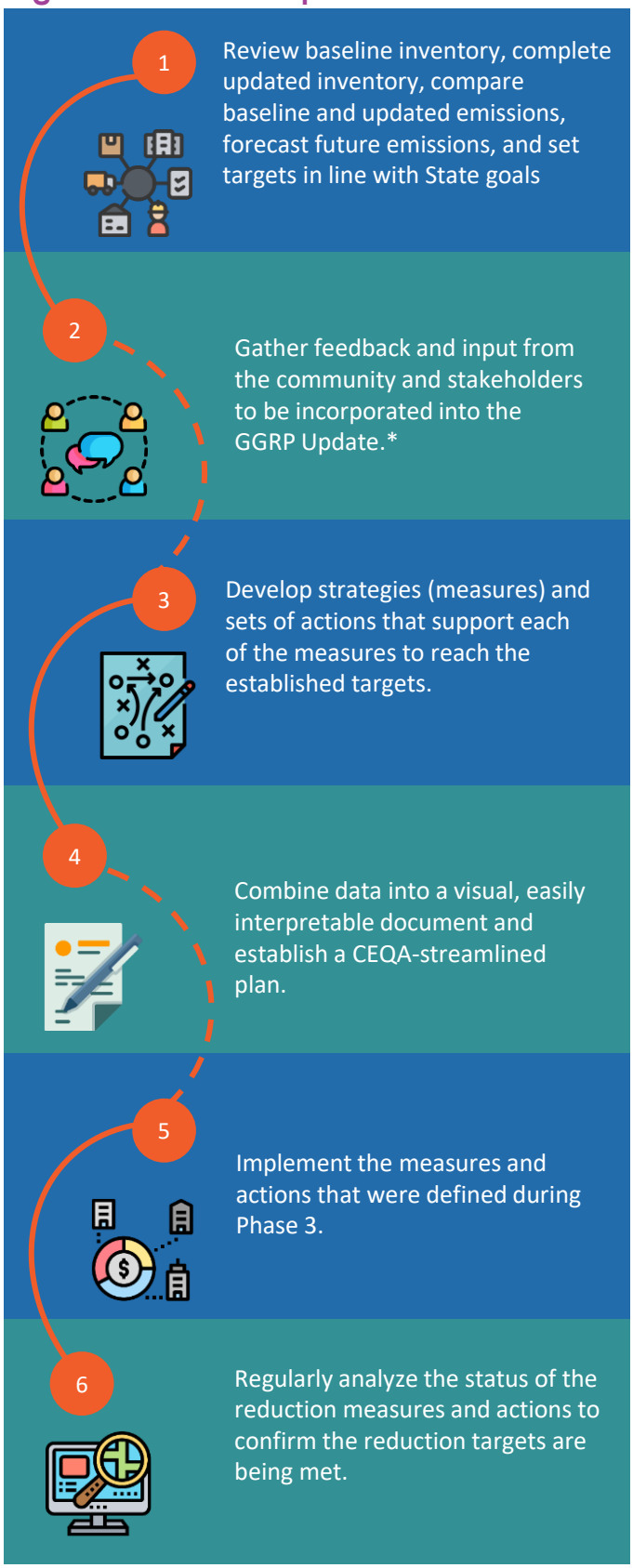
The Greenhouse Gas Reduction Plan (GGRP) Update is a long-range planning document that builds off of the 2013 GGRP and guides the City towards long-term emission reductions in accordance with the State's goals. The GGRP Update analyzes current (2019) emission sources within the City, forecasts future (2030, 2035, and 2045) emissions, and establishes emission reduction targets that align with California's long-term goals (See *Inventory, Forecast and Targets* and Appendix C).

This GGRP Update is Burbank's roadmap to achieving the City's 2030 target and State mandated goal of 40 percent below 1990 levels by 2030 and demonstrates substantial progress towards achieving carbon neutrality by 2045. The GGRP Update also includes a framework for implementation and monitoring emission reduction activities, and further promotes adaptation and resilience. The plan is intended to be a qualified GHG Reduction Plan and meets the requirements of the California Environmental Quality Act (CEQA) Section 15183.5(b), see Figure 1.

2013 GGRP

On February 19, 2013, the Burbank City Council adopted the GGRP, which is a standalone planning document that accompanies Chapter 2, *Air Quality and Climate Change Element*, of the Burbank 2035 General Plan. The 2013 GGRP established a baseline greenhouse gas (GHG) emission inventory for 2010 and forecast emissions for 2020 and 2035 (See *Inventory, Forecast, and Targets*, for a discussion of the 2010 inventory and for more information on how it is integrated into this GGRP Update). Additionally, the 2013 GGRP enabled development streamlining opportunities for discretionary projects under the CEQA

Figure 1 GGRP Update Process



* Stakeholder and community outreach is ongoing throughout the climate action planning process

through 2020 and serves as the foundation for this GGRP Update.

Burbank's Vision

As recognized in the 2013 GGRP, climate change and the associated effects are real and are already being felt locally, with projections demonstrating that the impacts will become more extreme over the next century without a collective global effort to actively make real change and reduce GHG emissions. Therefore, this GGRP Update aims to build off of the 2013 GGRP and encourage policies and practices that protect the environment, enhance the quality of life for residents in Burbank, encourage equity in decision-making practices, support a stable and resilient economy, and continue to reduce the City's emissions consistent with California's goals. To achieve these goals, the plan provides a set of updated measures for Burbank to reduce its emissions, mitigate and adapt to climate change risks, establish a more resilient community, and lead the way toward a more sustainable future. The key components of a sustainable future for Burbank include:

- **Social Equity** – Protecting those most vulnerable, including, disadvantaged communities and small businesses, against the impacts of climate change by creating a healthier and more resilient City.
- **Economic Resilience** – Making the City and economy more resilient to unpredictable climate emergencies, providing more efficient and affordable utilities, creating clean energy jobs, and promoting resource conservation.
- **High-Quality of Life** – Enhancing the quality of life for all members of the community by working towards a shared and collaborative civic identity that prioritizes safety, security, and diversity.
- **Community Involvement** – Inviting all Burbank residents, business owners, and stakeholders to actively play a role in the climate planning process provides an opportunity for those who are interested and invested to actively influence the decision-making in our City. It is our collective goal to engage in and promote activities that minimize the potential environmental, social, and economic impacts of climate change.
- **Collaborative Partnerships** – Working together with stakeholders that have the ability to support others in the community make decisions that are guided by science and aim to reduce emissions while creating a more sustainable, resilient, and equitable community.

COVID-19 and Climate Action Planning

We are collectively facing a unique public health emergency related to the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) and spread of the associated coronavirus disease (COVID-19). The COVID-19 pandemic has disrupted our daily lives and both the local and national economies, bringing the intersection of climate change and public health to the public eye. The pandemic also shines the light on how disasters disproportionately affect already-vulnerable communities. Disadvantaged communities, already suffering from exposure to higher levels of toxic air pollution, are more vulnerable to respiratory disease and are dying at disproportionately higher rates from the pandemic. Similarly, the economic impacts have affected many and are increasing the economic divide across California.[1] At the same time, global

1. https://calmatters.org/economy/2020/07/california-covid-deepening-income-inequality-data/

response to the pandemic has shown that an extreme reaction to disasters of this magnitude is both possible and necessary. We can and should strive for a future with cleaner air; safer homes and public spaces; more secure, high-paying jobs; and reliable access to renewable resources. Planning for resilience, particularly at the local level, should include a focus on addressing environmental justice and climate equity. This GGRP Update outlines how Burbank will work towards this future in light of and inspired by the obvious impacts of the COVID-19 crisis.

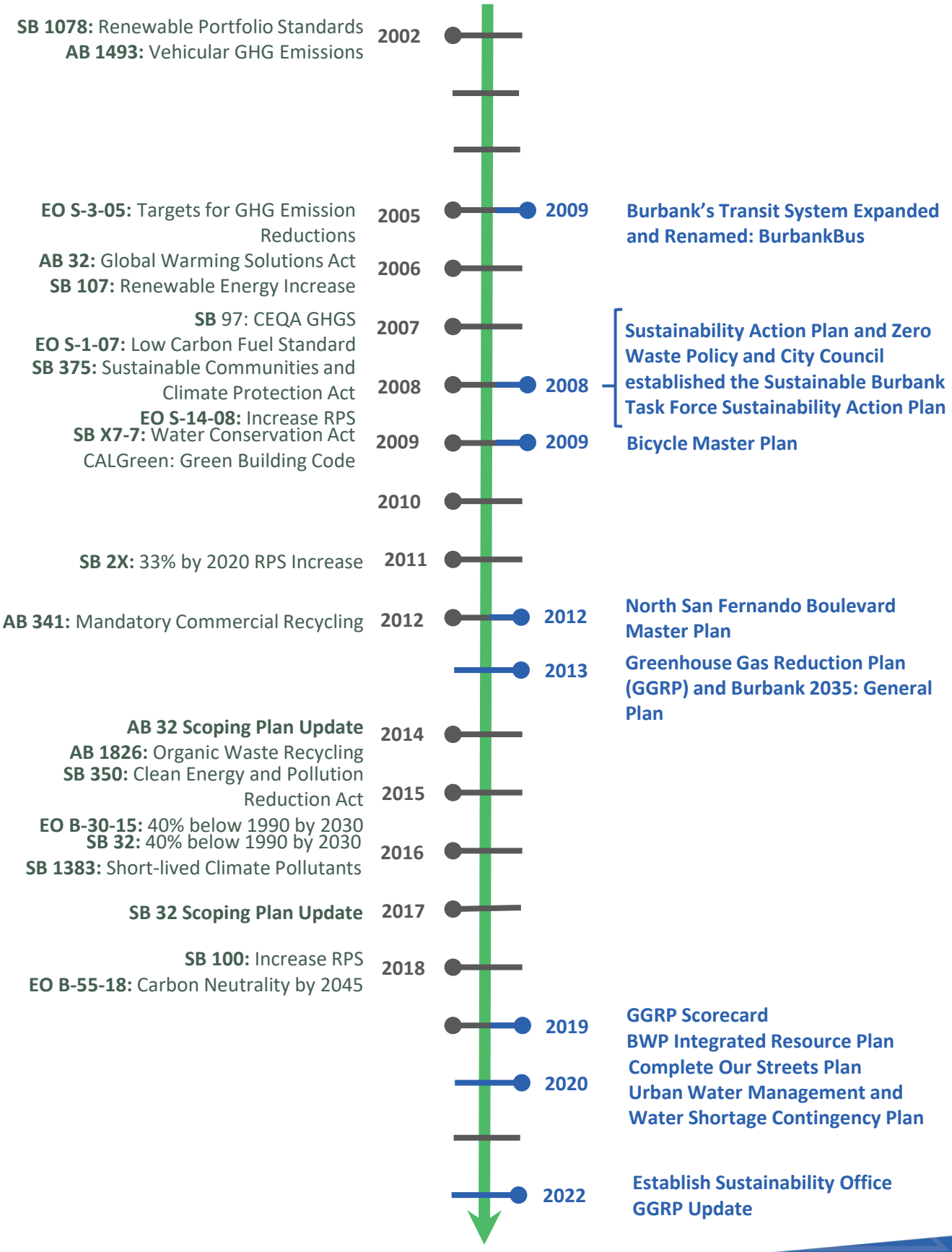
Purpose

This GGRP Update will build on the successful work of the 2013 GGRP and continue to guide the City of Burbank towards reducing GHG emissions consistent with the targets set out by Assembly Bill (AB) 32 and Senate Bill (SB) 32, as well as fulfill the requirements of the California Environmental Quality Act (CEQA) Guidelines § 15183.5(b). California AB 32 established a statewide target to reduce GHG emissions to 1990 levels by 2020 and SB 32 established a statewide target to reduce GHG emissions to 40 percent below 1990 levels by 2030. Please see Figure 2 and Appendix A, *Regulatory Summary*, for a written description and a timeline of the State regulations and City initiatives related to climate action planning and sustainability.

Similar to the 2013 GGRP, the GGRP Update and its accompanying environmental documentation are consistent with the criteria set forth in CEQA Guidelines Section 15183.5(b) as outlined below:

A. Quantify greenhouse gas emissions, both existing and projected over a specified time period, resulting from activities within a defined geographic area (See *Inventory, Forecast, and Targets*);

Figure 2 State of California and City of Burbank Climate Action Timeline



A. Establish a level, based on substantial evidence, below which the contribution to GHG emissions from activities covered by the plan would not be cumulatively considerable (See *Inventory, Forecast, and Targets*);

B. Identify and analyze the GHG emissions resulting from specific actions or categories of actions anticipated within the geographic area (See *Inventory, Forecast, and Targets*);

C. Specify measures or a group of measures, including performance standards, that substantial evidence demonstrates, if implemented on a project-by-project basis, would collectively achieve the specified emissions level (See *GHG Emission Reduction Measures*);

D. Establish a mechanism to monitor the plan's progress toward achieving the level and to require amendment if the plan is not achieving specified levels (See *Implementation*);

E. Be adopted in a public process following environmental review (See Appendix E).

If projects are consistent with the GGRP Update, CEQA analysis can be streamlined by presuming that the project's GHG emissions are not significant.[2]

GHG Emission Background

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 back into space and a small portion is absorbed by Earth's surface. As Earth absorbs the solar radiation, its surface gains heat and then re-radiates 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]

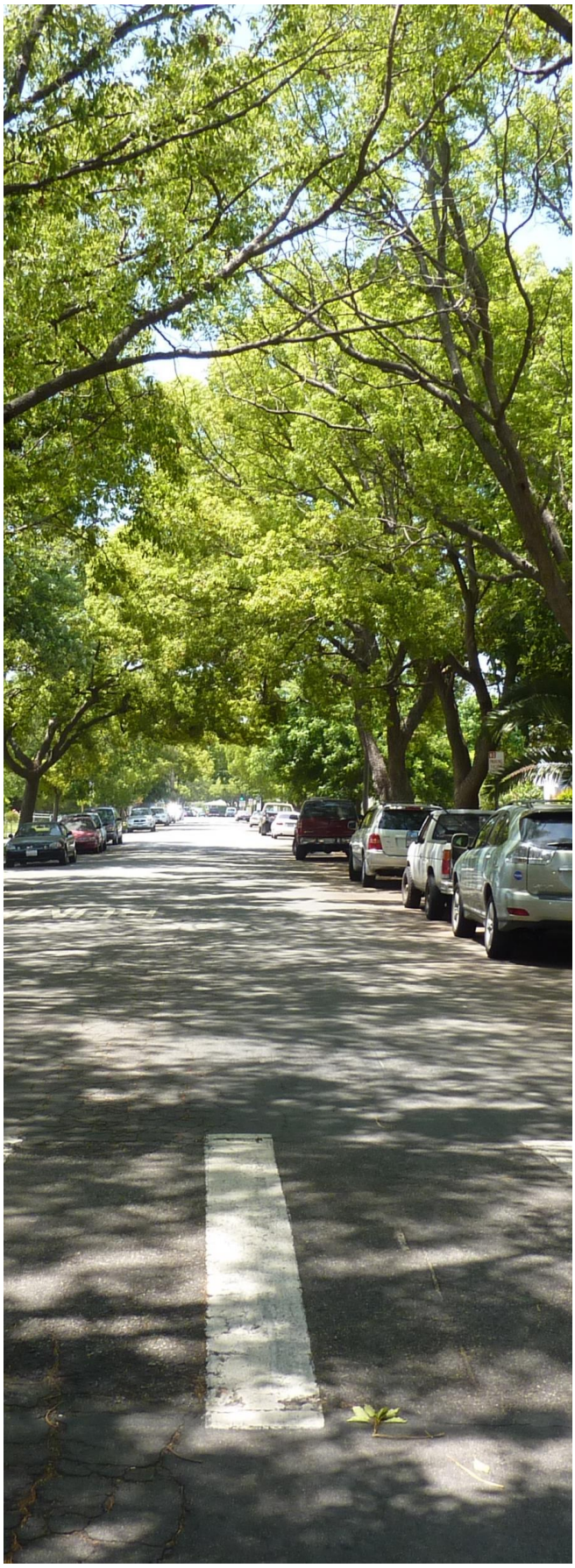
The greenhouse effect is integral to sustaining life on Earth. However, human activities emit GHGs in excess of natural ambient concentrations, thereby contributing to the enhancement of the natural greenhouse effect. This enhanced greenhouse effect contributes to global warming, an accelerated rate of warming of Earth's average surface temperature. More specifically, by burning fossil fuels 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 Greenhouse Gases

Greenhouse gases listed by the United Nations Intergovernmental Panel on Climate Change (IPCC) 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] Ninety-seven percent of the annual GHG emissions generated in the United States consist of CO_2, CH_4, and N_2O,[6] while fluorinated gases[7] result in the remaining three percent of emissions.

2. https://opr.ca.gov/docs/OPR_C8_final.pdf

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.wri.org/blog/2020/02/greenhouse-gas-emissions-by-country-sector
7. Fluorinated gases, which includes four main types: hydrofluorocarbons 8. (HFCs), perfluorocarbons (PFCs), sulfur hexafluoride (SF6) and nitrogen trifluoride (NF3), are man-made gases that can stay in the atmosphere for centuries and contribute to the GHG effect.



Each of these gases has its own global warming potential (GWP), or extent to which it traps energy in the atmosphere, ranging from a decade to several thousand years. CO_2 is used as the reference point to compare the potential impact of different GHGs, therefore CO_2 has a GWP of 1. Methane has a GWP of 28, meaning that each metric ton (MT) of methane causes 28 times more warming than 1 MT of CO_2. Nitrous oxide has a GWP of 265 or 265 times the GWP of 1 MT of CO_2.[8]

Sources of Greenhouse Gas Emissions

The combustion of fossil fuels (such as natural gas and gasoline), the decomposition of waste, and industrial processes are the primary sources of GHG emissions. 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.[9]

According to the U.S. EPA, gross GHG emissions nationwide have increased by 1.3 percent since 1990. Annual flux of GHG emissions can be attributed to changes in the economy, the price of fuel, and land-use change. For example, in 2017, nationwide GHG emissions decreased compared to 2016 levels, but rose again in 2018 by 3.1 percent . The fluctuation in CO_2 emissions from fossil fuel combustion was a result of multiple factors: although there continues to be a shift from coal to natural gas and increased use of renewables in the electric power sector, more extreme weather (colder winter, hotter summer) led to increased overall electricity use.

8. https://www.ipcc.ch/assessment-report/ar5/
9. https://www.epa.gov/ghgemissions/inventory-us-greenhouse-gas-emissions-and-sinks

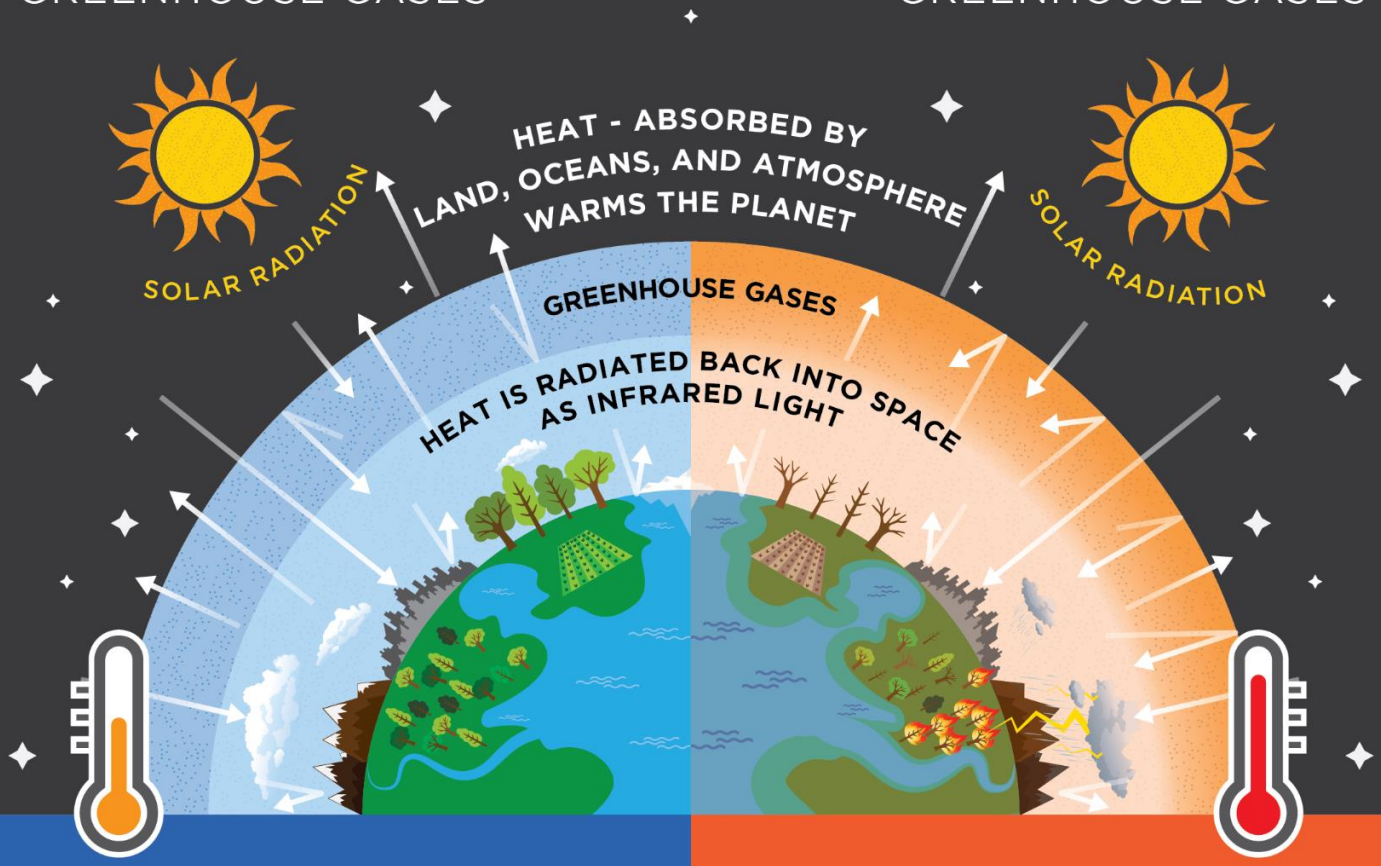
GREENHOUSE EFFECT

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.

WITH NORMAL GREENHOUSE GASES

WITH INCREASED GREENHOUSE GASES



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
- Temperature
- Rainfall
- 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
- Heat
- Drought
- Sea Level Rise

Vulnerability

In general, 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.

Climate Impacts

Anthropogenic (human) caused climate change is well-understood and widely accepted by the scientific community, with over 97 percent of climate scientists agreeing that the planet is warming and human activities are the root cause.[10] Climate change is the addition of excess GHGs to the atmosphere which traps energy (heat) and causes changes to temperature, wind patterns, and precipitation. Because of human activities, these GHGs are now higher than they have been in the past 400,000 years, raising carbon dioxide levels from 280 parts per million to 400 parts per million in the last 150 years.[11] Although many changes to climate are governed by natural processes, human activities have contributed an increasing amount of GHGs to the atmosphere at a rate that is unprecedented in Earth's history.

Effects of Climate Change

Climate change causes fluctuations in temperature and precipitation globally, which impact ecosystems and communities worldwide. Scientists have measured shrinking ice sheets, warming oceans, increasing global temperatures, less snow cover, sea level rise, and species extinction. Consequently, climate change has the potential to result in flooding of low-lying areas (due to sea level rise), reduction of fresh-water supply (due to rainfall and snowfall changes), adverse changes to biological resources and public health (due to increased temperature, less-productive habitats, and expansion of disease vectors), as well as many other adverse environmental consequences.[12]

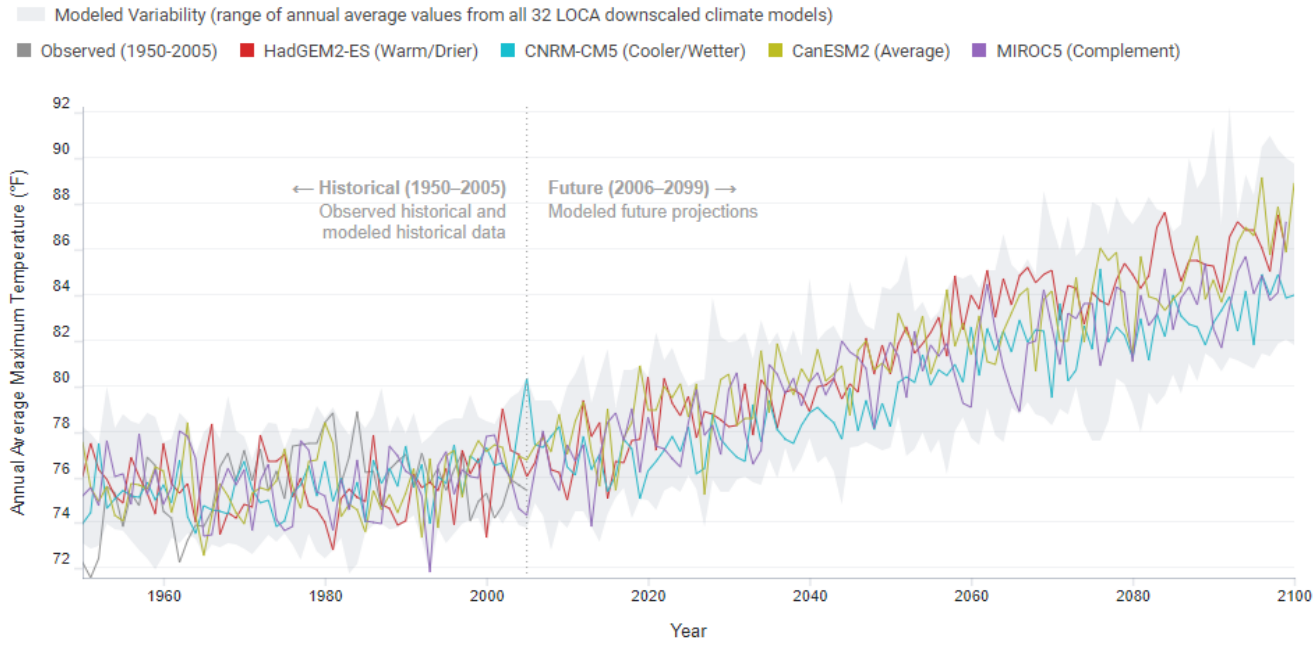
Globally, a warming trend is abundantly clear, with all the top six hottest years on record happening during the past six years.[13] Additionally, the 10 hottest years on record have all occurred since 2009.[14] Climate change is a global phenomenon that has the potential to impact local health, natural resources, infrastructure, emergency response, tourism, and many other facets of society. The direct impacts projected for the City of Burbank include increased temperatures and potential changes in precipitation patterns.

Climate Change in the City of Burbank

In the City of Burbank, the most pronounced effects of climate change will be increased average temperature, more days of extreme heat, and elevated drought risk. Air quality impacts from fires may also continue to be an issue. The projections in Figure 3 and described in text below were taken from Cal-Adapt, 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, also known as the high emissions scenario, which assumes high population, slow technological progress, and no policy-driven mitigation.

10. https://climate.nasa.gov/climate_resources/24/graphic-the-relentless-rise-of-carbon-dioxide/
11. https://climate.nasa.gov/scientific-consensus/
12. https://www.ipcc.ch/sr15/chapter/chapter-3/
13. https://climate.nasa.gov/evidence/
14. https://www.climatecentral.org/gallery/graphics/top-10-warmest-years-on-record

Figure 3 Annual Average Maximum Temperature in Burbank (Grid Cell 34.15625, -118.34375) under RCP 8.5



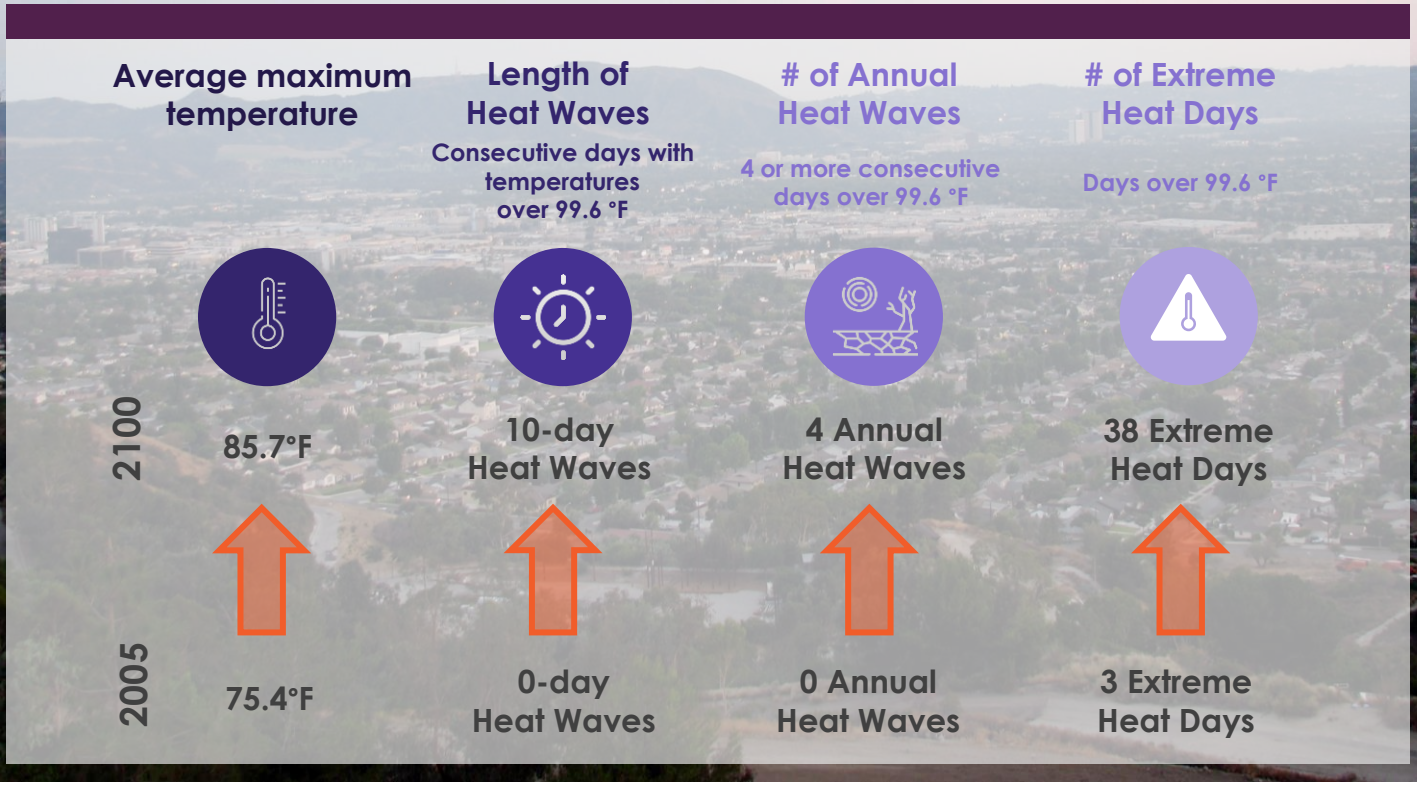
For a broader view of potential impacts, RCP 4.5 is also used below. This scenario, otherwise known as the stabilizing scenario, assumes emissions peak around 2040 before declining due to the use of a range of emissions reduction technologies and strategies. A range of climate models exist to cover the variability of physical processes, leading to warm/dry simulations and cool/wet simulations. Best practices for conservative planning indicate that an average of all models gives the most representative value. See Technical Appendix B, *Cal Adapt,* for further information on RCPs and climate models used.

Average maximum temperatures in the City of Burbank are expected to rise between 5.1° F (under RCP 4.5, the stabilizing scenario) and 10.3°F (under RCP 8.5, the high emissions scenario) from 2005 to 2100.[15] Figure 4 shows observed and projected annual average maximum temperatures in Burbank. Burbank is also projected to experience more extreme heat conditions. The annual number of heat waves, defined as four or more days over 99.6°F, is projected to increase from zero in 2005 to four in 2099, based on the high emissions scenario. Additionally, based on the high emissions scenario, the annual number of extreme heat days with temperatures greater than 99.6°F, is projected to increase from zero in 2005 to approximately 38 by the end of the century. This combination of increasing maximum temperatures, annual heat waves, and annual number of extreme heat days will result in longer heat waves. In 2005, there were no observed consecutive extreme heat days. By the end of the century the high emissions scenario projects the longest heat wave to last about 10 days (see Figure 4).

Moreover, the timing of extreme heat days is expected to change. In 1990, the only

15. https://cal-adapt.org/

Figure 4 Observed and Projected Climate Change Impacts in Burbank (RCP 8.5)



extreme heat days were in September; however, by 2099, the earliest day of extreme heat is expected to occur in late April with the last day of extreme heat occurring in late October, under the high emissions scenario. This would extend the period of extreme heat days by approximately four months.

Social Vulnerability

Those that are most vulnerable will bear the greatest burden associated with the potential impacts of a 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 for all members of society and to ultimately reduce potential burdens of climate change on vulnerable populations.

Potential Impacts to the Community

The City of Burbank may experience a variety of impacts due to climate change, including an increase in average temperature and changes in precipitation, as outlined above under Climate Change in the City of Burbank. Increased temperatures have the potential to affect the City in a variety of ways, especially through decreased public health. Public health may be negatively impacted by a changing climate as a result of changing environmental conditions including extreme weather events, changes in temperature and rainfall that decreased water supply, worsening air quality, and increases in allergens and air pollutants. 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.[16] Increases in temperature could also worsen local heat island effects in Burbank 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.[17]

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.[18] Those in the community without health insurance (about 8.4 percent of the population under 65) and those living under the poverty line (approximately 10.8 percent of the population) are particularly vulnerable.[19]

With anticipated increases in temperature, those without health insurance and/or those that are economically disadvantaged may find it more difficult to afford the additional costs of cooling their homes. Consequently, many low-income households, especially those of seniors and people with disabilities, may become physically vulnerable to the effects of extreme heat events.

It is imperative that the City of Burbank act now to mitigate and prepare for these climate threats and hazards. The measures included in this Greenhouse Gas Reduction Plan set a path to achieving GHG reduction goals that will contribute to long term stability. These measures and actions will build and decarbonize the local economy in a cost-effective manner that prioritizes benefits to the community.

16. https://ww2.arb.ca.gov/capp-resource-center/community-assessment/sensitive-receptor-assessment
17. https://www.epa.gov/heatislands/learn-about-heat-islands
18. https://www.cdc.gov/climateandhealth/effects/temperature_extremes.htm
19. https://www.census.gov/quickfacts/fact/table/burbankcitycalifornia/PST045219

This 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 Burbank will strive to set an example at the municipal level by doing its part to achieve climate goals and fostering a safe, healthy, vibrant, and resilient community for all in Burbank.

What does science tell us about climate change?

- Ranges of many of the world's plant and animal species could decrease by more than 50% by the 2080s.
- Changes to weather patterns such as increased heat and prolonged drought can significantly impact agricultural production and global food security.
- 7x more people could experience the impacts of 100-year floods compared to the 1980s.
- Over 2/3 of coral reefs could experience long term degradation.

Source: https://www.wri.org/ipcc-infographics-emissions

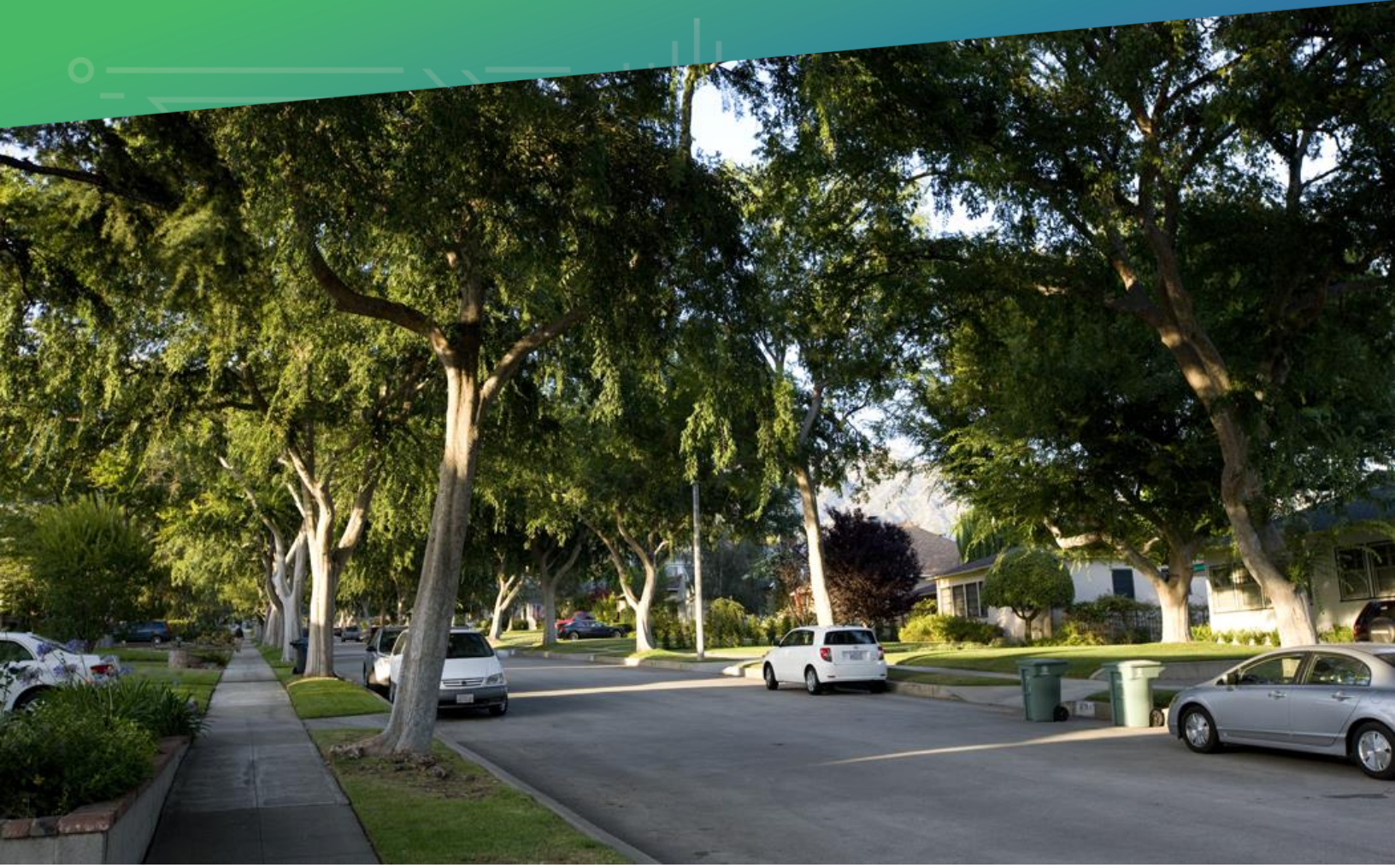
GGRP Update

Purposeful and transparent stakeholder group and community participation in the climate action planning process ensured that this GGRP Update is representative of the needs and desires of all members of the community. The GGRP Update was led by the Community Development Department and developed through an integrated partnership between City staff from a variety of departments, including Burbank Water and Power, the Fire Department, Information Technology, Parks and Recreation, Public Works, and the City Manager's Office; City Boards and Commissions, including the Park's Board, Youth Board, BWP Board, Sustainable Commission, Transportation Commission; RISE – Residents Inspiring Service and Empowerment; and the community, as summarized in Table 1.

Table 1 Summary of Outreach Events

Date	Audience	Topic
August 12, 2020	Sustainable Commission	Project Introduction/Status Update
September 22, 2021	Sustainable Commission	Existing Measures
November 5, 2020	Community	Inventory/Forecast/Target Review
January 14, 2021	Park's Board	Project Introduction/Status Update
January 25, 2021	Transportation Commission	Project Introduction/Status Update
January 28, 2021	Sustainable Commission	Proposed Measures
February 3, 2021	Youth Board	Project Introduction/Status Update
February 4, 2021	BWP Board	Project Introduction/Status Update
February 24, 2021	RISE – Residents Inspiring Service and Empowerment	Introduction and Measure Discussion
February 27, 2021	Farmers Market	General GGRP Update Information
March 3, 2021	Community	Proposed Measures and GGRP Update Draft
March 15, 2021	Transportation Commission	Proposed Measures
March 15, 2021	Sustainable Commission	Proposed Measures
June 21, 2021	Sustainable Commission	Draft GGRP Update
July 20, 2021	Transportation Commission	Draft GGRP Update
March 9, 2022	Sustainable Commission	Final GGRP Update
March 14, 2022	Planning Board	Final GGRP Update
March 21, 2022	Transportation Commission	Final GGRP Update
April 6, 2022	Youth Board	Final GGRP Update
April 7, 2022	Burbank's Transportation Management Organization	Final GGRP Update
April 7, 2022	BWP Board	Final GGRP Update
April 14, 2022	Park Board	Final GGRP Update
April 18, 2022	Sustainable Commission	Final GGRP Update
April 23, 2022	Farmers Market	Final GGRP Update
May 3, 2022	City Council	Final GGRP Update Adoption

Inventory, Forecast, and Targets



Review of 2010 Baseline Emissions Inventory

The GGRP included a baseline GHG emissions inventory for the City of Burbank in 2010. Although many emission reduction measures included in the 2013 GGRP were implemented over time, there was no mechanism in place to track the actual changes in emissions. Therefore, as part of this GGRP Update, a new 2019 GHG emission inventory was completed to help measure the GHG emissions reduction progress since the 2010. To verify that the baseline (2010) and new (2019) GHG inventory were consistent, the 2010 GHG inventory was updated with consistent GWPs and calculation methodology to more closely match the current (2019) inventory.

Both the 2010 and 2019 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 subset of the community inventory, meaning that the municipal emissions are included within the communitywide inventory. 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 2,492 miles in a standard combustion vehicle.[20]

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

Updated 2019 GHG Emissions Inventory

GHG Methodology

Emissions estimates were calculated using the methodologies from the International Council for Local Environmental Initiatives (ICLEI). Specifically, the U.S. Community Protocol for Accounting and Reporting Greenhouse Gas Emissions Version 1.2 (Community) is used to calculate communitywide emissions and the Local Government Operations Protocol Version 1.1 (LGO) is used to calculate municipal emissions. See Appendix C for more information on the methodology.

The municipal operations, including the industrial operation inventory is a subset of the community inventory, meaning that the municipal emissions are included within the communitywide inventory.

2019 Community-wide GHG Emissions

In 2019, the Burbank community emitted approximately 1,084,854 MT CO_2e. As shown in Table 2 and Figure 5, electricity and natural gas consumption within the residential and commercial sectors were the largest source of emissions, generating approximately 573,376 MT CO_2e, or 53 percent of the total 2019 emissions. The transportation sector was the second largest source of emissions, generating approximately 470,653 MT CO_2e, or 43 percent of total 2019 emissions. Waste generation, including processing and the decomposition of waste, resulted in three percent (35,890 MT CO_2e) of the City's emissions, while water use and wastewater generation resulted in the remaining percent (4,936 MT CO_2e).

Progress Since 2010

The 2013 GGRP established a 2020 emission reduction target of 15 percent below 2010 GHG emission levels and a 2035 target of 30 percent below 2010 GHG emission levels. As of 2019, the City of Burbank has reduced GHG emission by 28 percent, exceeding the 2020 target and approaching the 2035 target established in the original GGRP well in advance of the horizon year. The majority of these GHG emission reductions occurred in the transportation and energy sectors through increased efficiency and increased renewable energy procurement by BWP, as well as increased fuel efficiency in the on-road vehicle fleet. The water sector also experienced relatively significant GHG emission reductions through increased renewable energy procurement statewide. Table 3 shows the emission reductions between 2010 and 2019.

Change between the 2010 and 2019 emissions:

- Increased energy efficiency and solar photovoltaic adoption
- Increased fuel efficiency in the on-road vehicle fleet
- Reduced reliance on energy intensive imported water
- Cleaner electricty purchased by Burbank Water and Power

2019 Municipal GHG Emissions

With the unique circumstances in Burbank, where the City has some degree of operational control over the energy supply, wastewater treatment, and landfill, the municipal GHG inventory was broken into an "Industrial Operations" sector and a "Municipal Operations" sector to clearly demonstrate emission sources that are under the operational control of the City but have major implication for the overall community GHG emissions. Each of these sectors is discussed in more detail in the following section.

Table 2 2019 Community Emissions Summary by Sector

Sector	GHG Emissions ($MT CO_2e$)	Percentage of Total Emissions
Electric Power - Non-residential	329,524	30%
Electric Power - Residential	111,095	10%
Buildings	135,333	12%
Transportation	470,653	43%
Recycling and Waste	35,890	3%
Industrial (Wastewater Treatment)	2,360	<1%
Total	1,084,854	100%

Figure 5 2019 Community Emissions Summary by Sector

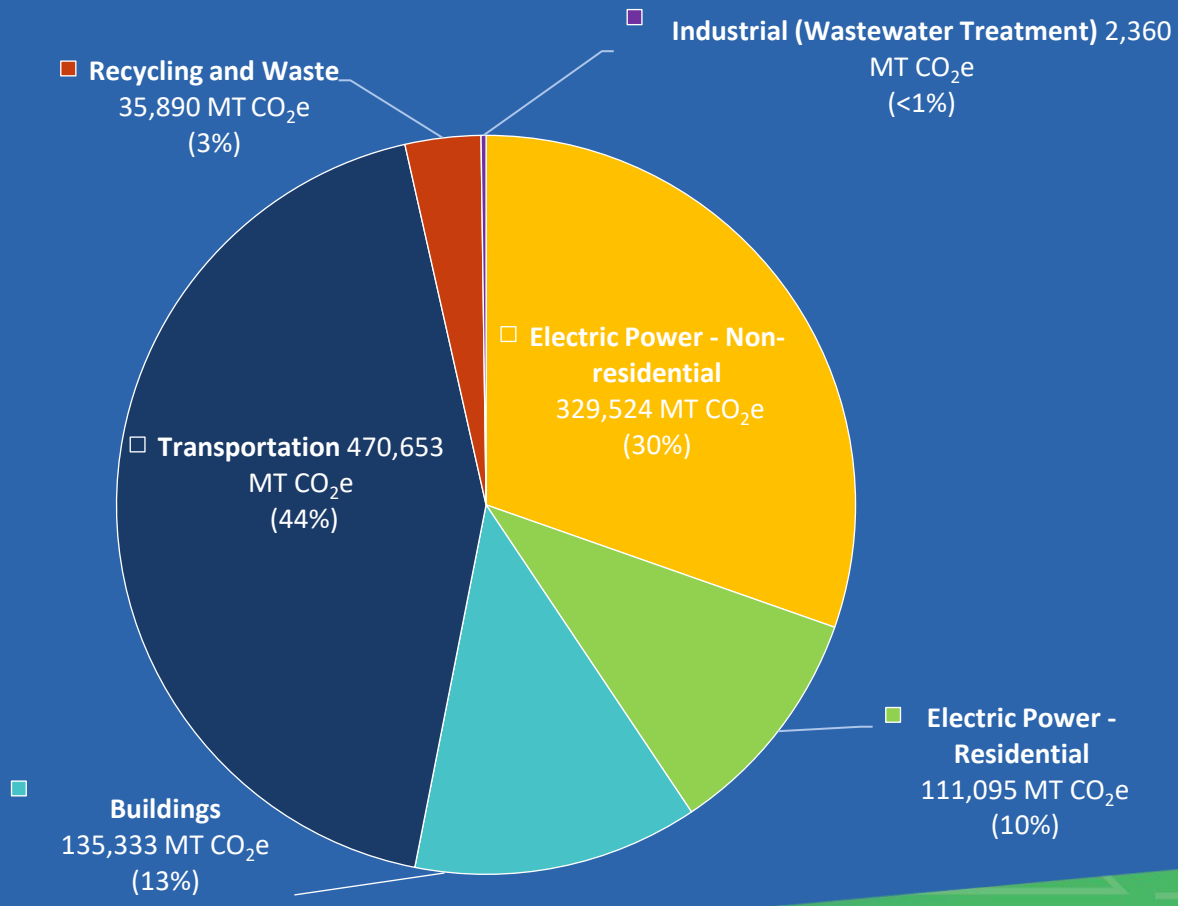


Table 3 GHG Emission Reductions between 2010 and 2019

Sector	Change in GHG Emissions (MT CO_2e)	Percentage Emissions Reduction
Electric Power - Non-residential	-123,847	-27%
Electric Power - Residential	-28,411	-20%
Buildings	-21,481	-14%
Transportation[1]	-256,419	-35%
Recycling and Waste	2,251	7%
Industrial (Wastewater Treatment)	48	2%
Total	-427,859	-28%

Notes:

1. Changes in GHG emissions between 2010 and 2019 may be influenced by the use of different models for vehicle miles traveled in each GHG inventory year. For further discussion, please reference Appendix C.

Industrial Operations

The City of Burbank owns and operates Burbank Water and Power (BWP), which provides the majority of the water and power to the community. The City also operates the Burbank Landfill Site No. 3, which processes approximately 35 percent of landfilled waste in the City and the Burbank Water Reclamation Plant (BWRP), which treats the majority of the community wastewater. These City-owned operations provide a unique opportunity for GHG emission reductions, as the City directly manages its energy, water, and waste emission sources and the related GHG emissions.

In 2019, BWP generated electricity through combustion of natural gas at the Lake One and Magnolia Power Plants and purchased electricity from in-state and out-of-state sources. In total, BWP was responsible for approximately 509,439 MT CO_2e in 2019. The Burbank Landfill Site No.3 also generated approximately 12,178 MT of CO_2e from the decay of waste landfilled, and the BWRP generated approximately 2,360 MT CO_2e (see Table 4). While these emissions fall under the industrial umbrella, they are attributable to resources used by the community in its entirety and therefore it is our collective responsibility to reduce these emissions.

Table 4 Industrial Operations GHG Emissions for 2019 Municipal GHG Inventory

Sub-Sector	GHG Emissions (MT CO_2e)	Percentage of Industrial Emissions
Burbank Water and Power	509,439	97
Burbank Landfill Site No. 3	12,178	2
Burbank Water Reclamation Plant	2,360	<1
Total	**523,977**	**100%**

Notes: MT CO_2e = Metric tons of carbon dioxide equivalent
1. GHG emissions from electricity procurement are not included in the LGOP protocols as a GHG emission source that should be reported; however, these emissions are captured in the community GHG inventory.

Municipal Operations Emissions

In 2019, the City of Burbank's GHG emissions associated with municipal operations totaled 29,647 MT CO_2e. These emissions are generated by the regular activities that are involved in the running of a municipality, and these emissions sources can be directly influenced by the City. As shown in Table 5 and Figure 6, emissions from the City's energy use were the largest sector (19,042 MT CO_2e, or 64 percent).

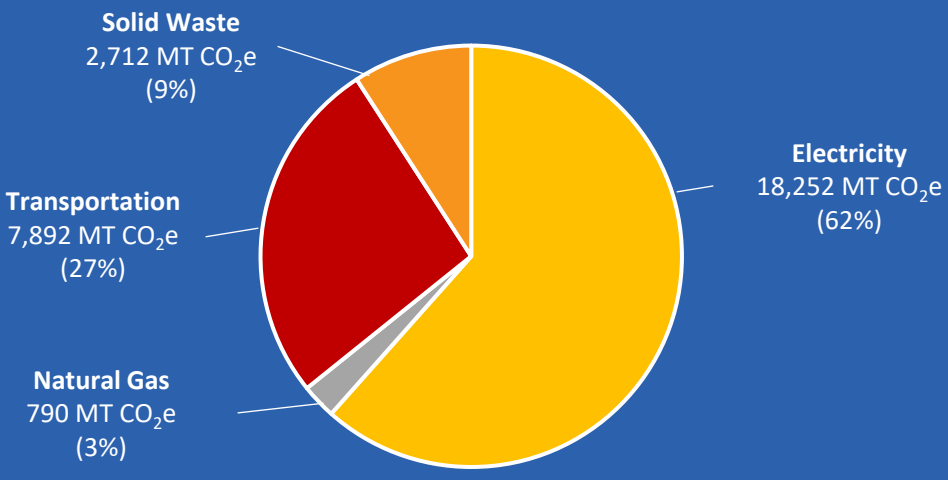
second largest source of emissions (7,892 MT CO_2e, or approximately 27 percent) was from transportation emissions from the City's vehicle, equipment, and transit fleets as well as employee commute and business travel. Solid waste generated 2,712 MT CO_2e, which represents nine percent of the total emissions. The remaining municipal emissions (1,019 MT CO_2e, or approximately three percent) were from water use and wastewater generation by the City's operations.

Table 5 2019 Municipal Emissions Summary by Sector

Sector	GHG Emissions (MT CO_2e)	Percentage of Total Emissions
Energy	**19,042**	**64**
Electricity	18,252	62
Natural Gas	790	3
Transportation	**7,892**	**27**
Vehicle and Equipment Fleet	2,303	8
Transit Fleet	456	2
Employee Commute	5,113	17
Employee Business Travel	19	<1
Water and Wastewater[1]	**1,019**	**3**
Solid Waste	**2,712**	**9**
Total	**29,647**	**100**

Notes: MT: Metric tons; Emissions have been rounded and therefore sums may not match.
1. Water sector GHG emissions are not added to the Municipal Operations GHG emission total due to risk of double counting with energy sector emissions, which includes the electricity used to pump and treat water supplied to the City.
Source: Emissions were calculated following ICLEI LGO (May 2010) and using data provided and approved by the City.

Figure 6 2019 Municipal Emissions Summary by Sector



Emissions Forecasts

Emissions forecasts (what we predict GHG emissions to be in the future) are generated from the 2019 inventory to help identify actions that must be taken now in order to meet future targets. This GGRP Update identifies GHG emissions reduction targets for the years 2030 (SB 32 target year), 2035 (City of Burbank's General Plan horizon year), and 2045 (EO B-55-18 target year). A business-as-usual scenario provides a forecast of how GHG emissions would change in the years 2030, 2035, and 2045 if consumption trends continue as they did in 2019 and growth were to occur as projected in the City's General Plan. Burbank's business-as-usual GHG emissions are projected to increase to 1,153,935 MT CO_2e in 2030, 1,171,033 MT CO_2e in 2035, and 1,205,229 MT CO_2e in 2045 (see Table 6).

However, several State regulations (i.e., SB 1, SB 100, AB 1493) have been enacted that will reduce future local 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 (see Table 6 and Appendix C).

Table 6 Burbank Business-as-Usual and Adjusted Forecast

Emissions Forecast	2019 (MT CO_2e)	2030 (MT CO_2e)	2035 (MT CO_2e)	2045 (MT CO_2e)
Business-as-Usual Forecast	1,084,854	1,153,935	1,171,033	1,205,229
Emission Reductions from State Measures	0	295,896	424,475	674,026
Adjusted Forecast	**1,084,854**	**858,039**	**746,557**	**531,203**

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

Emissions Targets

The purpose of target setting is to develop the trajectory toward achieving the State's 2030 goal and prepare for the deep decarbonization needed by 2045 in a cost-effective manner by setting an incremental path toward achieving the EO B-55-18 goals. As such, it is recommended that the City 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.

To maintain consistency with the 2013 GGRP, GHG emission reduction targets will be set based on the 2010 community GHG inventory. The 2013 GGRP established the following GHG emission reduction targets:

- Reduce GHG emissions to 15% below 2010 levels by 2020 (AB 32 target year) and
- Reduce GHG emissions to 30% below 2010 levels by 2035.

With the GHG reduction legislation enacted by the State since adoption of the 2013 GGRP,

it is recommended that the original targets, which were based on AB 32, be updated to levels which are consistent the current State goals established by SB 32 and EO B-55-18. These update targets seek to:

- Reduce GHG emissions to 49% below 2010 levels by 2030 (SB 32 target year),
- Reduce GHG emissions to 66% below 2010 levels by 2035 (General Plan horizon year), and
- Achieve carbon neutrality by 2045 (EO B-55-18 target year).

While State legislation compares emissions reduction targets to a 1990 baseline, the targets provided here for the City are compared to a 2010 baseline. Consistent with the methodology used for setting targets in the 2013 GGRP, 1990 GHG emission levels are assumed to be 15% below 2010 levels. Table 7 provides a description of the calculations performed to convert the State's 1990 baseline targets to align with the City's 2010 baseline.

In accordance with the new California Air Resource Board (CARB) methodology and the statewide goal established in SB 32, this absolute emissions[21] target was then translated into a 2030 per capita emission target of 7.0 MT CO_2e per year by dividing the 2030 absolute target by Burbank's projected population in 2030. The following per capita GHG reduction targets were established by the City of Burbank to remain consistent with the State's 2030 (SB 32) goal and be in line with the reduction trajectory to achieve the State's long-term 2045 goal:

- Reduce GHG emissions to 7.0 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 EO B-55-18 target year)

As shown in Table 7 and Figure 7, Burbank would be required to implement local reduction measures to meet the State goals established for 2030 and 2045 even after accounting for reductions that will result from State regulations. Table 7 shows that Burbank would be required to reduce 86,555 MT CO_2e by 2030, 232,235 MT CO_2e by 2035, and 531,203 MT CO_2e by 2045 to meet the State goals. Table 7 also shows the remaining per capita reductions needed to meet the goal (MT CO_2e per capita).

These reductions will be achieved through implementation of local measures and actions developed from best practices of other similar and neighboring jurisdictions, as well.

The City of Burbank established an emission reduction target to reach carbon neutrality by 2045, in line with EO B-55-18.

21. Absolute emissions refer to the total quantity of GHG emissions being emitted.

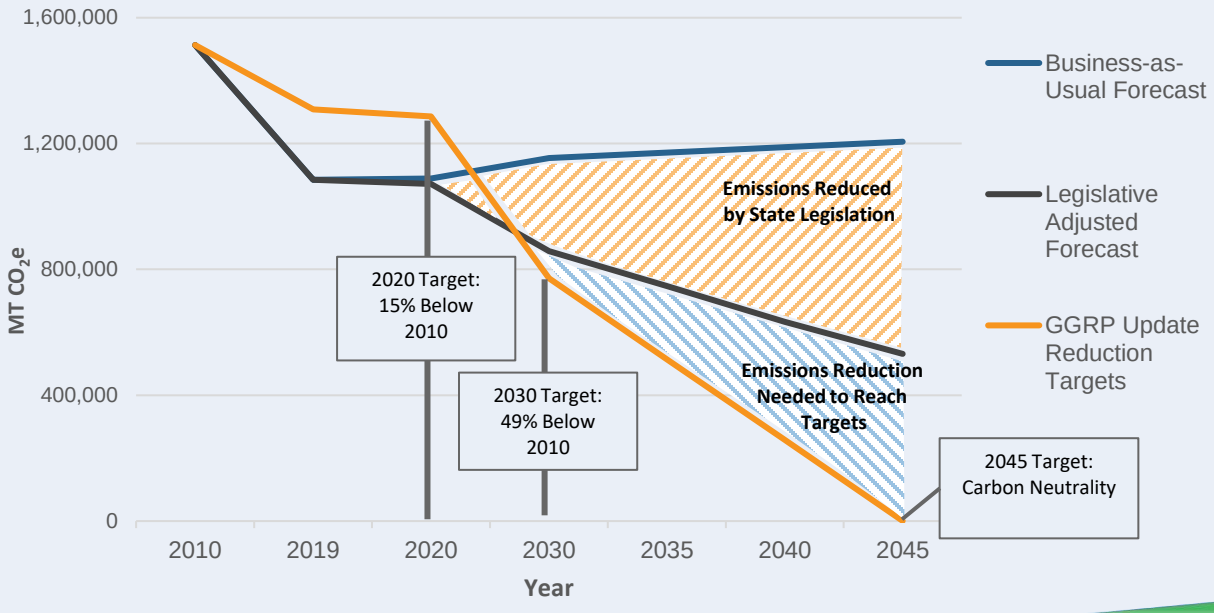
Table 7 Burbank Business-as-Usual and Adjusted Forecast

Emissions Forecast	2019[2] (MT CO_2e)	2030[3] (MT CO_2e)	2035[4] (MT CO_2e)	2045[5] (MT CO_2e)
Mass Emissions Target and Gap				
Mass Emissions Adjusted Forecast	1,084,854	858,039	746,557	531,203
Mass Emissions Targets	1,084,854	771,484	514,322	0
Remaining Emissions Gap	0	86,555	232,235	531,203
Per Capita Emissions Target and Gap				
Population[1]	105,496	109,686	111,591	115,400
Per Capita Adjusted Forecast (MT CO_2e per capita)	10.3	7.8	6.7	4.6
Per Capita Targets (MT CO_2e per capita)	10.3	7.0	4.6	0.0
Remaining Per Capita Emissions Gap (MT CO_2e per capita)	**0.0**	**0.8**	**2.1**	**4.6**

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

1. Population projections from SCAG Connect SoCal. Demographics and Growth Forecast. https://www.connectsocal.org/Documents/Draft/dConnectSoCal_Demographics-And-Growth-Forecast.pdf. Accessed September 22, 2020. The population included in this GGRP and associated Initial Study/Negative Declaration (Appendix F) is different from the population included in the Housing Element Environmental Impact Report (EIR) because the Department of Housing and Community Development (HCD) recommends that each jurisdiction create a buffer in the housing element inventory of at least 15 to 30 percent more capacity than required to ensure that sufficient capacity exists in the housing element to accommodate the Regional Housing Need Allocation throughout the planning period. Including a buffer in the GGRP could result in an overly-conservative emissions reduction forecast and target because these scenarios are in part, calculated based on future population scenarios. https://www.hcd.ca.gov/community-development/housing-element/docs/sites_inventory_memo_final06102020.pdf
2. As of 2019, the City has exceeded the 2020 GHG reduction target of 15% reduction below 2010 GHG emissions levels. The current targets represent updated targets based on SB 32 and EO-B-55-18.
3. SB 32 requires the CARB to ensure that statewide GHG emissions are reduced to 40% below the 1990 level by 2030.
4. Interim target year based on General Plan horizon year.
5. EO-B-55-18 sets a 2045 target of carbon neutrality.

Figure 7 Community Emissions, Targets, and Reductions Needed to Meet Targets

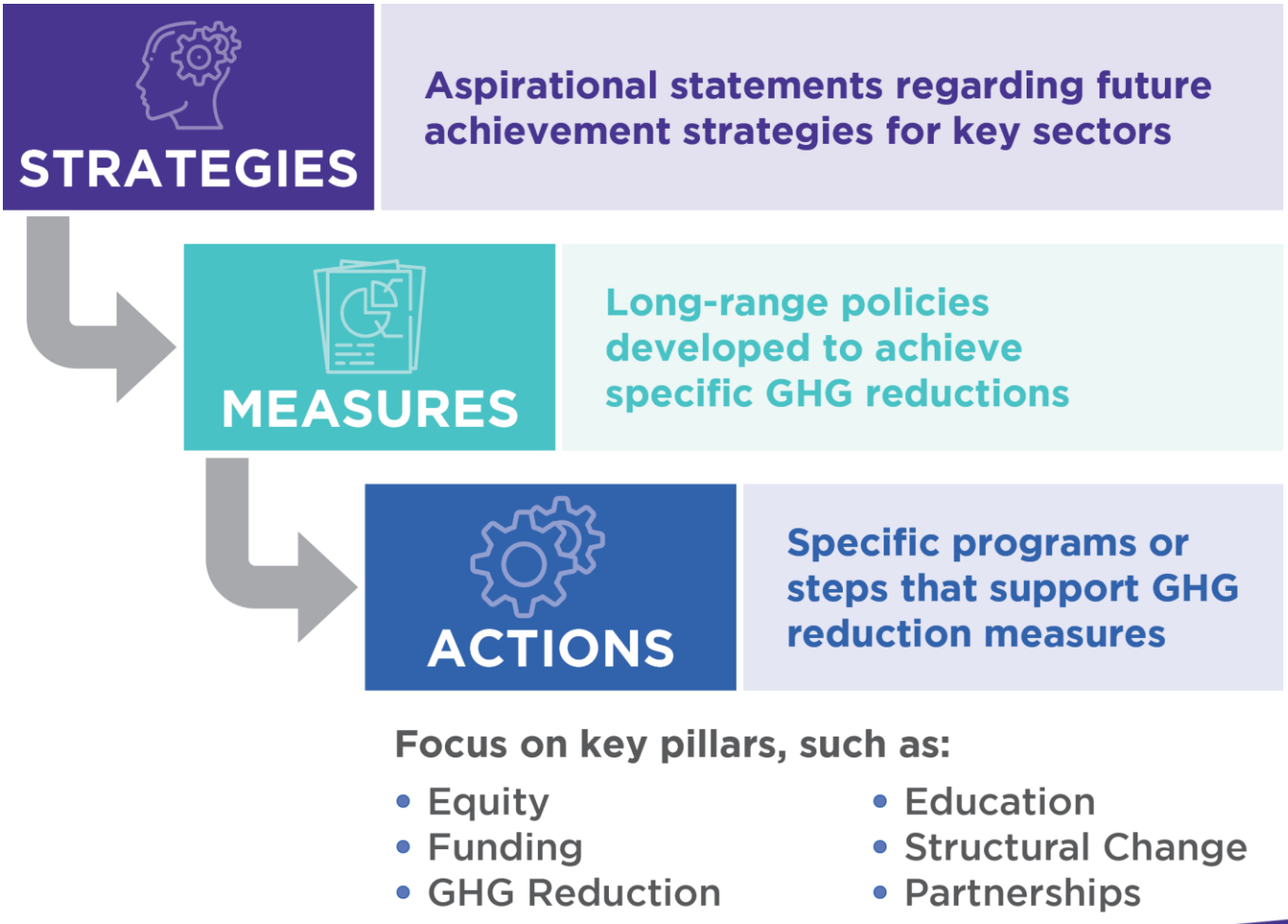


GHG Emission Reduction Measures

Reducing Emissions in Burbank

Burbank's GGRP Update is designed to reduce GHG emissions through implementation of achievable GHG emissions reduction measures that equitably benefit the entire community. The City is committed to reducing GHG emissions and has made substantial progress implementing the 2013 GGRP. This GGRP Update evaluates and modernizes the 2013 GGRP such that the City will transition away from less successful measures and incorporates new best practices, technology, and the most recent State legislation. The measure development process began with a thorough review of progress implementing the 2013 GGRP to identify what measures and actions worked and which did not produce the projected results. From there, measures that were previously successful were refined based on currently available information and measures that were less successful in or difficult to track were revised or removed, and new measures were developed to provide the strategies that will achieve the GHG emissions reduction necessary to meet the community's reduction target. Each of the measures is associated with a specific strategy and includes supportive actions that provide a path for the measure to be implemented. See Figure 8.

Figure 8 Strategy, Measure, and Action Process Flow



Additional strategies, measures, and actions have been included to incorporate new GHG reduction best practices. These have been specifically designed to achieve Burbank's fair share of GHG emissions and achieve the community's identified GHG reduction targets. In addition to the strategies and measures that were included in the 2013 GGRP and either updated or refined, new measures and Cornerstone and Adaptation Strategies have been included in the GGRP Update. A detailed description of the Cornerstone measure is included below and the adaptation measures are discussed in Section 4, Adaptation.

Cornerstones of Climate Action Planning

Fundamentally, a Cornerstone measure is an example measure that provides a foundation for understanding the fundamental needs to achieve long-term GHG reduction and clearly illustrates the importance and manner in which the action pillars support the implementation of a measure. Burbank's Cornerstone measure was developed to embody the spirit and character of Burbank. The goal of the Cornerstone Measure is to educate and build support around an area of community pride. The Measures included under each Strategy are intended to pull in the same direction, providing the most effective means for achieving the GHG reductions necessary to reach the 2030 target, and establish the framework for the deep decarbonization needed to reach the 2045 target of carbon neutrality.[22]

The City recognizes that despite the great successes accomplished so far in reducing GHG emissions as a community, long-term sustainable change must continue to occur to reach the established GHG reduction targets and limit impacts related to climate change. To be truly effective, this change must be reasonable and equitably driven. Continued progress will require a community-wide commitment at all levels to implement the measures outlined in this plan and by making the necessary adjustments identified through regularly monitored progress.

Over-time Burbank has learned that high-quality climate action planning is built on six essential components that result in implementable and effective GHG emission reduction strategies. These essential components include:

- ***Social equity***
- ***Connectivity with community and resources***
- ***Structural change***
- ***Cost effectiveness and financing***
- ***Outreach and education***
- ***Effective GHG reductions***

These pillars provide a foundation for actions that make transformational change and are important steps that drive measures that will engage the community and achieve the GHG emissions reduction goals laid out in the Plan.

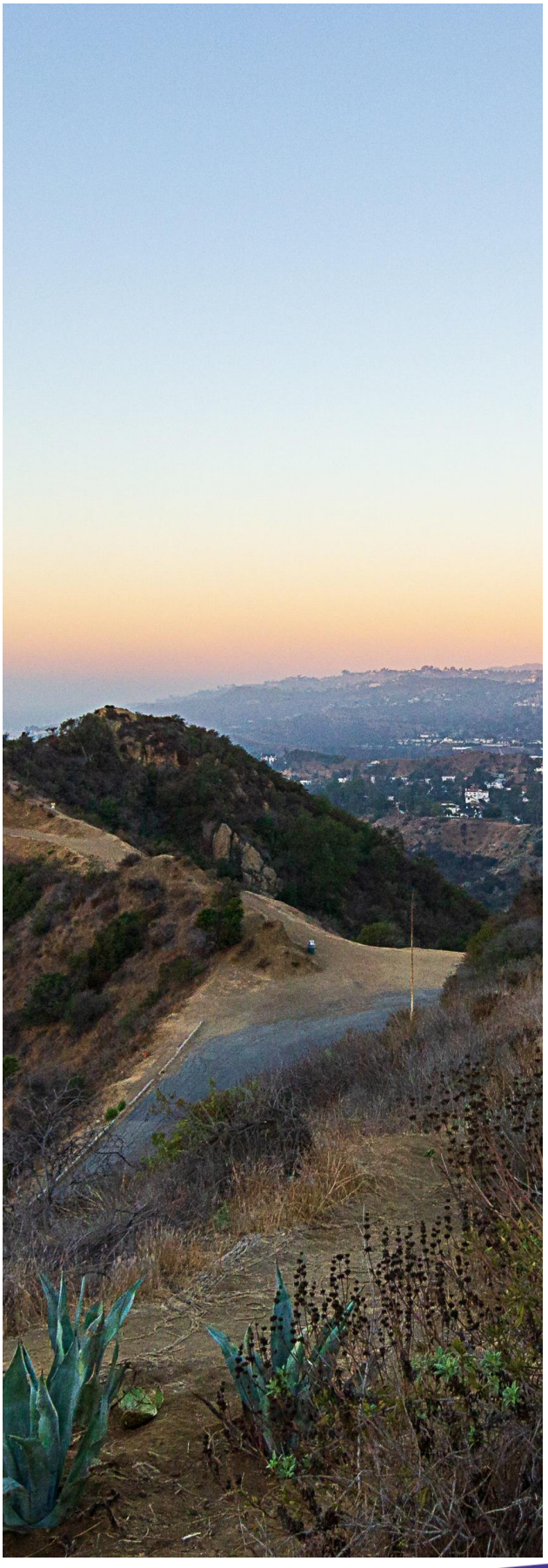
22. The GHG reduction measures included in this GGRP Update are intended to meet the GHG reduction target codified by SB 32 of reduce GHG emissions to 40 percent below 1990 levels by 2030. According to the Association of Environmental Professionals (AEP) 2016 White Paper "Beyond 2020 and Newhall," meeting 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 measures will provide substantial progress toward meeting the long-term 2045 target but will need to be reassessed as future advances in technology become available.

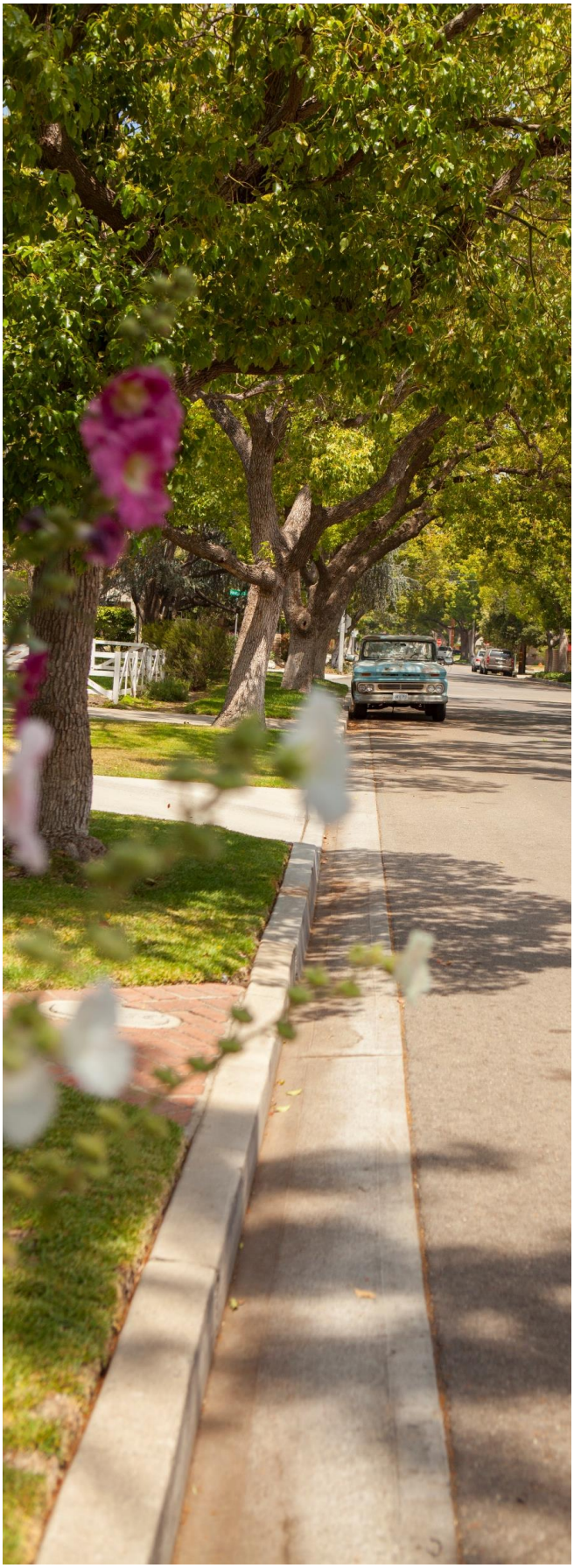
Cornerstone Measure (C.1.1)

Lead by example by focusing on equity constraints associated with existing building electrification by leveraging BWP's operations and efficiency programs to develop an Affordable Housing Electrification Program to lead Burbank's electrification targets through retrofitting low-income and affordable housing units in Burbank to all electric, retrofitting 100 affordable housing units by 2030 and all 320 affordable housing units owned by Burbank Housing Corporation (BHC) in the City by 2045.

- The Cornerstone focuses on ***social equity*** and works to overcome financial impacts of modernization, which is one of the greatest barriers of climate change. With this measure the City is committed to providing support to low-income households in the community by developing an Affordable Housing Electrification Plan and establishing a funding program to provide high-quality discounted appliances and equipment, as well as technical assistance with installation and electrical panel and circuit upgrades for retrofits and time of replacement upgrades of appliances and equipment in affordable housing units.

- ***Connects*** the City with non-profit partners, such as BHC, who are well positioned, such as GRID Alternatives, to implement a low-income solar installation program for affordable housing units and also includes a workforce installation training program to provide opportunity and remove barriers to entry into the solar workforce.





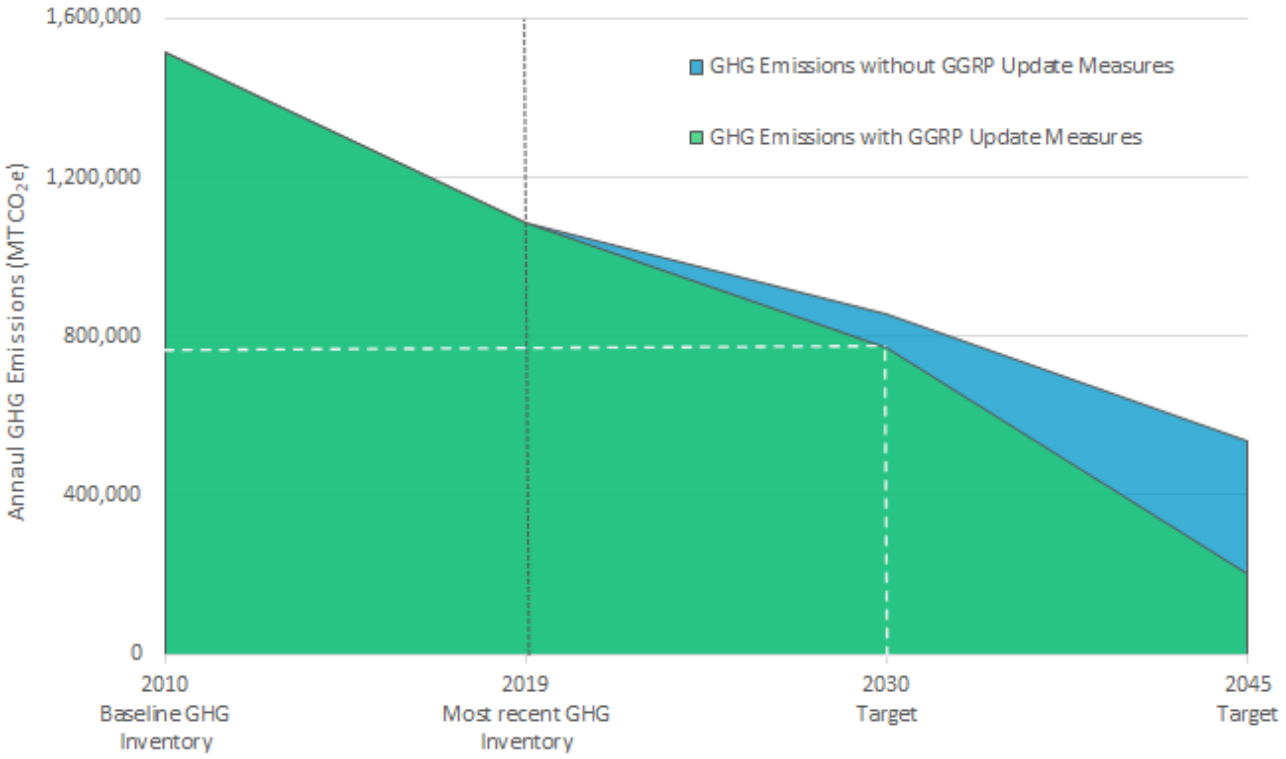
- Supports ***structural change*** by establishing a Burbank Housing Corporation program to performing an electrification needs and existing building retrofit cost assessment for all affordable housing units owned and managed by the BHC and identify an electrification retrofit pilot project that includes retrofitting of an entire building of affordable housing units to 100% electric.

- Provides a feasible and ***economical*** carbon reduction pathway by developing a tariffed on-bill financing program and other incentive program to allow for equitable electrification of buildings within BWP service area.

- Establishes and implements a program to provide ***outreach and education*** to building owners, building managers, landlords and residents in low-income housing developments to communicate the efficiency, cost, funding opportunities, and health benefits of electrification.

BWP has developed a pathway to provide 100% carbon neutral electricity before 2045. Thus, electrification of existing buildings is a clear way to significantly reduces GHG emissions. One of the biggest hurdles to reach carbon neutrality is the high cost of existing buildings. By establishing funding mechanisms for low-income residents and implementing the electrification of a complete neighborhood composed of low-income and affordable housing, Burbank is actively reducing GHG emissions and overcoming a barrier to carbon neutrality.

Figure 9 Strategy, Measure, and Action Process Flow



Meeting the State's Goals

The City's approach to carbon neutrality has been developed through a collaborative process with City staff from all Departments, the City Council, various Boards and Commissions, including the Sustainable Commission, and the community, and was designed to support the six pillars of climate action. These pillars have been used to establish actions that will drive the implementation measures that will in-turn achieve the 2030 emissions reduction target and provide substantial 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 (see Appendix D for more information on the emission reductions anticipated to be achieved from each measure).

GHG Reduction Measures and Actions

The measures and supporting actions outlined in this section were established and refined to meet the City's GHG emissions reduction target for 2030 (49% below 2010, as discussed in further detail in Section 2, Inventory, Forecast, and Targets) and provide substantial progress towards meeting the longer-term target of carbon neutrality by 2045, which aligns with the State's established goals.

As shown in Figure 9, the measures and actions established in this GGRP Update help the City meet the 2030 target and put the City on the trajectory towards meeting the 2045 target of carbon neutrality. While the measures and actions included in this GGRP Update reach the 2030 targets, more work is needed to reach the longer-term 2045 emission reduction target. It is anticipated that the GGRP Update will be reviewed and updated on a triennial basis, as discussed in CG-1.1 and Section 5, Implementation. Future iterations of the GGRP Update will outline additional ways to meet the longer-term 2045 emission reduction target as new technologies and solutions become available.

Burbank is actively engaged in creating unique solutions and working with local partners as demonstrated by the GHG reduction measures and actions, which are summarized in Table 8. The City of Burbank understands the responsibility of taking a leadership role in climate action by developing programs, providing education and engagement opportunities, identifying funding, and developing partnerships that spur change in the community. Additionally, there are measures that the City would implement to reduce GHG emissions from municipal operations. These measures include retrofitting streetlights with energy efficient bulbs, electrifying city facilities, and implementing a city employee flexible commuting program.

Table 8 Greenhouse Gas Emissions Reduction Measure Potential

Measure		GHG Emissions Reduction Potential
Strategy C-1: Cornerstone		
C-1.1	Lead by example by focusing on equity constraints associated with existing building electrification by leveraging BWP's operations and efficiency programs to develop an Affordable Housing Electrification Program to lead Burbank's electrification targets through retrofitting low-income and affordable housing units in Burbank to all electric, retrofitting 100 affordable housing units by 2030 and all 320 affordable housing units owned by Burbank Housing Corporation in the City by 2045.	2030: 90 MT CO_2e 2045: 591 MT CO_2e
Strategy BE-1: Building Energy		
BE-1.1	Electrify 100% of new construction in the City by 2023.	2030: 5,631 MT CO_2e 2045: 17,603 MT CO_2e
BE-1.2	Leverage BWPs marketing programs to convert 3,000 residential and 170 commercial natural gas-fueled HVAC and water heating units in existing private buildings to electric heat pumps by 2030, and 10,000 residential and 560 commercial units by 2045.	2030: 6,867 MT CO_2e 2045: 46,352 MT CO_2e
BE-1.3	Continue to increase building energy efficiency through BWP's rebate and incentive programs to reduce annual customer energy use by a collective 63 GWh by 2030.	2030: 17,549 MT CO_2e 2045: Not Quantified
Strategy EG-1: Electricity Generation Strategy		
EG-1.1	Goal to achieve 100% GHG-neutral electricity generation by 2040.	2030: Not Quantified 2045: Not Quantified
Strategy T-1: Reduce Passenger Car Vehicle Miles Traveled		
T-1.1	Implement the Complete Our Streets Plan, increasing active transportation modeshare 2% by 2030 and 3% by 2045.	2030: 941 MT CO_2e 2045: 1,566 MT CO_2e
T-1.2	Provide clean, abundant, affordable and accessible public transit, with a zero-emissions bus fleet by 2030.	2030: Not Quantified 2045: Not Quantified
Strategy T-2: Transportation Demand Management		
T-2.1	Continue Transportation Management Organization (TMO) Expansion, reaching 60% of employees by 2030 and 90% by 2045.	2030: Supportive 2045: Supportive
T-2.2	Update the TMO program and ordinance to increase compliance with the City's 1.61 Average Vehicle Ridership (AVR) Goal to reduce employees commuting to Burbank via single occupancy vehicle. Require 30% of TMO businesses achieve the 1.61 AVR target by 2030, and 60% by 2045.	2030: 7,682 MT CO_2e 2045: 8,759 MT CO_2e

Measure		GHG Emissions Reduction Potential
Strategy T-3: Zero-Emission Vehicles		
T-3.1	Increase zero-emission vehicle adoption to 23% of all passenger vehicles by 2030 and 100% by 2045.	2030: 38,179 MT CO_2e 2045: 238,989 MT CO_2e
Strategy T-4: Parking		
T-4.1	Implement Parking Management as identified in the Burbank2035 General Plan Mobility Element and the City Council's Six Parking Management Principles.	2030: 968 MT CO_2e 2045: 7,334 MT CO_2e
Strategy W-1: Water-Energy Nexus		
W-1.1	Reduce per capita water consumption from current levels of 132 GPCD (gallons per capita per day) to 124 GPCD by 2030 (a 6.1% reduction) and to 120.5 GPCD by 2045 (an 8.7% reduction).	2030: 405 MT CO_2e 2045: Not Quantified
Strategy SW-1 Organic Waste Diversion		
SW-1.1	Meet SB 1383 organics and recycling requirements, reducing organic waste disposal 75% by 2025.	2030: 11,040 MT CO_2e 2045: 11,692 MT CO_2e
Strategy CS-1: Carbon Sequestration Strategy		
CS-1.1	Plant 2,000 net new trees by 2030 and 5,000 net new trees by 2045 to sequester carbon and create urban shade to reduce the urban heat island effect.	2030: 71 MT CO_2e 2045: 177 MT CO_2e
Strategy CG-1 City Government Actions		
CG-1.1	Complete annual progress reporting and a triennial GGRP review and update.	2030: Supportive 2045: Supportive
CG-1.2	Retrofit all City Streetlights and Outdoor Lighting to Light-Emitting Diode (LED) by 2030.	2030: 953 MT CO_2e 2045: Not Quantified
CG-3.1	Electrify 25% of existing City facilities by 2030 and 100% of existing City facilities, where electrification is practical and feasible, by 2045, as well as all newly constructed City buildings.	2030: 88 MT CO_2e 2045: 722 MT CO_2e
CG-4.1	Implement a flexible employee commute program, with a target of 25% of applicable City employee staff time utilize telecommuting by 2030.	2030: 946 MT CO_2e 2045: 824 MT CO_2e
Total		**2030: 90,347 MT CO_2e** **2045: 333,943 MT CO_2e**

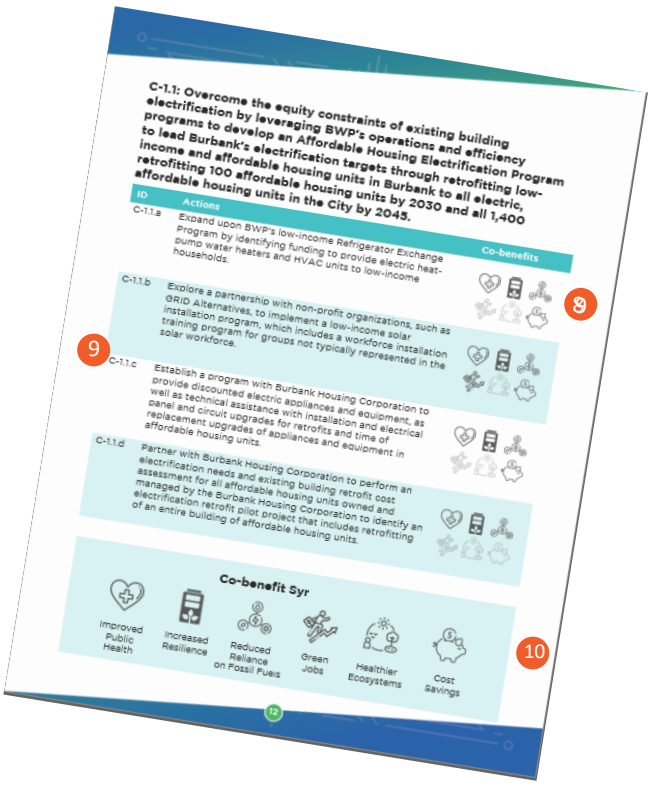
Notes:
Not Quantified = GHG emissions reduction are not quantified due to risk of double counting reductions.
Supportive = Supportive measures do not carry GHG emissions reduction but contribute to reductions elsewhere.

Reading the GHG Emission Reduction Measures

Measure Key

1. **Measure ID** – unique measure code that identifies what strategy the measure is under (e.g., C – Cornerstone)
2. **Measure** – community established GHG emission reduction measure
3. **Measure Description** – paragraph outlining importance and implementation of the measure
4. **Timeline** – outlines timeframe for implementation of each supportive action
5. **Key Target Metrics** – tracking mechanism for the specific measure

6. **GHG Reduction Potential** – possible emission reductions achieved from full implementation of the measure
7. **Strategy Icon** – demonstrates measure connectivity
8. **Co-benefits** - the additional advantages of the specific measure
9. **Supporting Actions** - mechanisms that support overall measure
10. **Co-Benefit Key** – list of co-benefits and icons



C-1: CORNERSTONE

C-1.1 Lead by example by focusing on equity constraints associated with existing building electrification by leveraging BWP's operations and efficiency programs to develop an Affordable Housing Electrification Program to lead Burbank's electrification targets through retrofitting low-income and affordable housing units in Burbank to all electric, retrofitting 100 affordable housing units by 2030 and all 320 affordable housing units owned by Burbank Housing Corporation in the City by 2045.

C-1.1

Lead by example by focusing on equity constraints associated with existing building electrification by leveraging BWP's operations and efficiency programs to develop an Affordable Housing Electrification Program to lead Burbank's electrification targets through retrofitting low-income and affordable housing units in Burbank to all electric, retrofitting 100 affordable housing units by 2030 and all 320 affordable housing units owned by Burbank Housing Corporation in the City by 2045.

Communities will be impacted by the changing climate; however, the impacts will not be equal. According to the IPCC's Fifth Assessment Report (AR5),[23] socially and economically disadvantaged people are disproportionally affected by climate change. Climate change has the potential to exacerbate inequalities and socially and geographically disadvantaged people in particular face the negative affects of climate hazards. Therefore, equitable change is essential and requires a multi-faceted approach that is built off the understanding that environmental justice lies at the core of high-quality climate action.

C-1.1a – C-1.1b

C-1.1c - C-1.1f

C-1.1e – C-1.1j

Key Target Metrics:

Retrofit 100 affordable units by 2030 and 320 affordable units by 2045

GHG Reduction Potential

90 MT CO_2e in 2030
591 MT CO_2e in 2045

23. https://www.ipcc.ch/report/ar5/syr/

ID	Actions	Co-benefits
C-1.1.a	Expand upon BWP's low-income Refrigerator Exchange Program by identifying funding to provide electric heat-pump water heaters and HVAC units to low-income households.	
C-1.1.b	Explore a partnership with non-profit organizations, such as GRID Alternatives, to implement a low-income solar installation program, which includes a workforce installation training program for groups not typically represented in the solar workforce.	
C-1.1.c	Establish a program with Burbank Housing Corporation to provide discounted electric appliances and equipment, as well as technical assistance with installation and electrical panel and circuit upgrades for retrofits and time of replacement upgrades of appliances and equipment in affordable housing units.	
C-1.1.d	Partner with Burbank Housing Corporation to perform an electrification needs and existing building retrofit cost assessment for all affordable housing units owned and managed by the Burbank Housing Corporation to identify an electrification retrofit pilot project that includes retrofitting of an entire building of affordable housing units.	

Co-benefit Symbol Key:

Improved Public Health

Increased Resilience

Reduced Reliance on Fossil Fuels

Green Jobs

Healthier Ecosystems

Cost Savings

ID	Actions	Co-benefits
C-1.1.e	Conduct targeted outreach to low-income housing developments to engage building owners, building managers, landlords and residents to communicate benefits of electrification, discuss potential for retrofitting buildings, gain buy-in from community members, and providing education and trainings on incentives, technical requirements, and available resources.	
C-1.1.f	Implement a pilot project for retrofitting of an entire building of affordable housing units, as determined feasible.	
C-1.1.g	Perform an existing buildings analysis specifically targeted towards low-income neighborhoods to identify neighborhoods or building blocks for larger-scale electrification projects in partnership with BWP.	
C-1.1.h	Identify and implement a pilot project for electrification of a complete neighborhood composed of low-income and affordable housing, including energy bill protections in case energy bills exceed costs to residents prior to project implementation and pursuing opportunities for natural gas infrastructure pruning.	
C-1.1.i	Develop a tariffed on-bill financing program or other incentive program to allow for equitable electrification of buildings within BWP service area.	
C-1.1.j	Evaluate opportunities to provide technical and financial assistance to low-income property owners and low-income homeowners looking to electrify.	

Co-benefit Symbol Key:

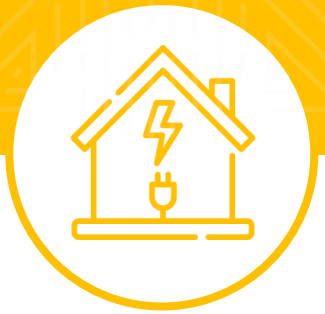
Improved Publi Health | Increased Resilience | Reduced Reliance on Fossil Fuels | Green Jobs | Healthier Ecosystems | Cost Savings

BE-1: BUILDING ENERGY & EFFICIENCY

BE-1.1 Electrify 100% of new construction in the City by 2023.

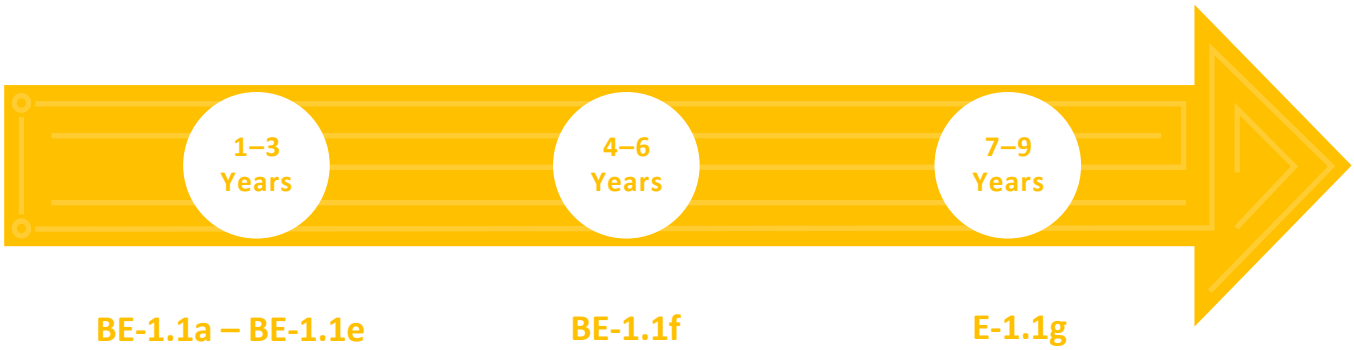
BE-1.2 Leverage BWPs marketing programs to convert 3,000 residential and 170 commercial natural gas-fueled HVAC and water heating units in existing private buildings to electric heat pumps by 2030, and 10,000 residential and 560 commercial units by 2045.

BE-1.3 Continue to increase building energy efficiency through BWP's rebate and incentive programs to reduce annual customer energy use by a collective 63 GWh by 2030..



BE-1.1 Electrify 100% of new construction in the City by 2023.

It is estimated that if building electrification is not adopted, new construction could add approximately 170 thousand therms of natural gas use in Burbank annually, which would be approximately 40 million therms consumed, collectively, by 2045. Developing all-electric buildings has been found to be less expensive to construct and operate in Burbank's Climate Zone (Climate Zone 9) compared to constructing buildings with both gas and electric utilities, especially when paired with solar photovoltaic and solar thermal installations, which are not yet mandatory under Title 24 of the California Building Code.[24] To meet the long-term goal of carbon neutrality by 2045, the direct GHG emissions from natural gas will need to be phased out. Therefore, it is important to limit new natural gas infrastructure and construct buildings today that are ready for the future.



Key Target Metrics:

Electrify 100% of new construction by 2023

GHG Reduction Potential

5,631 MT CO_2e in 2030
17,603 MT CO_2e in 2045

24. This analysis was done using Los Angeles Department of Water and Power (LADWP) rates which are higher than BWP rates ($0.04 per kWh vs. $0.07 per kWh for the first 300 kWh. Source: https://explorer.localenergycodes.com/studies/city-burbank/results?studies=2,3&cz=9-LADWP

ID	Actions	Co-benefits
BE-1.1a	Adopt an Electrification Reach Code for all new buildings, which prohibits the piping of natural gas: ▪ Engage with stakeholders, both internal stakeholders, such as City staff and officials, and external stakeholders, such as local developers regarding the purpose and impact of the reach code ▪ Conduct a cost effectiveness study ▪ Develop and draft an ordinance ▪ Conduct public hearings, public notices, and formally adopt the ordinance ▪ Submit the adopted ordinance to the California Energy Commission (CEC) and California Building Standards Commission (CBSC)	
BE-1.1b	Provide education around cooking with electric appliances, including demonstrations from chefs and/or local restaurants.	
BE-1.1c	Provide technical resources, including hosting workforce development trainings for installers and building owners/operators to discuss benefits and technical requirements of electrification.	
BE-1.1d	Building and Safety Division and BWP will promote the cost and environmental benefits of electrification to builders, property owners, and contractors on the City website and at the City permit counters.	

Co-benefit Symbol Key:


Improved Public Health


Increased Resilience


Reduced Reliance on Fossil Fuels


Green Jobs


Healthier Ecosystems


Cost Savings

ID	Actions	Co-benefits
BE-1.1e	Establish a partnership with the Building Decarbonization Coalition, or a similar organization, to engage with local building industry stakeholders in development of an Electrification Reach Code.	
BE-1.1f	Conduct an electrification infrastructure and capacity feasibility study to identify expected increases in electricity demand due to building and vehicle electrification, build capacity to meet that demand, and identify any infrastructure improvements.	
BE-1.1g	Work with SoCalGas to identify opportunities for natural gas infrastructure pruning to reduce the chance of stranded assets, provide potential funding, and establish an efficient transition to carbon neutral buildings.	

Co-benefit Symbol Key:

Improved Public Health | Increased Resilience | Reduced Reliance on Fossil Fuels | Green Jobs | Healthier Ecosystems | Cost Savings

BE-1.2

Leverage BWPs marketing programs to convert 3,000 residential and 170 commercial natural gas-fueled HVAC and water heating units in existing private buildings to electric heat pumps by 2030, and 10,000 residential and 560 commercial units by 2045.

California adopted SB 100 in 2018, making electrification an important strategy for reducing GHG emissions. SB 100 requires that all retail energy sold in California be 100 percent carbon-free by 2045. Therefore, electrifying a fossil fuel source such as a natural gas hot water heater means that piece of equipment will also be carbon-free by 2045. In addition to GHG reductions, removing natural gas from homes and businesses has been found to also improve indoor air quality by reducing atmospheric particulate matter less than 2.5 micrograms in size ($PM_{2.5}$). When coupled with Measure EG-1.1, reducing direct emissions from natural gas consumption in existing buildings will result in buildings that run more efficiently and cleanly in terms of their energy use. Upgrading existing buildings, which use gas appliances to all-electric can be cost-effective in Burbank for both commercial and residential buildings especially when paired with solar photovoltaics.[25]

Key Target Metrics:

Electrify 10% of existing buildings by 2030 and 100% by 2045

GHG Reduction Potential

6,847 MT CO_2e in 2030
46,352 MT CO_2e in 2045

25. https://explorer.localenergycodes.com/

ID	Actions	Co-benefits
BE-1.2a	Build upon the success of BWP's retrofit package and rebate and incentive programs with an All-Electric Building Initiative, or tariffed on-bill financing program that expands rebates and incentives to electric heat-pump water heating, HVAC units, and electrical panel upgrades and expands the business retrofit packages to include electric heat-pump water heaters and HVAC units.	
BE-1.2b	Partner with BWP to develop an education campaign to promote the All-Electric Building Initiative that builds upon the success of other BWP programs. The program would include: ▪ Utility bill inserts to advertise the incentive programs and the cost and health benefits of electric appliances ▪ Targeted outreach to builders and property managers with an informational brochure describing the financial benefits of replacing natural gas appliances with all electric appliance when they apply for permits ▪ Targeted outreach to local property managers to address appliance energy use and benefits of all electric appliances in multi-family units ▪ Provide informational webinars and an updated website to advertise and promote All-Electric Building Initiative rebates and incentives	
BE-1.2c	Review incentives and rebates for procedural equity and develop a process so that existing and updated incentive programs continue to be equitably distributed to the community. Hurdles to equitable implementation could include credit checks, excessive procedural hurdles and lack of targeted outreach.	

Co-benefit Symbol Key:

Improved Public Health

Increased Resilience

Reduced Reliance on Fossil Fuels

Green Jobs

Healthier Ecosystems

Cost Savings

ID	Actions	Co-benefits
BE-1.2d	Initiate separate application process for electric conversions in the building permit system to track the number of permitted natural gas fueled water heaters and HVAC equipment replaced with electric fueled equipment, as well as if this has resulted in a building becoming all-electric, with indication of whether or not BWPs incentive and rebate programs are being utilized to pay for new equipment.	
BE-1.2e	Partnership between Building and Safety and BWP to perform an electrification feasibility study to identify costs, benefits, potential hurdles, and policy strategies for electrifying existing buildings in Burbank. Strategies could include time of replacement, time of sale, and building performance policies.	
BE-1.2f	Work with a non-profit organization, such as Building Decarbonization Coalition or Rocky Mountain Institute, to develop a best practices model based on the progress electrifying existing buildings to significantly increase electrification post-2030.	

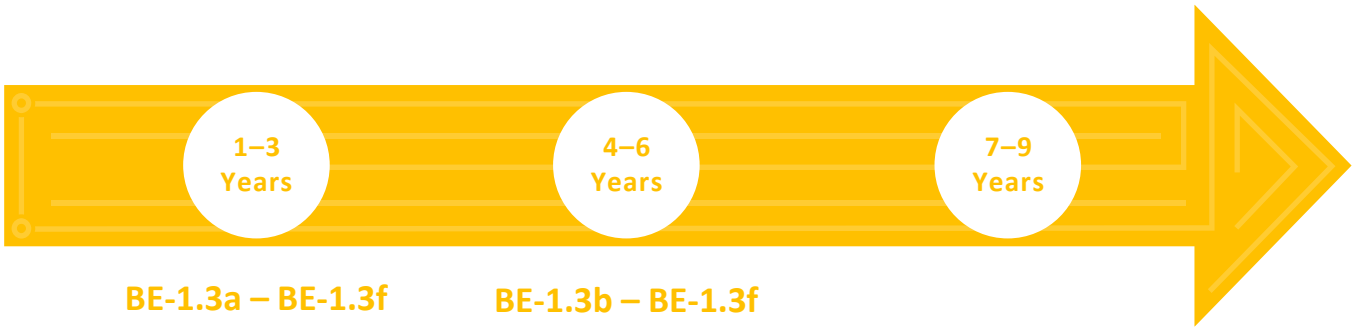
Co-benefit Symbol Key:

Improved Public Health | Increased Resilience | Reduced Reliance on Fossil Fuels | Green Jobs | Healthier Ecosystems | Cost Savings

BE-1.3

Continue to increase building energy efficiency through BWP's rebate and incentive programs to reduce annual customer energy use by a collective 63 GWh by 2030.

The City of Burbank has achieved great success in reducing energy consumption on a per-service population basis through BWP's incentive programs and adoption of increasingly stringent Building Energy Efficiency Standards, also known as Title 24. While overall electricity consumption has generally increased over time with growth, the amount of energy consumed per person who lives and works in the City has decreased. In the years between the 2010 and 2019 Community GHG Inventories, electricity consumption on a per-service population basis (total City population plus jobs) has decreased by approximately 28 percent.[26] Measure BE-1.3 aims to continue and expand the currently available BWP rebates and incentives for energy efficiency to continue attaining increases in efficiency that result in community GHG reductions. BWP tracks the annual participation rate in energy efficiency programs and uses that information to estimate the kWh reductions attributable to the energy efficiency programs. BWP tracks the annual participation rate in energy efficiency programs and uses that information to estimate the kWh reductions attributable to the energy efficiency programs. Therefore, despite anticipated increases in total electricity use due to a potential increase in electric vehicle use and building electrification fuel switching, the success of this measure is trackable.



Key Target Metrics:

Reduce annual customer energy use by a collective 63 GWh by 2030

GHG Reduction Potential

17,549 MT CO_2e in 2030
Not quantified for 2045

26. 2019 Community GHG Emissions Inventory. See Appendix C of the GGRP Update.

ID	Actions	Co-benefits
BE-1.3a	Implement a retrofit package tracking system for BWP's energy efficiency retrofit incentive program, which includes tracking of the number of pre-defined packages installed.	
BE-1.3b	Continue to perform outreach for smart grid integration and promotion of smart grid-compatible technologies.	
BE-1.3c	Maintain BWP's current rebate and incentive programs, ENERGY STAR appliance program, and Energy Conservation Programs; with continued public outreach and promotion.	
BE-1.3d	Continue collaboration between BWP and Burbank Unified School District to provide 6th graders with a "Resource Action Kit," which contains energy and water saving devices for the student to install in their home, and information to complete a home audit report. Use this opportunity to teach students about the energy-water nexus as well.	
BE-1.3e	Provide information to Community Development staff regarding annual energy savings from energy conservation programs for GGRP implementation tracking.	
BE-1.3f	Update the BWP Home Upgrade Program to include electrification with a focus on heat pump hot water heaters and HVAC systems, which can be up to 400% efficient.	

Co-benefit Symbol Key:

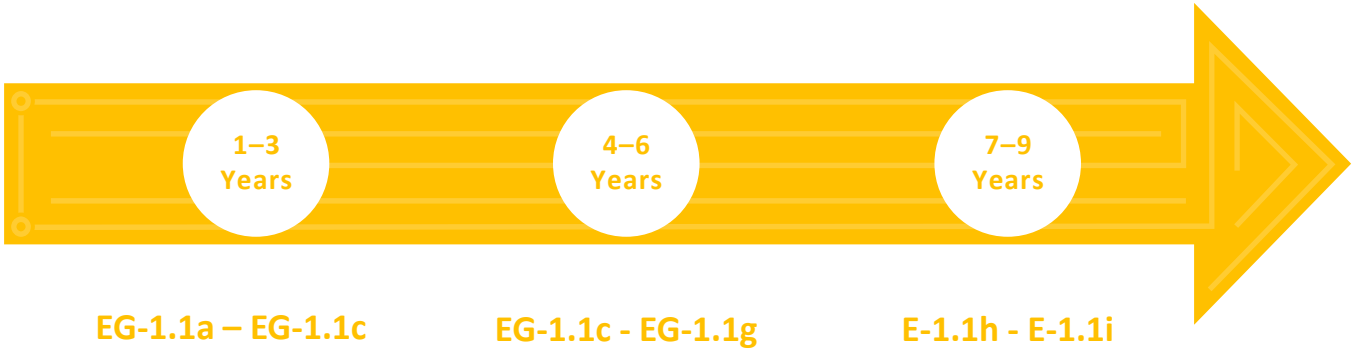
Improved Public Health | Increased Resilience | Reduced Reliance on Fossil Fuels | Green Jobs | Healthier Ecosystems | Cost Savings

EG-1: ELECTRICITY GENERATION

EG-1.1 Goal to achieve 100% GHG-neutral electricity generation by 2040.

EG-1.1 Goal to achieve 100% GHG-neutral electricity generation by 2040.

Measure EG-1.1 is carried over from the 2013 GGRP, providing access to 100% GHG-neutral electricity will be essential to achieve carbon neutrality by 2045. Meeting the Renewable Portfolio Standard requirements of SB 100 requires strategic planning to increase renewable energy procurement without significantly increasing customer electricity rates. As such, BWP is challenged with the task of balancing the reduction of GHG emissions associated with the electricity supply, while not disproportionately impacting low-income households with higher energy costs. An equitable pathway towards exceeding the required 60 percent RPS in 2030 is not identified in this Measure; therefore, the Measure does not quantify GHG emissions reductions for the 2030 target year addressed in this analysis. However, implementation of Measure EG-1.1 will provide GHG reduction beyond 2030 and leading up to 2045. Additionally, the Actions included under the Measure serve to increase the local renewable energy supply and explore options for battery storage. These Actions will increase community resilience to power outages during extreme weather events, improving the City's ability to adapt to future impacts of climate change.



Key Target Metrics:

Achieve 100% GHG-neutral electricity generation by 2040.

GHG Reduction Potential

Not quantified for 2030
Not quantified for 2045

ID	Actions	Co-benefits
EG-1.1a	Implement programs, similar to BWP's Green Choice Program, to facilitate access for customers to adopt more renewable energy.	
EG-1.1b	Conduct a feasibility study to understand potential for installation of renewable energy generation at BWP water facilities.	
EG-1.1c	Conduct analysis on risks and benefits associated with relying on battery storage to achieve carbon neutral electricity and grid resiliency goals and set a MW capacity goal for installed battery storage by 2030 and 2040 consistent with BWP rules and regulations.	
EG-1.1d	Conduct a feasibility study to identify locations in the City for installation of local renewable energy generation and energy storage projects.	
EG-1.1e	Direct BWP to continue to work with businesses (especially the studios) on partnerships designed to maximize the use of renewable energy including solar/ storage, appropriate tariff changes and microgrid opportunities.	
EG-1.1f	Develop a battery storage program in which BWP provides battery storage incentives in return for a commitment to operate (CTO) distributed battery storage projects for a set amount of time (i.e., 5-10 years), consistent with BWP rules and regulations.	

Co-benefit Symbol Key:

Improved Public Health

Increased Resilience

Reduced Reliance on Fossil Fuels

Green Jobs

Healthier Ecosystems

Cost Savings

ID	Actions	Co-benefits
EG-1.1g	Identify grant funding opportunities to increase landfill gas capture rate at Burbank Landfill Site No. 3 to the maximum extent practicable.	
EG-1.1h	Install 5 MW of local solar capacity, utilizing parking structure roofs and buildings around City as means to increase load capacity, including in areas where high loads from electric vehicle charging is likely.	
EG-1.1i	Expand renewable energy generation at BWP facilities, with a goal of installing renewable energy generation at all feasible locations by 2040.	

Co-benefit Symbol Key:

Improved Public Health

Increased Resilience

Reduced Reliance on Fossil Fuels

Green Jobs

Healthier Ecosystems

Cost Savings

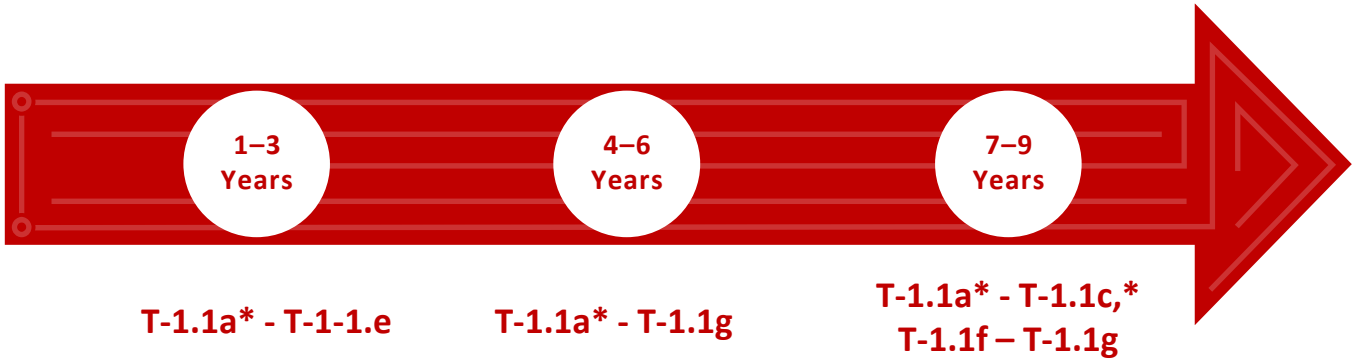
T-1: REDUCE PASSENGER CAR VMT

T-1.1 Implement the 2020 Complete Our Streets Plan, increasing active transportation mode share 2% by 2030 and 3% by 2045.

T-1.2 Provide clean, abundant, affordable and accessible public transit, with a zero-emissions bus fleet by 2030.

T-1.1 Implement the 2020 Complete Our Streets Plan, increasing active transportation mode share 2% by 2030 and 3% by 2045.

The City's Complete Our Streets Plan[27] (adopted June 16, 2020) aims to transform the Burbank2035 General Plan's goals and policies into an actionable plan and includes specific goals from the Mobility and Land Use Elements that are relevant to complete streets. Policies are included throughout the Plans 10 primary goals that aim to increase or facilitate active transportation, while Goal 5 specifically supports bicycle and pedestrian mobility. The goals and policies included in the Complete Our Streets Plan strive to maximize safety, accessibility, connectivity, and education; establish policies that require new development to set aside land to accommodate bicycle and pedestrian networks; and implementing the Bicycle Master Plan[28] by maintaining and expanding the bicycle network, providing end-of-trip facilities, improving bicycle/transit integration, encouraging bicycle use, and making bicycling safer.



**Timeframes range, as outlined in the Complete Our Streets Plan.*

Key Target Metrics:

Implement the Complete Our Streets Plan

GHG Reduction Potential

941 MT CO_2e in 2030
1,566 MT CO_2e in 2045

27. https://www.burbankca.gov/web/community-development/complete-streets-plan
28. https://www.burbankca.gov/documents/173607/240347/20210204-Bicycle-Master-Plan-001.pdf/53be8720-2d59-19ad-bd4a-168ac74d7d22?t=1612567201263

ID	Actions	Co-benefits
T-1.1a	Implement all policy recommendations included in the Complete Our Streets Plan to improve pedestrian and bicycle networks and increase transit ridership based on the established timeframes.	
T-1.1b	Integrate the Complete Our Streets "Checklist for New Projects" into the City's Development Review process and Capital Improvement Program to ensure new projects include Complete Our Streets measures.	
T-1.1c	Continually work to identify grant funding opportunities to implement Complete Our Streets projects included in the Complete Our Streets Plan.	
T-1.1d	Complete and implement the Citywide Safe Routes to School Plan consistent with the Complete Our Streets Plan upon identification of funding.	
T-1.1e	Develop and implement a bicycle safety program as part of the Citywide Safe Routes to School Plan focused on educating bicycle riders of all ages and skill levels to increase ridership by offering bicycle safety resources and classes.	

Co-benefit Symbol Key:

Improved Public Health | Increased Resilience | Reduced Reliance on Fossil Fuels | Green Jobs | Healthier Ecosystems | Cost Savings

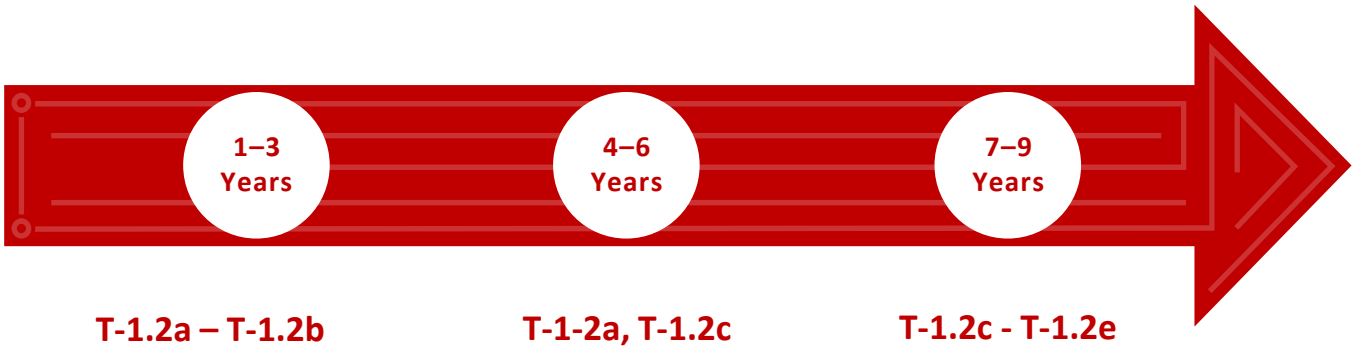
ID	Actions	Co-benefits
T-1.1f	Evaluate and update the City's existing Zoning Code, Transportation Demand Management Ordinance, and California Green Building Code to require the installation of bicycle parking areas in instances where off-street parking is required. Also, providing technical assistance to developers seeking to comply with these requirements.	
T-1.1g	Utilize performance measures included in the Complete Our Streets Plan to monitor and track realized mode shift from plan implementation.	

Co-benefit Symbol Key:

T-1.2

Provide clean, abundant, affordable and accessible public transit, with a zero-emissions bus fleet by 2030.

The City operates its own small transit fleet, BurbankBus, which provides three fixed-line routes and paratransit options to connect to employment hubs and help fill gaps in LA Metro transit service in the City. The service is operated by the City, which includes a fare subsidy for eligible senior and disabled riders through the Burbank Pass Program. Measure T-1.2 aims to expand access to the BurbankBus service by accepting transit subsidies provided by LA Metro's LIFE low-income EZ Pass and expand the Burbank Pass Program to fill gaps in LA Metro's low-income subsidy programs, through Action T-1.2.a. The Measures also strives to improve first-last mile connectivity by adopting an ordinance that allows and manages shared-use mobility devices in the City, through Acton T-1.2.b.



Key Target Metrics:

Establish zero-emission bus fleet by 2030

GHG Reduction Potential

Not Quantified for 2030
Not Quantified for 2045

ID	Actions	Co-benefits
T-1.2a	Work with Metro to expand use of Metro's LIFE low-income EZ Pass transit subsidy by Burbank low-income households who ride BurbankBus and expand Burbank Pass program transit subsidy program to BurbankBus fixed-route service to cover gaps in the Metro LIFE program.	
T-1.2b	Adopt an ordinance to allow and manage shared-use mobility devices, including but not limited to e-scooters and bikes to facilitate increased ridership by overcoming the last mile access hurdles.	
T-1.2c	Apply for California Transit and Intercity Rail Capital Program (TIRCP), Low Carbon Transit Operations Program, or other Greenhouse Gas Reduction Fund grants, to facilitate electrification of bus fleet.	
T-1.2d	Use electric bus fleet to generate revenue through programs, such as the California's Low Carbon Fuel Standards, to pay for increased bus service frequencies and/or other supportive infrastructure.	
T-1.2e	Electrify the Burbank Bus fleet in accordance with California Air Resources Board mandates and the City's Transit Fleet Electrification Study.	

Co-benefit Symbol Key:

Improved Public Health | Increased Resilience | Reduced Reliance on Fossil Fuels | Green Jobs | Healthier Ecosystems | Cost Savings

T-2: TRANSPORTATION DEMAND MANAGEMENT

T-2.1 Continue Transportation Management Organization (TMO) Expansion, reaching 60% of employers by 2030 and 90% by 2045.

T-2.1 Update the TMO program and ordinance to increase compliance with the City's 1.61 Average Vehicle Ridership (AVR) Goal to reduce employees commuting to Burbank via single occupancy vehicle. Require that 30% of TMO businesses achieve the 1.61 AVR target by 2030, and 60% by 2045.

T-2.1 Continue Transportation Management Organization (TMO) Expansion, reaching 60% of employers by 2030 and 90% by 2045.

The Burbank Transportation Management Organization (TMO) is a private sector, non-profit organization formed to reduce congestion during peak-hours and help solve transportation problems by providing services directly to its members and their employees.[29] Currently, employers in Downtown Burbank or the Burbank Media District with 25 or more employees are required to reduce the number of employee vehicular trips that their businesses generate. As part of this measure, the City of Burbank will update the Burbank Center Plan and the Media District Specific Plan, adopt the proposed Golden State Specific Plan, and update the Plan Transportation Management Organization requirements to reflect TDM best practices so that the TMO expansion goals are achieved.

T-2.1a – T-1.1c, T-1.1d

T-2.1a – T-2.1d

T-2.1c - T-2.1d

Key Target Metrics:

Include 60% of employees in TMO by 2030 and 90% by 2045

GHG Reduction Potential

Supportive for 2030
Supportive for 2045

29. https://btmo.org/what-is-btmo/

ID	Actions	Co-benefits
T-2.1a	Work with the Burbank TMO to update the TMO website annually to provide program information to current and potential members.	
T-2.1b	Work with the Burbank TMO to continue to implement TMO outreach strategy to increase membership and active participation in TMO programs.	
T-2.1c	Update the Burbank Center Plan and the Media District Specific Plan, adopt the proposed Golden State Specific Plan, and update the Plan Transportation Management Organization requirements to reflect TDM best practices. Collectively, these updates should evaluate which businesses are subject to TMO requirements, membership requirements and fees, TDM strategies offered by the TMO, reporting requirements and performance measures, and funding requirements. Utilize lessons learned from COVID-19 on transportation habits, impacts on transit, and potential hurdles and opportunities connected to these changes.	
T-2.1d	Expand geographic boundary of TMO to Golden State /Airport areas by 2025 as part of the Golden State Specific Plan, and citywide by 2035.	

Co-benefit Symbol Key:


Improved Public Health


Increased Resilience


Reduced Reliance on Fossil Fuels


Green Jobs


Healthier Ecosystems


Cost Savings

T-2.2

Update the TMO program and ordinance to increase compliance with the City's 1.61 Average Vehicle Ridership (AVR) Goal to reduce employees commuting to Burbank via single occupancy vehicle. Require that 30% of TMO businesses achieve the 1.61 AVR target by 2030, and 60% by 2045.

The intent of Measure T-2.2 is to amend the TDM ordinance so that the City can develop a fee structure that results in 30 percent of businesses subject to the TDM ordinance will reach the 1.61 Average Vehicle Ridership (AVR) target. This would allow the City to increase fees when the AVR target is not being met, as well as reduce fees if AVR targets are being exceeded. The fees collected would be used to fund TMO programs, increase transit service, and fund active transportation projects, which would supplement employers' abilities to reduce vehicle trips. Additionally, Measure T-2.2 would work to increase access to broadband internet throughout the City, furthering the opportunities for employers to have employees telecommute and reduce commute vehicle trips.

Key Target Metrics:

30% of TMO achieve 1.61 AVR target by 2030 and 60% by 2045

GHG Reduction Potential

7,682 MT CO_2e in 2030
8,759 MT CO_2e in 2045

ID	Actions	Co-benefits
T-2.2.a	To enhance the Burbank community's ability to telecommute, partner with telecom companies to perform a Broadband Access Study to identify areas of the City have limited access to broadband service due to infrastructure and financial limitations.	
T-2.2.b	Identify grant funding opportunities to help bridge the broadband access gap in the City by helping to fund installation of infrastructure or subsidize broadband service for low-income households.	
T-2.2.c	Update the Burbank Municipal Code to require that the City set TMO fees through its fee schedule rather than impose fees established by the TMO. Impose a tiered fee that decreases fees for businesses who achieve 1.61 AVR and increases fees for businesses who do not achieve 1.61 AVR. Raise and lower TMO fees based on the number of employers who achieve 1.61 AVR.	
T-2.2.d	Direct TMO fees towards expanded BurbankBus transit services, employee rideshare subsidies, and active transportation infrastructure.	

Co-benefit Symbol Key:

Improved Public Health

Increased Resilience

Reduced Reliance on Fossil Fuels

Green Jobs

Healthier Ecosystems

Cost Savings

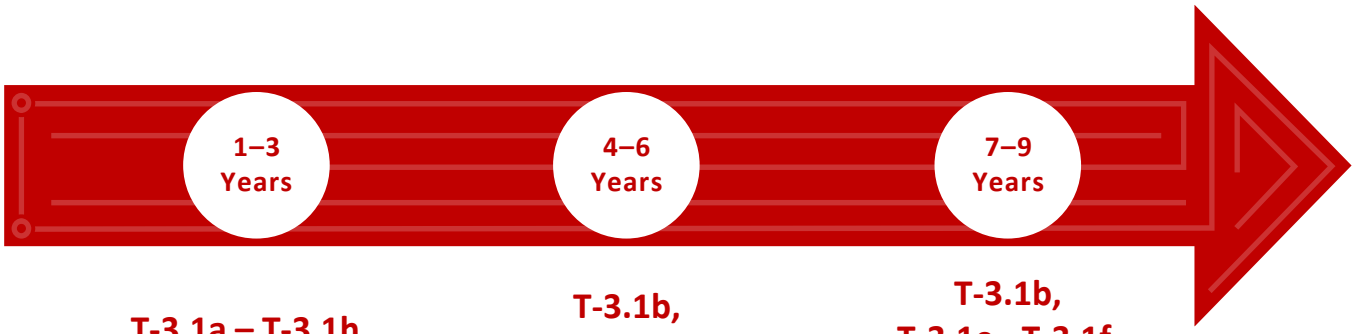
T-3: ZERO-EMISSION VEHICLES

T-3.1 Increase zero-emission vehicle adoption to 23% of all passenger vehicles by 2030 and 100% by 2045.

T-3.1

Increase zero-emission vehicle adoption to 23% of all passenger vehicles by 2030 and 100% by 2045.

Zero emission vehicle (ZEV), such as electric vehicle (EV), adoption will continue to be driven at the State level in part by Executive Order (EO) N-79-20, which directs the California Air Resources Board (CARB) to develop regulations to achieve 100 percent zero-emission car sales in California by 2035 and zero-emission medium- or heavy-duty vehicles by 2045. Currently the most promising ZEV are electric; however, the City will continue to consider new technologies as they become available and will shift to alternative ZEV in the future, if feasible. A key component to facilitate the purchase of EVs over traditional fossil fuel-powered vehicles include access to reliable EV charging stations at home and work. For example, lack of residential access to EV charging infrastructure in multi-family units is a major hurdle to EV ownership. Implementation of BWP's Transportation Electrification Plan to facilitate installation of 1,950 EV charge ports by 2030 through customer rebates and direct installation of charging stations will provide access to EV charging stations to those living, working, or visiting the City. Increased access to EV charge ports will reduce range anxiety and encourage a shift to EV ownership at a rate that achieves the goal of 23% zero-emission vehicle ownership in the City by 2030.



T-3.1a – T-3.1h

T-3.1b, T-3.1e - T-3.1i

T-3.1b, T-3.1e - T-3.1f, T-3.1i

Key Target Metrics:

Achieve 23% ZEV adoption by 2030 and 100% by 2045

GHG Reduction Potential

38,179 MT CO_2e in 2030
238,989 MT CO_2e in 2045

ID	Actions	Co-benefits
T-3.1a	Adopt an EV Charging Retrofits in Existing Commercial and Multifamily Buildings Reach Code requiring major retrofits, with either a building permit with square footage larger than 10,000 square feet or including modification of electric service panels, to meet CalGreen requirements for "EV Ready" charging spaces and infrastructure.	
T-3.1b	Coordinate with BWP to enhance promotion of public and private conversion to zero-emission vehicles; including use of City events, social media, and the City website to educate on benefits of zero-emission vehicles and available incentives.	
T-3.1c	Conduct a City Fleet Optimization Study to understand the potential to replace fossil-fuel powered vehicles with alternative fuel-powered vehicles as they are replaced, with a goal of replacing 25% of light-duty fleet vehicles by 2030.	
T-3.1d	Evaluate alternative options to gas powered landscape and forestry maintenance equipment when replacing City-owned equipment.	
T-3.1e	Implement the BWP Transportation Electrification Plan to facilitate installation of EV charge ports through customer rebates and direct installation of charging stations.	

Co-benefit Symbol Key:

Improved Public Health

Increased Resilience

Reduced Reliance on Fossil Fuels

Green Jobs

Healthier Ecosystems

Cost Savings

ID	Actions	Co-benefits
T-3.1f	Investigate opportunities to help fund additional EV charging infrastructure by leveraging public/private partnerships and ensuring the City is charging for EV infrastructure use at City-owned facilities.	
T-3.1g	Adopt an electric and alternative fueled vehicles and equipment purchasing policy for light-duty vehicles for all City departments, including BWP, allowing for exceptions for heavy-duty and emergency response vehicles.	
T-3.1h	Adopt an EV Reach Code requiring new commercial and multifamily construction to install the minimum number of EV charge ports based on Tier 2 CalGreen requirements (20% of total).	
T-3.1i	Update the BWP Transportation Electrification Plan by 2026 to reflect changes in State goals, consumer behavior, technology and lessons learned.	

Co-benefit Symbol Key:

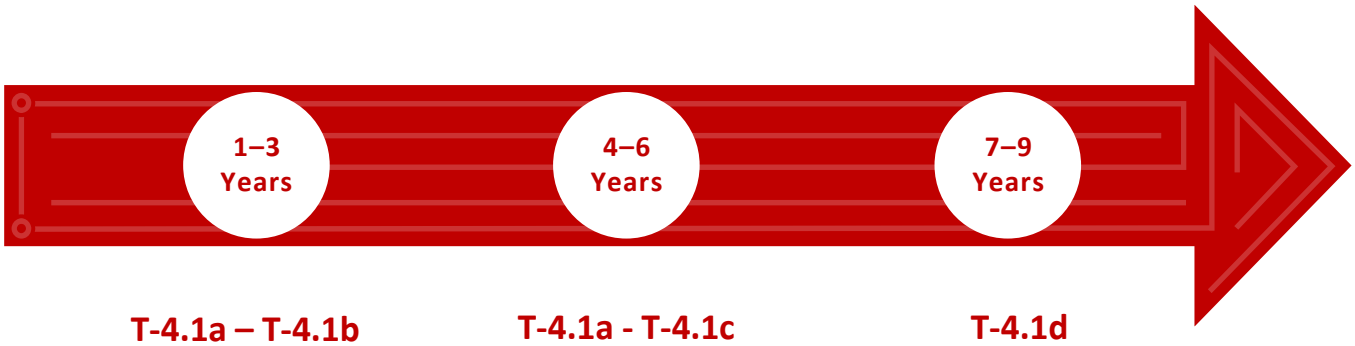
T-4: PARKING

T-4.1 Implement Parking Management as identified in the Burbank2035 General Plan Mobility Element and the City Council's Six Parking Management Principles.

T-4.1

Implement Parking Management as identified in the Burbank2035 General Plan Mobility Element and the City Council's Six Parking Management Principles.

In 2019 the City Council adopted Six Parking Management Principles, which include: *Protect Single Family Parking, Increase Parking Availability, Leverage Underused Private Parking, Regulate Street Parking and Public Parking Lots with Pricing, Reinvest Parking Revenue, and Tailor Implementation to Neighborhoods.* These principles aim to protect residential on-street parking and streamline the ability for employees and visitors to find parking. Managing parking will also incentivize the use of travel notes that reduce GHG emissions generated by transportation in the City. Parking management serves as the primary way to reduce the use of vehicles to reach their destination, reducing vehicle trips and reducing the need for cruising to find parking in congested areas. Measure T-4.1 strives to implement parking management throughout the City in a stepwise fashion between 2025 and 2040, starting with areas near transit stations and within specific plan areas.



Key Target Metrics:

Implement Parking Management

GHG Reduction Potential

968 MT CO_2e in 2030
7,334 MT CO_2e in 2045

ID	Actions	Co-benefits
T-4.1a	Implement managed parking at the Downtown Burbank Metrolink Station, the Burbank Airport North Metrolink Station, and the Burbank Airport South Metrolink Station through parking pricing so that at least 20 percent of station parking supply is available for transit users at any time of the day.	
T-4.1b	By 2025, implement the City's 6 Parking Management Principles in the Burbank Center Plan area. This would include: 1. Pricing all public parking (streets and structures) so that at least 20 percent of parking supply (one or two spaces per block) is available at any time of day 2. Updating BMC Zoning rules to improve flexibility of off-street parking requirements for new development	
T-4.1c	By 2030, implement the City's 6 Parking Management Principles in the Golden State Specific Plan area and Media District Specific Plan area. This would include: 1. Pricing all public parking (streets and structures) so that at least 20 percent of parking supply (one or two spaces per block) is available at any time of day 2. Updating BMC Zoning rules to improve flexibility of off-street parking requirements for new development	
T-4.1d	By 2040, implement the City's 6 Parking Management Principles citywide. This would include: 1. Pricing all public parking (streets and structures) so that at least 20 percent of parking supply (one or two spaces per block) is available at any time of day 2. Updating BMC Zoning rules to improve flexibility of off-street parking requirements for new development	

Co-benefit Symbol Key:

Improved Public Health | Increased Resilience | Reduced Reliance on Fossil Fuels | Green Jobs | Healthier Ecosystems | Cost Savings

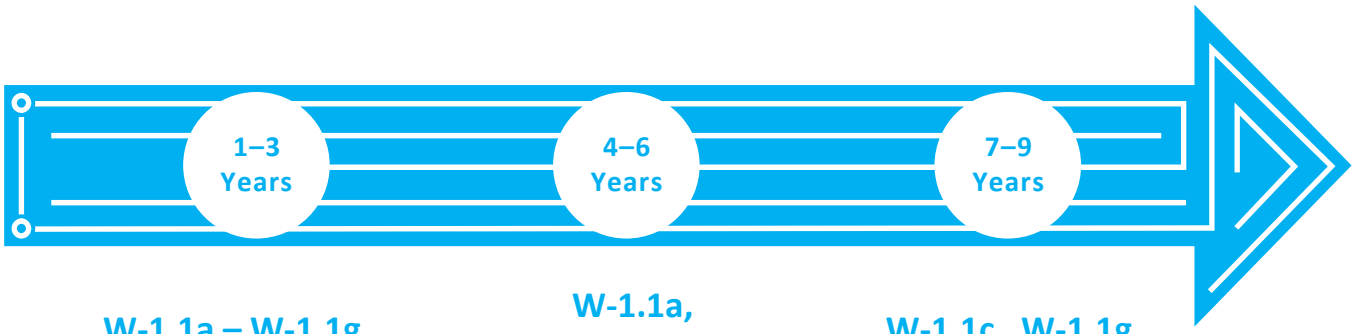
W-1: WATER-ENERGY NEXUS

W-1.1 Reduce per capita water consumption from current levels of 132 GPCD (gallons per capita per day) to 124 GPCD by 2030 (a 6.1% reduction) and to 120.5 GPCD by 2045 (an 8.7% reduction).

W-1.1

Reduce per capita water consumption from current levels of 132 GPCD (gallons per capita per day) to 124 GPCD by 2030 (a 6.1% reduction) and to 120.5 GPCD by 2045 (an 8.4% reduction).

Water use generates GHG emissions through the consumption of energy to transport, treat, and distribute water. The interconnection between energy and water is considered the water-energy nexus. Reducing potable water use therefore, would also reduce energy use. Implementation of this measure will include continuing to enforce Model Water Efficient Landscape Ordinance (MWELO) requirements, continuing enforcement of large irrigation customers required to use recycled water; and coordinating with BWP to implement a public education campaign that highlights water conservation practices, with focus on low-income households with high utility bill burdens in the short term. Additionally, this measure includes a goal to modernize at least three City-owned irrigation controllers each year to reduce water use and maximize watering efficiencies, upgrading systems throughout the entire City by 2030.



Key Target Metrics:

Reduce per-capita water consumption to 124 GPCD by 2030 and to 120.5 by 2045

GHG Reduction Potential

405 MT CO_2e in 2030

Not Quantified for 2045

ID	Actions	Co-benefits
W-1.1.a	Continue to implement the UWMP water conservation programs.	
W-1.1.b	Continue to enforce MWELO requirements.	
W-1.1.c	Continue enforcement of large irrigation customers required to use recycled water.	
W-1.1.d	Coordinate with BWP to implement a public education campaign that highlights water conservation practices and promotes and provides demonstrations of graywater and rainwater systems, with focus on low-income households with high utility bill burdens.	
W-1.1.e	Install a new Advanced Metering Infrastructure (AMI) system in the next four years that will include easy-to-use web-based tools that allow customers to track and monitor water use. Promote the availability of Home Water Reports and provide materials on how to utilize the available information.	
W-1.1.f	Update BWP's 2010 Recycled Water Master Plan to identify success since 2010 and feasible opportunities for expanding recycled water use. Work with developers to expand recycled water system and develop a recycled water expansion program.	
W-1.1.g	Modernize at least three City-owned irrigation controllers each year to reduce water usage and maximize watering efficiencies, upgrading systems throughout the entire City by 2030.	

Co-benefit Symbol Key:

Improved Public Health | Increased Resilience | Reduced Reliance on Fossil Fuels | Green Jobs | Healthier Ecosystems | Cost Savings

SW-1: ORGANIC WASTE DIVERSION

SW-1.1 Meet SB 1383 organics and recycling requirements, reducing organic waste disposal 75% by 2025.

SW-1.1

Meet SB 1383 organics and recycling requirements, reducing organic waste disposal 75% by 2025.

Methane gas is released from the anaerobic or oxygen free decomposition of organic waste in landfills making landfills a significant source of GHG emissions. Diverting organic waste from landfills through the recovery of edible food for human consumption or through composting prevents these emissions. It is estimated that if action is not taken, then Burbank would send approximately 100,000 tons of waste to landfills annually by 2045. Full implementation of SB 1383 requirements will drastically reduce the volume of organics landfilled through prevention, recovery of edibles, and composting organic waste. This will have the additional unquantified benefits of maximizing the resources used to grow and transport food.

SW-1.1a – SW-1.1j

SW-1.1a, SW-1.1d - SW-1.1f, SW-1.1h - SW-1.1j

Key Target Metrics:

Reduce organic waste disposal 75% by 2025

GHG Reduction Potential

11,040 MT CO_2e in 2030
11,692 MT CO_2e in 2045

ID	Actions	Co-benefits
SW-1.1.a	Engage with all waste haulers operating within the City to discuss SB 1383 requirements for waste haulers (i.e., organics receptacles and labeling requirements).	
SW-1.1.b	Adopt procurement policies to comply with SB 1383 requirements for jurisdictions to purchase recovered organic waste products.	
SW-1.1.c	Adopt an Edible Food Recovery Ordinance for edible food generators, food recovery services, or organization that are required to comply with SB 1383.	
SW-1.1.d	Partner with all City waste haulers, to provide organic waste collection and recycling services to all commercial and residential generators of organic waste.	
SW-1.1.e	Adopt an ordinance requiring all residential and commercial customers to subscribe to an organic waste collection program and/or report self-hauling or backhauling of organics.	
SW-1.1.f	Conduct a Feasibility Study and prepare an action plan to provide for edible food reuse infrastructure is sufficient to accept capacity needed to recover 20% of edible food disposed or identify proposed new or expanded food recovery capacity.	

Co-benefit Symbol Key:


Improved Public Health


Increased Resilience


Reduced Reliance on Fossil Fuels


Green Jobs


Healthier Ecosystems


Cost Savings

ID	Actions	Co-benefits
SW-1.1.g	Establish an education and outreach program for school children and adults around food waste prevention, nutrition education, and the importance of edible food recovery.	
SW-1.1.h	Establish an edible food recovery program to minimize food waste.	
SW-1.1.i	Adopt an ordinance or enforceable mechanism to regulate haulers collecting organic waste, including collection program requirements and identification of organic waste receiving facilities.	
SW-1.1.j	Partner with all waste haulers within the City to: ▪ Provide for organic waste collection from mixed waste containers are transported to a high diversion organic waste processing facility ▪ Provide quarterly route reviews to identify prohibited contaminants potentially found in containers that are collected along route. ▪ Clearly label all new containers indicating which materials are accepted in each container, and by January 1, 2025 place or replace labels on all containers.	

Co-benefit Symbol Key:


Improved Public Health


Increased Resilience


Reduced Reliance on Fossil Fuels


Green Jobs


Healthier Ecosystems


Cost Savings

CS-1: CARBON SEQUESTRATION

CS-1.1 Plant 2,000 net new trees by 2030 and 5,000 net new trees by 2045 to sequester carbon and create urban shade to reduce the urban heat island effect.

CS-1.1

Plant 2,000 net new trees by 2030 and 5,000 net new trees by 2045 to sequester carbon and create urban shade to reduce the urban heat island effect.

Burbank is expected to see increasing trends in extreme-heat days, as detailed further in the Adaptation Section. Extreme heat events will have greater effects on populations such as the homeless, aging adults, outdoor workers, people with chronic illnesses, and pregnant women. Homeless people may not have access to indoor spaces or even shade to escape these temperatures. To help sequester GHG emissions in the City and increase resilience to these events, there are long-term preventative strategies such as the strategic planting of trees and vegetation cover. The City of Burbank currently has approximately 33,000 trees within its borders. Due to the size constraints of planting areas that limit the growth of older trees in the City, the City replaces about up to 500 trees per year.[30] This effort works to preserve the urban forest canopy and continue to provide carbon sequestration value as the replaced trees mature.

CS-1.1a – CS-1.1b

CS-1.1a – CS-1.1f

Key Target Metrics:

Plant 2,000 net new trees by 2030 and 5,000 net new trees by 2045

GHG Reduction Potential

71 MT CO_2e in 2030
177 MT CO_2e in 2045

30. Information on the number of trees and tree replacement was obtained from conversation with the City of Burbank Parks and Recreation Department.

ID	Actions	Co-benefits
Action CS-1.1.a	Identify funding to expand BWP's Shade Tree Program to include targeted outreach to multi-family and low-income housing.	
Action CS-1.1.b	Implement a tree removal permit fee, which provides funding for the City to plant a new tree for every tree removed from private property.	
Action CS-1.1.c	Adopt a Greenscaping Ordinance that has a street tree requirement for all zoning districts; has a shade tree requirement for new development; requires greening of parking lots; and increases permeable surfaces in new development.	
Action CS-1.1.d	Develop an Urban Forest Plan to identify City's potential capacity for new tree planting, identify a timeframe for implementation and provide a management plan for existing trees.	
Action CS-1.1.e	Adopt a standard policy and set of practices for expanding the urban tree canopy and placing vegetative barriers between busy roadways and developments to reduce exposure to air pollutants from traffic.	
Action CS-1.1.f	Conduct an urban canopy study and identify low income and/or disadvantaged communities with lower than average tree canopy coverage in order to prioritize planting in these areas to provide equitable access to the health and resiliency benefits of trees.	

Co-benefit Symbol Key:

Improved Public Health

Increased Resilience

Reduced Reliance on Fossil Fuels

Green Jobs

Healthier Ecosystems

Cost Savings

CG-1: CITY GOVERNMENT

CG-1.1 Complete annual progress reporting and a triennial GGRP review and update.

CG-1.2 Retrofit all City Streetlights and Outdoor Lighting to Light-Emitting Diode (LED) by 2030.

CG-1.3 Electrify 25% of existing City facilities by 2030 and 100% of existing City facilities, where electrification is practical and feasible, by 2045, as well as all newly constructed City buildings.

CG-1.4 Implement a flexible employee commute program, with a target of having 25% of applicable City employees telecommuting by 2030.

CG-1.1

Complete annual progress reporting and a triennial GGRP review and update.

The GGRP is a living document that needs to be updated and refined as California's regulatory landscape changes and new technologies become available. Regularly evaluating the success of the plan will allow the GGRP to continue to be used for CEQA streamlining purposes. To monitor and track implementation of the measures into the future, it will be essential to continue to regularly review the GGRP progress and update the plan over time. As outlined further in Section 5, *Implementation*, the community-wide GHG emissions inventory will be updated annually in CAPDash, an online tool that is publicly accessible. Additionally, the progress on GHG reduction measure implementation will also be reported annually in CAPDash, which will be publicly available online. Tracking the emission reductions and measure implementation progress provides a regular mechanism to track successes and find areas for improvements that will feed into the triennial GGRP Updates. If it is determined that specific measures are not successful, new or revised measures can be included in future updates to include best practices and meet the City's long-term targets.

Key Target Metrics:

Complete annual progress reports and triennial GGRP updates

GHG Reduction Potential

Supportive for 2030
Supportive for 2045

ID	Actions	Co-benefits
CG-1.1.a	Update community-wide GHG emissions inventory annually.	
CG-1.1.b	Obtain annual progress updates from BWP on energy efficiency program implementation and city-wide energy consumption.	
CG-1.1.b	Establish reporting of annual volumes of landfill gas captured and methane fraction of landfill gas at Burbank Landfill Site No. 3 for better understanding of future landfill emissions.	
CG-1.1.c	Update progress on GHG Reduction Measures annually in reporting tool.	
CG-1.1.d	Regularly update the GGRP webpage to include updates on ordinances, programs, and policies implemented as part of the GGRP.	
CG-1.1.e	Earmark funding for triennial GGRP updates.	

Co-benefit Symbol Key:

Improved Public Health

Increased Resilience

Reduced Reliance on Fossil Fuels

Green Jobs

Healthier Ecosystems

Cost Savings

CG-1.2

Retrofit all City Streetlights and Outdoor Lighting to Light-Emitting Diode (LED) by 2030.

The City of Burbank adopted a Streetlighting Master Plan in 2019 with a purpose of providing public roadway and related illumination to our customers in a safe, responsive, aesthetically-sensitive, and fiscally-sound manner that furthers the goals of the City.[31] This measure aims to implement this plan and also establish and implement a plan for converting outdoor lighting at all City facilities, City parking areas, and parks to light emitting diodes (LEDs). In general, LEDs last longer, are more durable, and offer comparable or better light quality than other types of lighting. According to the United States Department of Energy, by 2027, widespread use of LEDs could save about 348 terawatt hour (TWh) of electricity natiowide, which is the equivalent annual electrical output of 44 large electric power plants (1000 megawatts each), and a total savings of more than $30 billion at today's electricity prices.[32]

Key Target Metrics:

Retrofit all street and outdoor lights to LEDs by 2030

GHG Reduction Potential

953 MT CO_2e in 2030
Not Quantified for 2045

31. https://burbank.granicus.com/MetaViewer.php?view_id=2&clip_id=8743&meta_id=356281
32. https://www.energy.gov/energysaver/save-electricity-and-fuel/lighting-choices-save-you-money/led-lighting

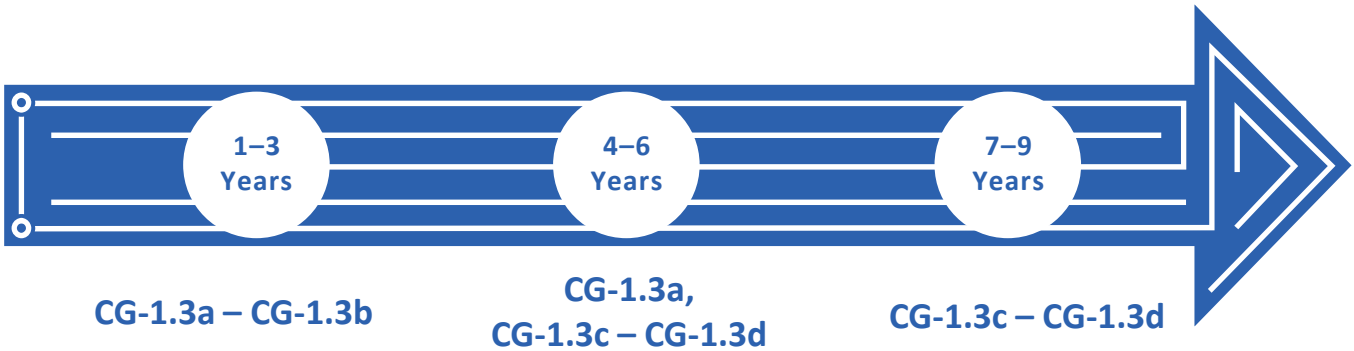
ID	Actions	Co-benefits
CG-1.2.a	Establish a plan for converting outdoor lighting at City facilities, City parking areas, and parks to LED.	
CG-1.2.b	Continue to implement 2019 Streetlighting Master Plan for conversion of existing High-Pressure Sodium streetlights to Light-emitting Diode (LED).	
CG-1.2.c	Continue with annual reporting of BWP's streetlight replacements, with the number of replacements and estimated annual energy savings associated with replacements.	
CG-1.2.d	Implement plan for converting all outdoor lighting at City facilities, City parking areas, and parks to LED by 2030.	

Co-benefit Symbol Key:

CG-1.3

Electrify 25% of existing City facilities by 2030 and 100% of existing City facilities, where electrification is practical and feasible, by 2045, as well as all newly constructed City buildings.

The City owns approximately 145 buildings total, 70 of which are considered major. This measure would be implemented through a series of steps, including a Public Works collaboration with Building and Safety to conduct an electrification opportunity assessment for all City buildings and facilities and establishing a replacement plan for replacing natural gas fueled equipment with electric. The next step will include establishing an electrification first policy in which natural gas fueled equipment at City facilities is replaced with electric equipment at time of replacement, and newly constructed City facilities and buildings are designed to be all-electric.[33] Switching to electricity helps avoid potential natural gas cost increases, which are expected to greatly outpace electricity increases. When it comes to new construction, all electric buildings are often less expensive to build and operate.[34] This measure also requires conducting a feasibility study to understand the cost and impacts of updating the thermal energy storage system as well installing photovoltaic at all City buildings where feasible to offset at least 80% of energy consumption. While this measure reduces emissions, it also demonstrates leadership at the City level and aims to educate and promote the benefits of retrofits, further encouraging community efforts.



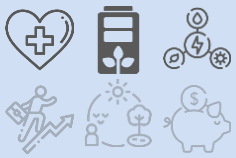
Key Target Metrics:

Electrify 25% of existing construction by 2030 and 100% by 2045

GHG Reduction Potential

88 MT CO_2e in 2030
722 MT CO_2e in 2045

33. https://gridworks.org/initiatives/cagas-system-transition/
34. https://explorer.localenergycodes.com/

ID	Actions	Co-benefits
CG-1.3.a	Partner with Building and Safety to conduct an electrification opportunity assessment for all City buildings and facilities and establish a replacement plan for replacing natural gas fueled equipment with electric.	
CG-1.3.b	Establish an electrification first policy in which natural gas fueled equipment at City facilities is replaced with electric equipment at time of replacement, and newly constructed City facilities and buildings are designed to be all-electric.	
CG-1.3.c	In partnership with BWP, install photovoltaic at all City buildings where feasible to offset at least 80% of energy consumption and use excess generation to contribute to City-wide renewable energy sources.	
CG-1.3.d	Identify and install battery energy storage systems at appropriate City facilities, and leverage projects to further promote benefits of distributed energy storage.	

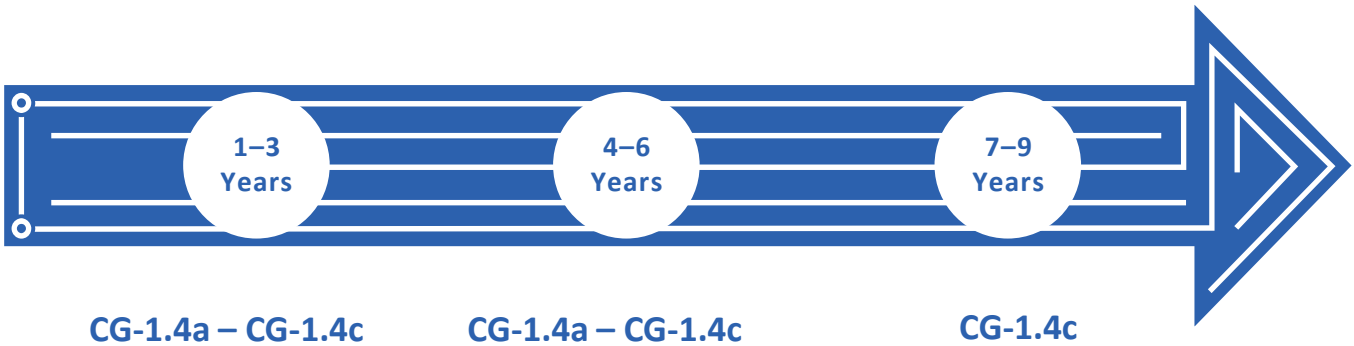
Co-benefit Symbol Key:

Improved Public Health | Increased Resilience | Reduced Reliance on Fossil Fuels | Green Jobs | Healthier Ecosystems | Cost Savings

CG-1.4

Implement a flexible employee commute program, with a target of having 25% of applicable City employees telecommuting by 2030.

The Covid-19 pandemic has drastically altered a variety of the ways we operate, including for some, how and if we commute to and from work. Measure CG-1.4 builds on this shift and aims to establish a flexible employee commute program for City staff with a target of having 25% of City employees staff time utilizing telecommuting by 2030. Implementation of this measure includes maintaining a subsidized transit commute program and expanding the employee carpool program to reduce employee commute miles in single occupancy vehicles (SOV). Based on an employee commute survey completed by City staff in 2019, 82 percent of employees primarily drove a SOV; nine percent carpooled; four percent used the Metrolink/rail; while the remaining six percent actively commuted, rode a motorcycle, took the bus, or used vanpool services. To reach the goal of the measure and decrease vehicle miles traveled (VMT), in SOVs, this measure also allow 25% of employees located at the City of Burbank to telecommute or utilize flexible schedules through 2030 to reduce travel time, VMT, and GHG emissions. Success for this measure will be determined via the annual employee commute survey that is completed per the requirements of the TMO.



Key Target Metrics:

Implement a flexible employee commute program

GHG Reduction Potential

181 MT CO_2e in 2030
157 MT CO_2e in 2045

ID	Actions	Co-benefits
Action CG-1.4.a	Maintain a subsidized transit commute program and expand the employee carpool program to reduce employee commute miles in single occupancy vehicles.	
Action CG-1.4.b	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.	
Action CG-1.4.c	Allow 25% of employees located at the City of Burbank to telecommute or utilize flexible schedules through 2030 to reduce travel time, VMT, and GHG emissions.	

Co-benefit Symbol Key:

Improved Public Health | Increased Resilience | Reduced Reliance on Fossil Fuels | Green Jobs | Healthier Ecosystems | Cost Savings

Adaptation and Resilience Measures

Climate Vulnerability and Adaptation

The current concentration of GHG emissions in the atmosphere will continue to impact the climate and the City of Burbank even if emission generating sources such as transportation and industry stopped emitting today. In addition to mitigating the impacts of climate change through increased resilience, the City recognizes that adapting to potential impacts from the changing climate is also an essential component of climate action planning. This is especially crucial because research suggests that disadvantaged communities are the most vulnerable and least likely to have the ability to adapt to the changing climate.[35] This is due in part because disadvantaged communities are often politically, socially, and economically marginalized, which increases their vulnerability to our changing climate. Burbank currently has eight census tracts that are designated as disadvantaged communities.[36] Therefore, equitable adaptive measures (A-1.1 – A.1-3) have been developed and vetted by various stakeholders, including City staff, the Sustainable Commission, and community members, to further protect Burbank and the most vulnerable from the impacts of climate change. Measures A-1.1 – A-1.3 are discussed in detail on the following pages.

Resilience

Resilience is defined as the ability to recover quickly and adapt to new, unique, or difficult situations. In general, California has proven to be resilient and communities as well as individual residents throughout the State take steps to enhance resilience by protecting and repairing hillsides to reduce fire risk and damage, exploring and implementing large scale renewable energy projects, and investing in technologies of the future. As mentioned in Section 1, *Introduction*, risks of climate change in the City include increasing temperatures, decreased rainfall, and more frequent heat waves. Public health may be negatively impacted as a result of these changing environmental conditions including extreme weather events, changes in temperature and rainfall that decreases water supply, worsening air quality, and increases in allergens and air pollutants.[37]

These impacts will have inequitable effects on the City's residents, business owners, and visitors; infrastructure; environment; and economy. Being resilient will require the City to adapt to these vulnerabilities and continue to operate in a sustainable environment with a healthy economy and an emphasis on protecting those who may face the greatest impacts.

Disadvantaged Communities

Disadvantaged communities are defined as the top 25 percent scoring areas from CalEnviroScreen along with other areas with high amounts of pollution and low populations.

35. https://www.carbonbrief.org/mapped-how-climate-change-disproportionately-affects-womens-health
36. https://oehha.ca.gov/calenviroscreen/sb535
37. https://19january2017snapshot.epa.gov/climate-impacts/climate-impacts-human-health_.html

Although the climate is changing, we can actively make a difference and work collectively to reduce the potential worst-case scenario impacts of climate change and the inequity associated with those impacts while also preparing for the realities of our future. However, it will take preparation and conscientious change to make sure the community is prepared for those impacts.

Increasing Adaptive Capacity and Climate Change Resilience

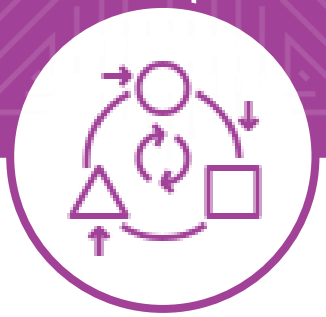
This GGRP Update embraces an equitable transition towards a future that is resilient for all and includes measures and actions that focus on the aspects of resilience and adaptation that are generally excluded from specific GHG emissions reduction strategies (Section 3), with an emphasis on increasing social justice. Although resilience and adaptation measures do not directly reduce GHG emissions, they are included in the GGRP Update to bolster the community's resilience and increase the City's adaptive capacity. The measures in this section are abbreviated with an "A" for adaptation and should be read the same way as the GHG reduction strategies in Section 3. The measures in this section include partnering with Ready LA County to educate the community about heat exposure and identifying low-cost mechanisms to reduce impacts of extreme heat on the community; completing and implementing a robust citywide Vulnerability Assessment and Adaptation Plan; and evaluating/maintaining biodiversity in the City.

A-1: ADAPTATION

A-1.1 Partner with Ready LA County to educate the community about the dangers of heat exposure and identify low-cost mechanisms to reduce impacts of extreme heat on the community.**CG-1.2** Retrofit all City Streetlights and Outdoor Lighting to Light-Emitting Diode (LED) by 2030.

A-1.2 Complete and implement a robust citywide Vulnerability Assessment and Adaptation Plan.

A-1.3 Evaluate biodiversity in the City as well as policies/programs to maintain or increase native species.



A-1.1

Partner with Ready LA County to educate the community about the dangers of heat exposure and identify low-cost mechanisms to reduce impacts of extreme heat on the community.

Extreme heat is projected to continue increasing throughout California due to climate change, according to the State's climate projections.[38] This means more extreme heat days, longer heat waves, warmer nights, and increased stress on our water resources and energy systems. Public health is a major concern as extreme heat increases throughout the region. The people most at-risk include small children, the elderly, low-income populations, outdoor workers, and those with pre-existing conditions and chronic diseases, such as asthma, lung disease, heart disease, renal disease, diabetes, and obesity.[39] Prolonged exposure to extreme heat is dangerous, and can cause serious illness or even death.[40] Therefore, providing current and updated information to educate the community around the dangers of heat exposure is essential. As part of this measure, Burbank will review and update the City's Emergency Preparedness webpage; work with Ready LA County to establish a multi-lingual outreach campaign to provide the community with information regarding the symptoms of extreme heat exposure; identify low-cost mechanisms to reduce the impacts of extreme heat; and identify new cooling centers that are distributed throughout the City .

A-1.1a – A-1.1c

A-1.1a – A-1.1d

A-1.1a – A-1.1b, A-1.1e

Key Target Metrics:

Establish partnership with Ready LA County.

GHG Reduction Potential

Supportive for 2030
Supportive for 2045

38. https://cal-adapt.org/
39. https://www.cdc.gov/climateandhealth/pubs/extreme-heat-final_508.pdf
40. https://www.cdc.gov/disasters/extremeheat/warning.htmlX

A-1.1: Partner with Ready LA County to educate the community about the dangers of heat exposure and identify low-cost mechanisms to reduce impacts of extreme heat on the community.

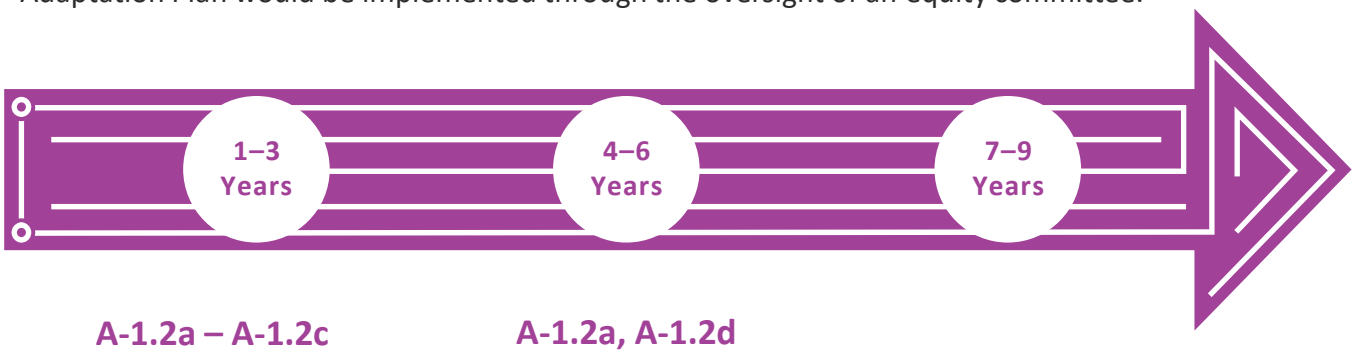
ID	Actions	Co-benefits
A-1.1a	Review and update the City's Emergency Preparedness webpage to reflect ways to prepare for events that may be likely to increase due to climate change.	
A-1.1b	Work with Ready LA County to develop and implement an outreach campaign to provide members of the community with information regarding the symptoms of extreme heat exposure and how to reduce risk in English, Spanish, and Armenian.	
A-1.1c	Identify low-cost mechanisms (e.g., planting trees around homes and businesses and/or increasing energy efficiency) to reduce the impact of extreme heat on the community, especially on the most vulnerable members of society (i.e., children, the elderly, economically disadvantaged groups, and those with chronic health conditions made worse by heat exposure), and review grant opportunities to fund and implement.	
A-1.1d	Identify three new community locations that are either owned by the City or a trusted private entity that can serve as shelter, evacuation, and/or clean air centers for future climate emergency events distributed throughout the City to ensure that those most vulnerable have easy access.	

Co-benefit Symbol Key:

Improved Publi Health | Increased Resilience | Reduced Reliance on Fossil Fuels | Green Jobs | Healthier Ecosystems | Cost Savings

A-1.2 Complete and implement a robust citywide Vulnerability Assessment and Adaptation Plan.

Vulnerability to climate change refers to the degree to which a system is susceptible to or unable to cope with the adverse impacts of climate change. Burbank, like many other cities across California, will be exposed to a variety of unavoidable climate change hazards. It is anticipated that Burbank will experience more droughts and intense rains, as well as more frequent and severe heat waves. However, exposure to these hazards does not mean that all members of the community will be impacted or affected in the same way. Several factors, including age and socioeconomic status, will determine the degree of impact each person will experience. To better understand how climate-related hazards may impact the community, a citywide climate Vulnerability Assessment and Adaptation Plan should be completed and include an evaluation of the following components: exposure to climate change hazards, sensitivity to hazards, potential climate change impacts, and risks, as well as opportunities to adapt to the changing climate. Implementation of this measure will begin by partnering with the Burbank Fire Department to review and update the Local Hazard Mitigation Plan and then the Vulnerability Assessment and Adaptation Plan will be completed upon identification and acquisition of grant funding. Once adopted, the Vulnerability Assessment and Adaptation Plan would be implemented through the oversight of an equity committee.



A-1.2a – A-1.2c **A-1.2a, A-1.2d**

Key Target Metrics:

Identify and complete grant application;
Complete a Vulnerability Assessment and Adaptation Plan

GHG Reduction Potential

Supportive for 2030
Supportive for 2045

A-1.2: Complete and implement a robust citywide Vulnerability Assessment and Adaptation Plan.

ID	Actions	Co-benefits
A-1.2a	Work with the Burbank Fire Department to review and update the Local Hazard Mitigation Plan to confirm that it aligns with the Federal requirements, including identification of hazards and a climate risk assessment.	
A-1.2b	Establish or contract with a grant team tasked with Identifying and applying for grant funding opportunities and/or earmark additional funding opportunities to complete and implement a robust city-wide Vulnerability Assessment and Adaptation Plan.	
A-1.2c	Provide information on the City's website about updated climate vulnerability information and information on how the community can increase their adaptive capacity.	
A-1.2d	Upon acquisition of funding, complete a Vulnerability Assessment and Adaptation Plan that focuses on the City's most vulnerable communities and establishes specific goals to reduce the vulnerability of those most susceptible to the impacts of climate change.	
A-1.2e	Implement the Vulnerability Assessment and Adaptation Plan and establish an equity committee to steer the implementation in a direction that continues to make an equitable impact in the community.	

Co-benefit Symbol Key:

Improved Publi Health

Increased Resilience

Reduced Reliance on Fossil Fuels

Green Jobs

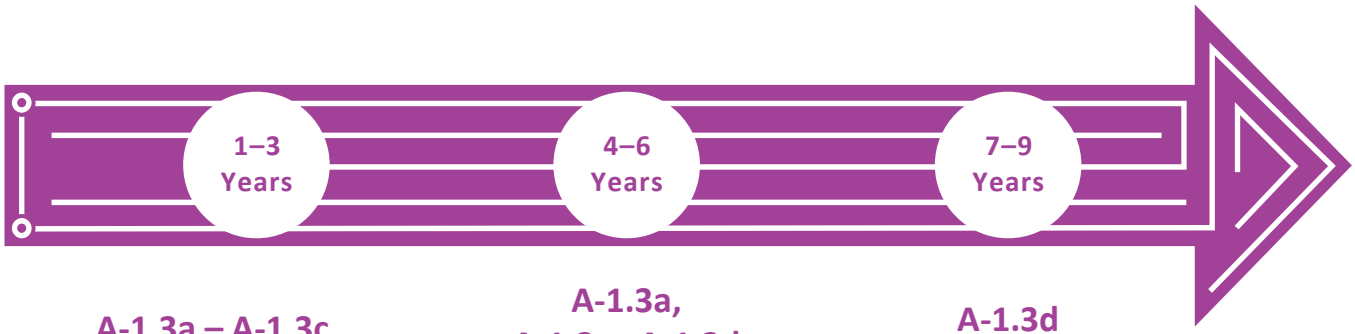
Healthier Ecosystems

Cost Savings

A-1.3

Develop a mechanism to evaluate biodiversity in the City as well as policies/programs to maintain or increase native species.

Los Angeles County is located in a global biodiversity hotspot, which is defined as having at least 1,500 endemic vascular plants and 30 percent or less of its original natural vegetation.[41] Currently, Los Angeles County is home to more than 4,000 distinct species of plants and animals, including 52 endangered species — more than any county outside of Hawaii.[42] Biological biodiversity refers to the variety of life on Earth at all levels, from genes to ecosystems, and can encompass the evolutionary, ecological, and cultural processes that sustain life.[43] Unfortunately, climate change is anticipated to affect important environmental factors that support the region's ecosystems. Therefore, it is essential to protect this diversity. Researchers at the University of California, Los Angeles (UCLA) created the Biodiversity Atlas of Los Angeles, which is an ongoing project developed by the UCLA Department of Geography and supported by the UCLA Sustainable LA Grand Challenge. As part of this measure, the City of Burbank would seek to partner with researchers and/or students at UCLA to utilize the Biodiversity Atlas of Los Angeles to understand best practices on how to track, interpret, update, and maintain data associated with biodiversity throughout the City. Additionally, this measure directs the City to work with Trails LA County and/or the Stough Canyon Nature Center to design and implement a multi-lingual program that invites all residents to visit the City's local natural ecosystems.



Key Target Metrics:

Establish a partnership with UCLA

GHG Reduction Potential

Supportive for 2030
Supportive for 2045

41. https://www.conservation.org/priorities/biodiversity-hotspots
42. https://newsroom.ucla.edu/releases/la-county-biodiversity-atlas
43. https://www.amnh.org/research/center-for-biodiversity-conservation/what-is-biodiversity

E-1.3: Evaluate biodiversity in the City and establish policies/programs to maintain or increase native species.

ID	Actions	Co-benefits
A-1.3a	Seek out partnership opportunities with researchers and/or students at the University of California, Los Angeles (UCLA) to utilize the Biodiversity Atlas of Los Angeles to understand best practices on how to track, interpret, update, and maintain data associated with biodiversity throughout the City.	
A-1.3b	Provide a direct link on the City's website to the Biodiversity Atlas of Los Angeles in addition to any updated biodiversity inventories, which should be completed regularly. In addition, provide an avenue for citizen scientists to participate in reporting and tracking of species, when possible.	
A-1.3c	Work with Trails LA County and/or the Stough Canyon Nature Center to design and implement a program that invites all residents to visit the local natural ecosystems and utilize the local hiking trails, that also provides a multi-lingual educational component, with an emphasis on low-income and disadvantaged community members.	
A-1.3d	Review and identify funding opportunities to update and maintain a tracking mechanism to regularly evaluate biodiversity in the City.	

Co-benefit Symbol Key:

Improved Publi Health

Increased Resilience

Reduced Reliance on Fossil Fuels

Green Jobs

Healthier Ecosystems

Cost Savings

Implementation and Monitoring

Implementation and Monitoring

This GGRP Update will serve as the Burbank's updated roadmap to achieve the City's 2030[44] target and State mandated goal of 40 percent below 1990 levels by 2030, with the ultimate goal of achieving carbon neutrality by 2045. While substantial evidence suggests that the emission reduction measures outlined in this Plan will achieve the City's 2030 targets, uncertainty increases over time (see Appendix C for a discussion on the substantial evidence used to quantify the emission reductions attributable to each measure). The adoption rates of each measure and action, costs of technology, legislative environment, and benefits assumed in this report will continue to evolve over time. Therefore, this GGRP Update should be viewed as a strategic framework that will be reevaluated on a tri-annual basis. This section outlines how the City will implement the actions included in the GGRP Update, monitor progress, and prepare updates over time.

Implementation

Full implementation of the City's GGRP Update will require investments on the part of the City, local households and property owners, and commercial businesses. In most cases, the expenditures will not only help to reduce GHG emissions but will also bring other valuable co-benefits as described in Section 3. Some expenditures will not represent net cost increases, but instead will involve substituting investments to GHG emissions reducing alternatives for equipment, materials, and technologies that would otherwise have been made on less climate-friendly options. For example, residents and businesses are encouraged to make investments in water and energy conservation improvements, for which the initial expenditure on the improvements will be offset by long-term savings from reduced water or energy usage. The benefits may also provide additional, unquantified improved resilience and operational benefits. As part of this GGRP Update, existing funding and financing mechanisms that may support measure implementation for a prioritized list of three GHG emission reduction themes to meeting the established emission reduction target were established.

Team Burbank

The City of Burbank recognizes that everyone has a role in reducing the impacts of climate change and meeting the State goals and City targets for GHG emission reductions. It is imperative that we all actively participate in the process and aim to reduce our fair share of emissions. At the City level, the Community Development Department led the GGRP Update; however, during the process, all City departments, including Public Works, Parks and Recreation, Burbank Water and Power, Information Technology, City Manager's Office, and the Fire Department were invited to the table to discuss the findings of the updated inventory, review and refine emission reduction measures, and provide input on the final document (see the Introduction for a summary on outreach events and stakeholder meetings that were held as part of the GGRP Update). This ongoing involvement and collaboration was essential to establishing a successful and implementable Plan.

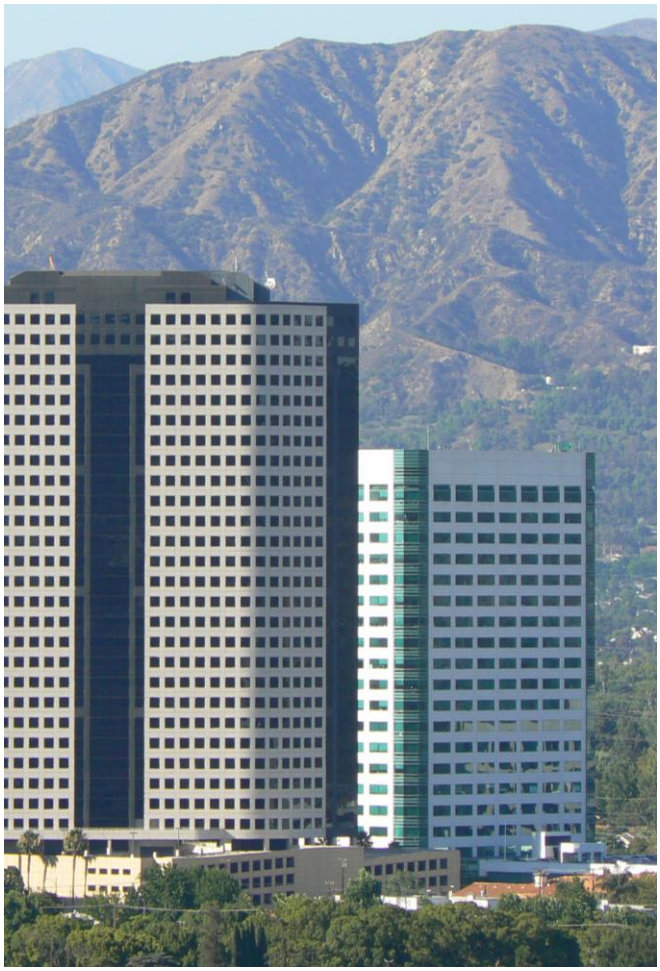
The GGRP Update builds off of the success from the original GGRP and focuses on making the next set of changes, infrastructure investments, and policy directives that will allow Burbank to transition to carbon neutrality. Making meaningful progress towards reducing our GHG emissions starts with City

44. As mentioned in the Section 2, *Inventory, Forecast, and Targets,* to reduce GHG emissions to 40 percent below 1990 levels in accordance with SB 32, the City of Burbank established a GHG reduction target of 55 percent below 2010 GHG emission levels.

leadership, through policies, education, ordinances, and investments that act as catalysts for change throughout the wider community. As such, the City can update building codes, provide electric vehicle charging infrastructure and designate 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. Community partners can then support these policies with incentives and programs and businesses can leverage these policies to provide new services and adopt new practices. Finally, residents that have been provided with the incentives and education, can adapt behavior to lower GHG emissions communitywide. As policies and programs are developed and infrastructure is constructed, City staff will work to engage the community on progress and opportunities for improvement. We're excited to offer the community new programs that will help meet the GHG emissions reduction goals.

Funding Strategy and Financing Approaches

As part of this GGRP Update, funding and financing mechanisms that can support implementation for were identified to help the City meet the established emissions reduction targets outlined in the *Inventory, Forecast, and Targets* Section. Cities around the world already face challenges in meeting community's needs for investment in many types of critical infrastructure and programs. Therefore, this analysis examines approaches that go beyond the use of General Fund monies to pay for climate-related infrastructure as funding and financing from beyond municipal sources is central to unlocking investments that generate benefits for a wide group of stakeholders in Burbank. Funding and financing strategies that go beyond publicly-led approaches may also reduce the burden on low-income residents to fund investments that broadly

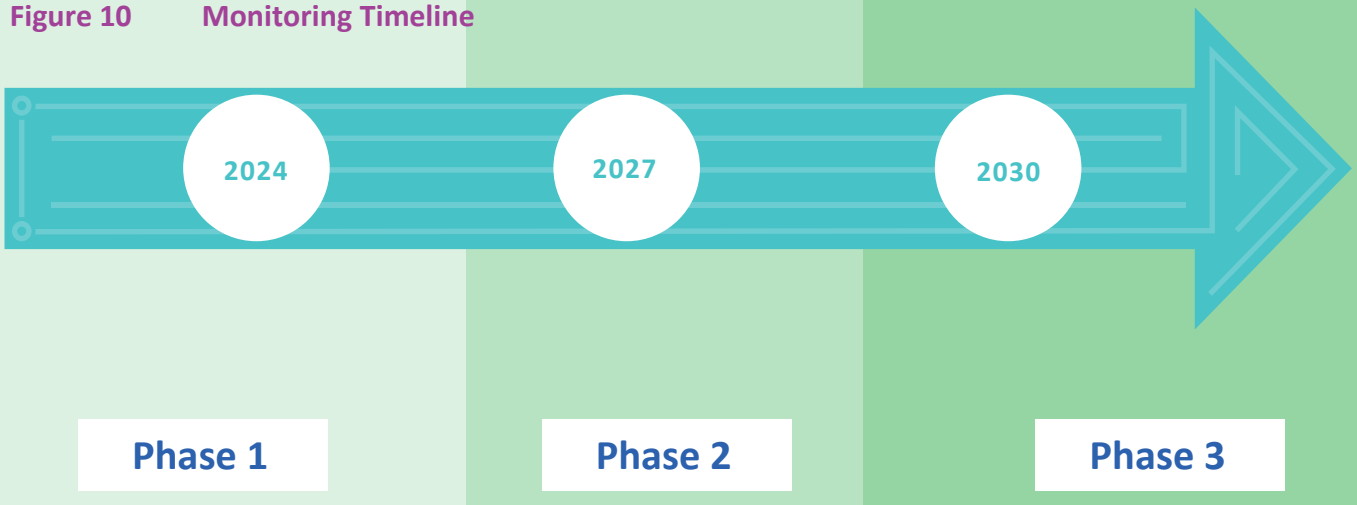


support all residents and businesses in Burbank and beyond. See Table 9 for a funding summary and Appendix E for specific details on funding mechanisms. Also shown in Table 9 is a high-level cost estimate with an approximate price range to implement each action over the next decade based on a conservative estimate.

Monitoring Timeframe

As part of this GGRP Update, the City will complete an annual progress report using CAPDash as well as a triennial GGRP review and update. The timeline in Figure 10 shows the triennial update schedule, with a phased approach to measure 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. Monitoring will be completed by the "Chief Reminding Officers" (CRO) embedded within each departments and data will be shared with the City Sustainability Officer. These CROs would have the tools necessary to monitor and track the implementation of the measures that their department is responsible for and would be supported by a Climate Change Task force that guides and oversees the process.

Figure 10 **Monitoring Timeline**



In order to achieve the 2030 GHG emissions reductions targets discussed in Section 3, Burbank will need to begin implementing the measures and actions as soon as possible to make real progress over the next decade. Therefore, the GGRP Update takes a phased approach to implementation, beginning with Phase 1, which will occur in the short-term over the next three years (2021 – 2024). Phase 2 would include implementation of the mid-term measures, while Phase 3 would include implementation of the longer-term measures, that are anticipated to occur after feasibility studies are complete and initial measures are implemented. If the actions identified in the GGRP Update to meet the 2030 GHG emissions reduction milestone goal are not implemented, it is likely additional actions will need to be developed. The longer action is delayed, the more significant actions need to be taken to achieve the longer-term GHG emissions reduction targets. Some actions such as adopting ordinances or resolutions to esatblish an electrification reach code can be done on a short timetable; while others, such as implementation of the full Complete Our Streets Plan will require longer timelines for both rollout of the infrastructure and use by the community.

CAPDash

CAPDash is a web-based dashboard developed by Rincon Consultants, Inc. that allows Burbank to track the annual emission reductions achieved through implementation of each Measure and meet the requirements of CEQA Section 15183.5(b). The City will conduct annual implementation monitoring of the GHG emissions reduction measures. The process for monitoring and quantifying measure implementation status relies on key target metrics identified for each of the GGRP Update measures and actions. By committing to annual monitoring implementation progress and adjusting where necessary,

Burbank will 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 game plan marks another major milestone in the City's commitment to a sustainable future.

Next Steps

The City of Burbank takes pride in tracking the implementation of their long-term emission reduction plans, as evidenced by completion of the Score Card in 2019 and this GGRP Update, which demonstrates that the City has exceeded its 2020 emission reduction goal. Successful implementation of a long-range planning document requires detailed tracking that will be done by City staff in all departments. This is a hybrid approach that does not place the onus on one person or department, but instead relies on individual expertise with collective vigilance. This approach is essential to successful implementation because it gives everyone a seat at the table and demonstrates that climate action requires collective participation to result in real change. As mentioned above, Table 9 shows each of the measures with supporting actions and includes the lead or responsible department that is in charge of overseeing and implementing each item, as well as the phase in which the action will be implemented and potential funding sources.

Table 9 Implementation and Monitoring Work Plan

ID	Action	Lead Dept.	Potential Funding	Phase	$	Implementation Notes/Comments
Measure C-1: Lead by example by focusing on equity constraints associated with existing building electrification by leveraging BWP's operations and efficiency programs to develop an Affordable Housing Electrification Program to lead Burbank's electrification targets through retrofitting low-income and affordable housing units in Burbank to all electric, retrofitting 100 affordable housing units by 2030 and all 320 affordable housing units owned by Burbank Housing Corporation in the City by 2045.						
Action C-1.1.a	Expand upon BWP's low-income Refrigerator Exchange Program by identifying funding to provide electric heat-pump water heaters and HVAC units to low-income households.	BWP	Grants, Staff Time	1	$ - $$	
Action C-1.1.b	Explore a partnership with non-profit organizations, such as GRID Alternatives, to implement a low-income solar installation program, which includes a workforce installation training program for groups not typically represented in the solar workforce.	CD	Staff Time, Grants	1	$$ - $$$	
Action C-1.1.c	Establish a program with Burbank Housing Corporation to provide discounted electric appliances and equipment, as well as technical assistance with installation and electrical panel and circuit upgrades for retrofits and time of replacement upgrades of appliances and equipment in affordable housing units.	BWP	Grants	2	$$	
Action C-1.1.d	Partner with Burbank Housing Corporation to perform an electrification needs and existing building retrofit cost assessment for all affordable housing units owned and managed by the Burbank Housing Corporation to identify an electrification retrofit pilot project that includes retrofitting of an entire building of affordable housing units.	CD – Housing Division	Staff Time, Grants, Consultant	2	$-$$	
Action C-1.1.e	Conduct targeted outreach to low-income housing developments to engage building owners, building managers, landlords and residents to communicate benefits of electrification, discuss potential for retrofitting buildings, gain buy-in from community members, and providing education and trainings on incentives, technical requirements, and available resources.	BWP	Staff Time, Grants, Consultant	2 - 3	$	U.S. EPA - Environmental Education Grants (Need to Partner with a qualified education agency)
Action C-1.1.f	Implement a pilot project for retrofitting of an entire building of affordable housing units, as determined feasible with Action C-1.1.d	CD – Housing Division	Grants, Staff Time, Consultant	2 - 3	$$ - $$$	See Appendix F, Funding Strategy

B&S = Building and Safety; BWP = Burbank Water and Power; CD = Community Development; PIO = Public Information Officer PW = Public Works; IT = Information Technology; $ = 0 - $100K, $$ = 100k - $500K, $$$ = 500k - $1M, $$$$ 1M - $100M, $$$$$ = $100M+

ID	Action	Lead Dept.	Potential Funding	Phase	$	Implementation Notes/Comments
Action C-1.1.g	Perform an existing buildings analysis specifically targeted towards low-income neighborhoods to identify neighborhoods or building blocks for larger-scale electrification projects in partnership with BWP.	B&S	Grants, Consultant	3	$	California Energy Commission – Energy Partnership Program
Action C-1.1.h	Identify and implement a pilot project for electrification of a complete neighborhood composed of low-income and affordable housing, including energy bill protections in case energy bills exceed costs to residents prior to project implementation and pursuing opportunities for natural gas infrastructure pruning.	CD – Housing Division	Grants, Staff Time, Consultant	3	$$$$-$$$$$	See Appendix F, Funding Strategy
Action C-1.1.i	Develop a tariffed on-bill financing program or other incentive program to allow for equitable electrification of buildings within BWP service area.	BWP	Staff Time	3	$ - $$	
Action C-1.1.j	Evaluate opportunities to provide technical and financial assistance to low-income property owners and low-income homeowners looking to electrify.	BWP	Staff Time, Grants	3	$	
Measure BE-1.1: Electrify 100% of new construction in the City by 2023.						
Action BE-1.1.a	Adopt an Electrification Reach Code for all new buildings, which prohibits the piping of natural gas. In doing so the City will: ▪ Engage with stakeholders, both internal stakeholders, such as City staff and officials, and external stakeholders, such as local developers regarding the purpose and impact of the reach code ▪ Conduct a cost effectiveness study ▪ Develop and draft an ordinance ▪ Conduct public hearings, public notices, and formally adopt the ordinance ▪ Submit the adopted ordinance to the CEC and CBSC	B&S	Staff Time, Consultant	1	$-$$	

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ID	Action	Lead Dept.	Potential Funding	Phase	$	Implementation Notes/Comments
Action BE-1.1.b	Provide education around cooking with electric appliances, including demonstrations from chefs and/or local restaurants.	CD	Staff Time	1	$	
Action BE-1.1.c	Provide technical resources, including hosting workforce development trainings for installers and building owners/operators to discuss benefits and technical requirements of electrification.	B&S	Grants and Staff Time	1	$	
Action BE-1.1.d	Building and Safety Division and BWP will promote the cost and environmental benefits of electrification to builders, property owners, and contractors on the City website and at the City permit counters.	B&S	Staff Time	1	$	
Action BE-1.1.e	Establish a partnership with the Building Decarbonization Coalition, or a similar organization, to engage with local building industry stakeholders in development of an Electrification Reach Code.	B&S	Staff Time, Consultant	1	$	
BE-1.1.f	Conduct an electrification infrastructure and capacity feasibility study to identify expected increases in electricity demand due to building and vehicle electrification, ensure capacity to meet that demand, and identify any infrastructure improvements.	BWP	Grants, Consultant	2	$ - $$	
BE-1.1.g	Work with SoCal Gas to identify opportunities for natural gas infrastructure pruning to reduce the chance of stranded assets, provide potential funding, and establish an efficient transition to carbon neutral buildings.	BWP	Staff Time	3	$	
Measure BE-1.2: Leverage BWPs marketing programs to convert 3,000 residential and 170 commercial natural gas-fueled HVAC and water heating units in existing private buildings to electric heat pumps by 2030, and 10,000 residential and 560 commercial units by 2045.						
Action BE-1.2.a	Build upon the success of BWP's retrofit package and rebate and incentive programs with an All-Electric Building Initiative, or tariffed on-bill financing program that expands rebates and incentives to electric heat-pump water heating, HVAC units, and electrical panel upgrades and expands the business retrofit packages to include electric heat-pump water heaters and HVAC units.	BWP, CD	Staff Time and Grants	1	$$$	

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ID	Action	Lead Dept.	Potential Funding	Phase	$	Implementation Notes/Comments
Action BE-1.2.b	Partner with BWP to develop an education campaign to promote the All-Electric Building Initiative that builds upon the success of other BWP programs. The program would include: ▪ Utility bill inserts to advertise the incentive programs and the cost and health benefits of electric appliances ▪ Targeted outreach to builders and property managers with an informational brochure describing the financial benefits of replacing natural gas appliances with all electric appliance when they apply for permits ▪ Targeted outreach to local property managers to address appliance energy use and benefits of all electric appliances in multi-family units ▪ Providing informational webinars and an updated website to advertise and promote All-Electric Building Initiative rebates and incentives	B&S	Staff Time	1	$	
Action BE-1.2.c	Review incentives and rebates for procedural equity and develop a process so that existing and updated incentive programs continue to be equitably distributed to the community. Hurdles to equitable implementation could include credit checks, excessive procedural hurdles and lack of targeted outreach.	BWP	Staff Time	1	$	
Action BE-1.2.d	Initiate separate application process for electric conversions in the building permit system to track the number of permitted natural gas fueled water heaters and HVAC equipment replaced with electric fueled equipment, as well as if this has resulted in a building becoming all-electric, with indication of whether or not BWPs incentive and rebate programs are being utilized to pay for new equipment.	B&S	Staff Time	1	$	
Action BE-1.2.e	Partnership between Building and Safety and BWP to perform an electrification feasibility study to identify costs, benefits, potential hurdles, and policy strategies for electrifying existing buildings in Burbank. Strategies could include time of replacement, time of sale, and building performance policies.	BWP	Grants, Consultant	2	$ - $$	California Energy Commission – Energy Partnership Program
BE-1.1.f	Work with a non-profit organization, such as Building Decarbonization Coalition or Rocky Mountain Institute, to develop a best practices model based on the progress electrifying existing buildings to significantly increase electrification post-2030.	B&S	Grants	2 - 3	$ - $$	

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ID	Action	Lead Dept.	Potential Funding	Phase	$	Implementation Notes/Comments
Measure BE-1.3 Continue to increase building energy efficiency through BWP's rebate and incentive programs to reduce annual customer energy use by a collective 63 GWh by 2030.						
Action BE-1.3.a	Implement a retrofit package tracking system for BWP's energy efficiency retrofit incentive program, which includes tracking of the number of pre-defined packages installed.	B&S, BWP	Staff Time	1	$-$$	
Action BE-1.3.b	Continue to perform outreach for smart grid integration and promotion of smart grid-compatible technologies.	BWP	Staff Time	1 – 2	$-$$	
Action BE-1.3.c	Maintain BWP's current rebate and incentive programs, ENERGY STAR appliance program, and Energy Conservation Programs, with continued public outreach and promotion.	BWP	Staff Time	1 – 2	$$ - $$$	
Action BE-1.3.d	Continue collaboration between BWP and Burbank Unified School District to provide 6th graders with a "Resource Action Kit," which contains energy and water saving devices for the student to install in their home, and information to complete a home audit report. Use this opportunity to teach students about the energy-water nexus as well.	BWP	Staff Time and Grants	1 – 2	$	
Action BE-1.3.e	Provide information to Community Development staff regarding annual energy savings from energy conservation programs for GGRP implementation tracking.	BWP	Staff Time	1 – 2	$	
Action BE-1.3.f	Update the BWP Home Upgrade Program to include electrification with a focus on heat pump hot water heaters and HVAC systems, which can be up to 400% efficient.	BWP	Staff Time and Grants	1 – 2	$-$$	
Measure EG-1.1: Goal to achieve 100% GHG-neutral electricity generation by 2040.						
Action EG-1.1.a	Implement programs, similar to BWP's Green Choice Program, to facilitate access for customers to adopt more renewable energy.	BWP	Staff Time	1	$	
Action EG-1.1.b	Conduct a feasibility study to understand potential for installation of renewable energy generation at BWP water facilities.	BWP	Grants	1	$-$$	

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ID	Action	Lead Dept.	Potential Funding	Phase	$	Implementation Notes/Comments
Action EG-1.1.c	Conduct analysis on risks and benefits associated with relying on battery storage to achieve carbon neutral electricity and grid resiliency goals and set a MW capacity goal for installed battery storage by 2030 and 2040 consistent with BWP rules and regulations.	BWP	Grants, Staff Time, Consultants	1 – 2	$-$$	California Energy Commission – Energy Partnership Program
Action EG-1.1.d	Conduct a feasibility study to identify locations in the City for installation of local renewable energy generation and energy storage projects.	BWP	Grants, Consultant	2	$ - $$	
Action EG-1.1.e	Direct BWP to continue to work with businesses (especially the studios) on partnerships designed to maximize the use of renewable energy including solar/ storage, appropriate tariff changes and microgrid opportunities	BWP	Grants, Staff Time	2	$-$$	See Appendix F, Funding Strategy
Action EG-1.1.f	Develop a battery storage program in which BWP provides battery storage incentives in return for a commitment to operate (CTO) distributed battery storage projects for a set amount of time (i.e., 5-10 years), consistent with BWP rules and regulations.	BWP	Grants	2	$$$ - $$$$	
Action EG-1.1.g	Identify grant funding opportunities to increase landfill gas capture rate at Burbank Landfill Site No. 3 to the maximum extent practicable.	PW	Grants	2	$	See Appendix F, Funding Strategy
Action EG-1.1.h	Install 5 MW of local solar capacity, utilizing parking structure roofs and buildings around City as means to increase load capacity, including in areas where high loads from electric vehicle charging is likely.	BWP	Grants and Staff Time	3	$$$$ - $$$$$	See Appendix F, Funding Strategy
Action EG-1.1.i	Expand renewable energy generation at BWP facilities, with a goal of installing renewable energy generation at all feasible locations by 2040.	BWP	Staff Time	3	$$$$ - $$$$$	See Appendix F, Funding Strategy
Measure T-1.1: Implement the Complete Our Streets Plan, increasing active transportation modeshare 2% by 2030 and 3% by 2045.						
Action T-1.1.a	Implement all policy recommendations included in the Complete Our Streets Plan to improve pedestrian and bicycle networks and increase transit ridership based on the established timeframes.	CD, PW	Grants and Staff Time	1 - 3	$ - $$$$$	
Action T-1.1.b	Integrate the Complete Our Streets “Checklist for New Projects” into the City’s Development Review process and Capital Improvement Program to ensure new projects include Complete Our Streets measures.	CD, PW	Staff Time	1 - 3	$	
Action T-1.1.c	Continually work to identify grant funding opportunities to implement Complete Our Streets projects included in the Complete Our Streets Plan.	CD, PW	Staff Time	1 - 3	$	

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ID	Action	Lead Dept.	Potential Funding	Phase	$	Implementation Notes/Comments
Action T-1.1.d	Complete and implement the Citywide Safe Routes to School Plan consistent with the Complete Our Streets Plan upon identification of funding.	PW	Grants and Staff Time	1-2	$$ - $$$	Southern California Association of Governments (SCAG) - Sustainable Communities Program
Action T-1.1.e	Develop and implement a bicycle safety program as part of the Citywide Safe Routes to School Plan focused on educating bicycle riders of all ages and skill levels to increase ridership by offering bicycle safety resources and classes.	CD	Grants, Staff Time, Consultant	1-2	$-$$	California Transportation Commission (CTC) - Active Transportation Program (ATP)
Action T-1.1.f	Evaluate and update the City's existing Zoning Code, Transportation Demand Management Ordinance, and California Green Building Code to ensure the City requires installation of bicycle parking areas in instances where off-street parking is required. Also, providing technical assistance to developers seeking to comply with these requirements.	CD	Staff Time, Consultant	2 -3	$ -$$	
Action T-1.1.g	Utilize performance measures included in the Complete Our Streets Plan to monitor and track realized mode shift from plan implementation.	CD	Staff Time	2 - 3	$	
Measure T-1.2: Provide clean, abundant, affordable, and accessible public transit, with a zero-emissions bus fleet by 2040.						
Action T-1.2.a	Work with Metro to expand use of Metro's LIFE low-income EZ Pass transit subsidy by Burbank low-income households who ride BurbankBus and expand Burbank Pass program transit subsidy program to BurbankBus fixed-route service to cover gaps in the Metro LIFE program.	CD	Grants and Staff Time	1 – 2	$ - $$	
Action T-1.2.b	Adopt an ordinance to allow and manage shared-use mobility devices, including but not limited to e-scooters and bikes.	CD	Staff Time	1	$	
Action T-1.2.c	Apply for California Transit and Intercity Rail Capital Program (TIRCP), Low Carbon Transit Operations Program, or other Greenhouse Gas Reduction Fund grants, to facilitate electrification of bus fleet.	CD	Grants Staff Time, Consultant	2 – 3	$-$$	
Action T-1.2.d	Use electric bus fleet to generate revenue through programs, such as the California's Low Carbon Fuel Standards, to pay for increased bus service frequencies and/or other supportive infrastructure.	CD	Staff Time	3	$-$$$	

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ID	Action	Lead Dept.	Potential Funding	Phase	$	Implementation Notes/Comments
Action T-1.2.e	Electrify the Burbank Bus fleet in accordance with California Air Resources Board mandates and the City's Transit Fleet Electrification Study.	CD	Staff Time	3	$$$$$	
Measure T-2.1: Continue Transportation Management Organization (TMO) Expansion, reaching 60% of employers by 2030 and 90% by 2045.						
Action T-2.1.a	Work with the Burbank TMO to update the TMO website annually to provide program information to current and potential members.	CD	Staff Time	1 – 2	$	
Action T-2.1.b	Work with the Burbank TMO to continue to implement TMO outreach strategy to increase membership and active participation in TMO programs	CD	Staff Time	1 – 2	$	
Action T-2.1.c	Update the Burbank Center Plan, Media District Specific, proposed Golden State Specific Plan, Plan Transportation Management Organization requirements to reflect TDM best practices. The update should evaluate which businesses are subject to TMO requirements, membership requirements and fees, TDM strategies offered by the TMO, reporting requirements and performance measures, and funding requirements. Utilize lessons learned from COVID-19 on transportation habits, impacts on transit, and potential hurdles and opportunities connected to these changes.	CD	Grants, Staff Time	2 – 3	$-$$	
Action T-2.1.d	Expand geographic boundary of TMO to Golden State /Airport areas by 2025 as part of the Golden State Specific Plan, and citywide by 2035.	CD	Staff Time	1 -3	$-$$	
Measure T-2.2: Update the TMO program and ordinance to increase compliance with the City's 1.61 Average Vehicle Ridership (AVR) Goal to reduce employees commuting to Burbank via single occupancy vehicle. Require that 30% of TMO businesses achieve the 1.61 AVR target by 2030, and 60% by 2045.						
Action T-2.2.a	To enhance the Burbank community's ability to telecommute, partner with telecom companies to perform a Broadband Access Study to identify areas of the City have limited access to broadband service due to infrastructure and financial limitations.	CD	Staff Time	1 – 3	$ - $$$	
Action T-2.2.b	Identify grant funding opportunities to help bridge the broadband access gap in the City by helping to fund installation of infrastructure or subsidize broadband service for low-income households.	CD	Staff Time, Grants	1 - 2	$	

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ID	Action	Lead Dept.	Potential Funding	Phase	$	Implementation Notes/Comments
Action T-2.2.b	Update the Burbank Municipal Code to require that the City set TMO fees through its fee schedule rather than impose fees established by the TMO. Impose a tiered fee that decreases fees for businesses who achieve 1.61 AVR and increases fees for businesses who do not achieve 1.61 AVR. Raise and lower TMO fees based on the number of employers who achieve 1.61 AVR.	CD	Staff Time	2 -3	$-$$	
Action T-2.2.c	Direct TMO fees towards expanded BurbankBus transit services, employee rideshare subsidies, and active transportation infrastructure.	CD	Staff Time	2 -3	$-$$	
Measure T-3.1: Increase zero-emission vehicle adoption to 23% of all passenger vehicles by 2030 and 100% by 2045.						
Action T-3.1.a	Adopt an EV Charging Retrofits in Existing Commercial and Multifamily Buildings Reach Code requiring major retrofits, with either a building permit with square footage larger than 10,000 square feet or including modification of electric service panels, to meet CalGreen requirements for "EV Ready" charging spaces and infrastructure.	B&S	Staff Time, Consultant	1	$	
Action T-3.1b	Coordinate with BWP to enhance promotion of public and private conversion to zero-emission vehicles; including use of City events, social media, and the City website to educate on benefits of zero-emission vehicles and available incentives.	PIO, BWP, CD	Staff Time, Grants	1 – 3	$-$$	California Air Resources Board - Clean Vehicle Rebate Program
Action T-3.1.c	Conduct a City Municipal Fleet Optimization Study to understand the potential to replace fossil-fuel powered vehicles with zero-emission vehicles as they are replaced, with a goal of replacing 25% of light-duty fleet vehicles by 2030.	PW	Staff Time, Grants	1	$ - $$	
Action T-3.1.d	Evaluate alternative options to gas powered landscape and forestry maintenance equipment when replacing city-owned equipment.	Parks	Staff Time, Grants	1 – 3	$	
Action T-3.1.e	Implement the BWP Transportation Electrification Plan to facilitate installation of EV charge port through customer rebates and direct installation of charging stations.	BWP, CD, PW	Grants, Staff Time, Consultant	1 – 3	$$ - $$$$	See Appendix F, Funding Strategy
Action T-3.1.f	Investigate opportunities to help fund additional EV charging infrastructure by leveraging public/private partnerships and ensuring the City is charging for EV infrastructure use at City-owned facilities.	BWP	Grants, Staff Time	1 - 3	$-$$	See Appendix F, Funding Strategy

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ID	Action	Lead Dept.	Potential Funding	Phase	$	Implementation Notes/Comments
Action T-3.1.g	Adopt an electric and alternative fueled vehicles and equipment purchasing policy for light-duty vehicles for all City departments, including BWP, allowing for exceptions for heavy-duty and emergency response vehicles.	PW, BWP	Staff Time, Grants, Consultant	1 - 2	$	
Action T-3.1.h	Adopt an EV Reach Code requiring new commercial and multifamily construction to install the minimum number of EV charge port based on Tier 2 CalGreen requirements (20% of total).	B&S	Staff Time, Consultant	1 -2	$	
Action T-3.1.i	Update the BWP Transportation Electrification Plan by 2026 to reflect changes in state goals, consumer behavior, technology and lessons learned.	BWP	Staff Time, Grants, Consultant	2 - 3	$-$$	
Measure T-4.1: Implement Parking Management as identified in the Burbank2035 General Plan Mobility Element and the City Council's Six Parking Management Principles						
T-4.1.a	Implement managed parking at the Downtown Burbank Metrolink Station, the Burbank Airport North Metrolink Station, and the Burbank Airport South Metrolink Station through parking pricing so that at least 20 percent of station parking supply is available for transit users at any time of the day.	CD	Staff Time	1 – 2	$-$$	
T-4.1.b	By 2025, implement the City's 6 Parking Management Principles in the Burbank Center Plan area. This would include: 1. Pricing all public parking (streets and structures) so that at least 20 percent of parking supply (one or two spaces per block) is available at any time of day. 2. Updating BMC Zoning rules to improve flexibility of off-street parking requirements for new development.	1. CD	Staff Time	1 – 2	$-$$	
T-4.1.c	By 2030, implement the City's 6 Parking Management Principles in the Golden State Specific Plan area and Media District Specific Plan area. This would include: 1. Pricing all public parking (streets and structures) so that at least 20 percent of parking supply (one or two spaces per block) is available at any time of day. 2. Updating BMC Zoning rules to improve flexibility of off-street parking requirements for new development.	CD	Staff Time	2 – 3	$-$$	

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ID	Action	Lead Dept.	Potential Funding	Phase	$	Implementation Notes/Comments
Action T-4.1.d	By 2040, implement the City's 6 Parking Management Principles citywide. This would include: 1. Pricing all public parking (streets and structures) so that at least 20 percent of parking supply (one or two spaces per block) is available at any time of day. 2. Updating BMC Zoning rules to improve flexibility of off-street parking requirements for new development.	CD	Staff Time	3	$ - $$	
Measure W-1.1: Reduce per capita water consumption from current levels of 132 GPCD (gallons per capita per day) to 124 GPCD by 2030 (a 6.1 percent reduction) and to 120.5 GPCD by 2045 (a 9.4 percent reduction).						
Action W-1.1.a	Continue to implement UWMP water conservation programs.	BWP	Staff Time, Grants	1 – 2	$ - $$$	Water Conservation Funds
Action W-1.1.b	Continue to enforce MWELO requirements.	CD, Parks, PW	Staff Time	1	$ - $$	
Action W-1.1.c	Continue enforcement of large irrigation customers required to use recycled water.	CD	Staff Time	1	$	
Action W-1.1.d	Coordinate with BWP to implement a public education campaign that highlights water conservation practices and promotes and provides demonstrations of graywater and rainwater systems, with focus on low-income households with high utility bill burdens.	CD, PW	Grants and Staff Time	1 – 2	$ - $$	U.S. EPA - Environmental Education Grants; *Partner with a qualified education agency*
Action W-1.1.e	Install a new Advanced Metering Infrastructure (AMI) system in the next four years that will include easy-to-use web-based tools that allow customers to track and monitor water use. Promote the availability of Home Water Reports and provide materials on how to utilize the available information.	BWP	Grants and Staff Time	1 - 2	$$$ - $$$$	
Action W-1.1.f	Update BWP's 2010 Recycled Water Master Plan to identify success since 2010 and feasible opportunities for expanding recycled water infrastructure and uses required to use recycled water for irrigation in the City.	BWP	Grants and Staff Time	1 - 2	$$ - $$$	
Action W-1.1.g	Modernize at least three City-owned irrigation controllers city-wide each year to reduce water usage and maximize watering efficiencies, upgrading systems throughout the entire City by 2030.	Parks	Grants and Staff Time	1 - 3	$-$$$	
Measure SW-1.1: Meet SB 1383 organics and recycling requirements, reducing organic waste disposal 75% by 2025.						
Action SW-1.1.a	Engage with all waste haulers operating within the City to discuss SB 1383 requirements for waste haulers (i.e., organics receptacles and labeling requirements).	PW	Staff Time	1 – 2	$-$$	

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ID	Action	Lead Dept.	Potential Funding	Phase	$	Implementation Notes/Comments
Action SW-1.1.b	Adopt procurement policies to comply with SB 1383 requirements for jurisdictions to purchase recovered organic waste products.	PW	Staff Time	1	$	
Action SW-1.1.c	Adopt an Edible Food Recovery Ordinance for edible food generators, food recovery services, or organization that are required to comply with SB 1383.	PW	Staff Time, Consultant	1	$	
Action SW-1.1.d	Partner with all City waste haulers, to provide organic waste collection and recycling services to all commercial and residential generators of organic waste.	PW	Staff Time	1 – 2	$ -$$	
Action SW-1.1.e	Adopt an ordinance requiring all residential and commercial customers to subscribe to an organic waste collection program and/or report self-hauling or backhauling of organics.	PW	Staff Time	1 – 2	$	
Action SW-1.1.f	Conduct a Feasibility Study and prepare an action plan to provide for edible food reuse infrastructure is sufficient to accept capacity needed to recover 20% of edible food disposed or identify proposed new or expanded food recovery capacity.	PW	Grants, Staff Time, Consultant	1 – 2	$	
Action SW-1.1.g	Establish an education and outreach program for school children and adults around food waste prevention, nutrition education, and the importance of edible food recovery.	PW	Grants and Staff Time	1	$	U.S. EPA - Environmental Education Grants (Need to partner)
Action SW-1.1.h	Establish an edible food recovery program to minimize food waste.	PW	Grants and Staff Time, Consultant	1 – 2	$-$$	
Action SW-1.1.i	Adopt an ordinance or enforceable mechanism to regulate haulers collecting organic waste, including collection program requirements and identification of organic waste receiving facilities.	PW	Staff Time , Consultant	1 – 2	$-$$	
Action SW-1.1.j	Partner with all waste haulers within the City to: ▪ Provide organic waste collection from mixed waste containers are transported to a high diversion organic waste processing facility ▪ Provide quarterly route reviews to identify prohibited contaminants potentially found in containers that are collected along route. ▪ Clearly label all new containers indicating which materials are accepted in each container, and by January 1, 2025 place or replace labels on all containers.	PW	Grants, Staff Time	1 - 2	$	

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ID	Action	Lead Dept.	Potential Funding	Phase	$	Implementation Notes/Comments
Measure CS-1: Plant 2,000 net new trees by 2030 and 5,000 net new trees by 2045 to sequester carbon and create urban shade to reduce the urban heat island effect.						
Action CS-1.1.a	Implement a tree removal in-permit fee, which provides funding for the City to plant a new tree equivalent to every tree removed from private property.	CD	Staff Time	1 – 2	$	
Action CS-1.1.b	Identify funding to expand BWP's Shade Tree Program to include targeted outreach to multi-family and low-income housing.	BWP	Staff Time	1 -2	$	
Action CS-1.1.c	Adopt a Greenscaping Ordinance that has a street tree requirement for all zoning districts; has a shade tree requirement for new development; requires greening of parking lots; and increases permeable surfaces in new development.	CD	Staff Time, Consultant	2	$ - $$	
Action CS-1.1.d	Develop an Urban Forest Plan to identify City's potential capacity for new tree planting, identify a timeframe for implementation and provide a management plan for existing trees.	Parks, CD	Grants, Staff Time, Consultant	2	$ - $$	CalFire - Urban and Community Forestry
Action CS-1.1.e	Adopt a standard policy and set of practices for expanding the urban tree canopy and placing vegetative barriers between busy roadways and developments to reduce exposure to air pollutants from traffic.	CD, PW, Parks	Staff Time	2	$$	
Action CS-1.1.f	Conduct an urban canopy study and identify low income and/or disadvantaged communities with lower-than-average tree canopy coverage in order to prioritize planting in these areas to provide equitable access to the health and resiliency benefits of trees.	CD, PW, Parks	Grants, Staff Time, Consultant	2	$ - $$	CalFire - Urban and Community Forestry
Measure CG-1: Complete annual progress reporting and a triennial GGRP review and update.						
Action CG-1.1.a	Update community-wide GHG emissions inventory annually in the monitoring tool.	Citywide	Grants, Staff Time, Consultant	1	$	
Action CG-1.1.b	Obtain annual progress updates from BWP on energy efficiency program implementation and city-wide energy consumption.	Citywide	Staff Time	1	$	
Action CG-1.1.c	Establish reporting of annual volumes of landfill gas captured and methane fraction of landfill gas at Burbank Landfill Site No. 3 for better understanding of future landfill emissions.	Citywide	Staff Time	1	$	
Action CG-1.1.d	Update progress on GHG Reduction Measures annually in reporting tool.	Citywide	Staff Time, Consultant	1	$	
Action CG-1.1.e	Regularly update the GGRP webpage to include updates on ordinances, programs, and policies implemented as part of the GGRP.	Citywide	Staff Time	1	$	

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ID	Action	Lead Dept.	Potential Funding	Phase	$	Implementation Notes/Comments
Action CG-1.1.f	Earmark funding for triennial GGRP updates.	Citywide	Staff Time	1 - 3	$ - $$	
Measure CG-1.2: Retrofit all City Streetlights and Outdoor Lighting to Light-Emitting Diode (LED) by 2030.						
Action CG-1.2.a	Continue to implement 2019 Streetlighting Master Plan for conversion of existing High-Pressure Sodium streetlights to Light-emitting Diode (LED).	BWP	General Fund, Grants Staff Time	1 - 3	$$$	
Action CG-1.2.b	Continue with annual reporting of BWP's streetlight replacements, with the number of replacements and estimated annual energy savings associated with replacements.	BWP	Staff Time	1 – 3	$	
Action CG-1.2.c	Establish a plan for converting outdoor lighting at City facilities, City parking areas, and parks to LED.	PW	General Fund, Staff Time	1 – 2	$ - $$	
Action CG-1.2.d	Implement plan for converting all outdoor lighting at City facilities, City parking areas, and parks to LED by 2030.	PW	General Fund, Staff Time	3	$$$$	
Measure CG-1.3: Electrify 25% of existing City facilities by 2030 and 100% of existing City facilities, where electrification is practical and feasible, by 2045, as well as all newly constructed City buildings.						
Action CG-1.3.a	Partner with Building and Safety to conduct an electrification opportunity assessment for all City buildings and facilities and establish a replacement plan for replacing natural gas fueled equipment with electric.	PW, CD	Grants, Staff Time	1 – 2	$$	
Action CG-1.3.b	Establish a City-owned building equipment policy to replace natural gas fueled equipment at the end of useful life with electric or other alternative equipment when practical and technology is feasible and the same consideration for all newly constructed City facilities and buildings.	PW	Grants, Staff Time	1	$ - $$	
Action CG-1.3.c	In partnership with BWP, install photovoltaic at all City buildings where feasible to offset at least 80% of energy consumption and use excess generation to contribute to City-wide renewable energy sources.	PW, BWP	Staff Time	2 -3	$$$$ - $$$$$	See Appendix F, Funding Strategy
Action CG-1.3.d	Identify and install battery energy storage systems at appropriate City facilities, and leverage projects to further promote benefits of distributed energy storage, which are directly connected to a renewable resource.	PW, BWP	Grants, Staff Time	2 -3	$$$$$	See Appendix F, Funding Strategy

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ID	Action	Lead Dept.	Potential Funding	Phase	$	Implementation Notes/Comments
Measure CG-1.4: Implement a flexible employee commute program, with a target of having 25% of applicable City employee staff time utilizing telecommuting by 2030.						
Action CG-1.4.a	Maintain a subsidized transit commute program and expand the employee carpool program to reduce employee commute miles in single occupancy vehicles.	CD	Grants, Staff Time	1 -2	$-$$	
Action CG-1.4.b	Expand employee use of carbon-free and low carbon transportation by providing education programs on the benefits of commute options including public transportation, EV/ZEV options, and vanpools.	CD	Staff Time	1 - 2	$	
Action CG-1.4.c	Allow 25% of employees located at the City of Burbank to telecommute or utilize flexible schedules through 2030 to reduce travel time, vehicle miles traveled (VMT), and GHG emissions.	CD	Staff Time	1 -3	$	
Measure A-1.1: Partner with Ready LA County to educate the community about the dangers of heat exposure and identify low-cost mechanisms to reduce impacts of extreme heat on the community.						
Action A-1.1.a	Review and update the City's Emergency Preparedness website to reflect ways to prepare for events that may be likely to increase due to climate change.	CD, Fire	Staff Time	1 - 3	$	
Action A-1.1.b	Work with Ready LA County to continue public education regarding the symptoms of extreme heat exposure in English, Spanish, and Armenian.	CD, Fire	Grants, Staff Time	1 - 3	$	U.S. EPA - Environmental Education Grants (Need to Partner with a qualified education agency)
Action A-1.1.c	Identify low-cost mechanisms to reduce the impact of extreme heat on the community, especially on the most vulnerable members of society (i.e., children, the elderly, economically disadvantaged groups, and those with chronic health conditions made worse by heat exposure), and review grant opportunities to fund and implement.	Parks	Grants and Staff Time	1 - 2	$$	
Action A-1.1.d	Identify three new community locations that are either owned by the City or a trusted private entity that can serve as shelter, evacuation, and/or clean air centers for future climate emergency events in centralized areas throughout the City.	CD	Grants, Staff Time, Consultant	2	$$	
Action A-1.1.e	Investigate opportunities to integrate Internet of Things (IoT) monitoring of real time environmental data such as utility information, air composition, direct emissions or temperature tracking.	BWP and IT	Grants, Staff Time	3	$$	

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ID	Action	Lead Dept.	Potential Funding	Phase	$	Implementation Notes/Comments
Measure A-1.2: Complete and implement a robust citywide Vulnerability Assessment and Adaptation Plan.						
Action A-1.2.a	Work with the Burbank Fire Department to review and update the Local Hazard Mitigation Plan to confirm that it aligns with the Federal requirements, including identification of hazards and a climate risk assessment.	CD, PW, Fire	Grants, Staff Time, Consultant	1 – 2	$$	
Action A-1.2.b	Identify grant funding opportunities and/or earmark additional funding opportunities to complete and implement a robust city-wide Vulnerability Assessment and Adaptation Plan.	CD, PW	Grants and Staff Time	1	$	
Action A-1.2.c	Provide information on the City's website about updated climate vulnerability information and information on how the community can increase the City's adaptive capacity.	CD, BWP, PW	Staff Time	1	$	
Action A-1.2.d	Upon acquisition of funding, complete a Vulnerability Assessment and Adaptation Plan that focuses on the City's most vulnerable communities and establishes specific goals to reduce the vulnerability of those most susceptible to the impacts of climate change.	CD, PW, Fire	Grants and Staff Time	2	$ - $$	
Measure A-1.3: Develop a mechanism to evaluate biodiversity in the City as well as policies/programs to maintain or increase native species.						
Action A-1.3.a	Partner with researchers and/or students at the University of California, Los Angeles (UCLA) to utilize the Biodiversity Atlas of Los Angeles to understand best practices on how to track, interpret, update, and maintain data associated with biodiversity throughout the City.	CD, Parks	Staff Time	1 – 2	$$$	
Action A-1.3.b	Provide a direct link on the City's website to the Biodiversity Atlas of Los Angeles in addition to any updated biodiversity inventories, which should be completed regularly. In addition, provide an avenue for citizen scientists to participate in reporting and tracking of species, when possible.	CD	Staff Time	1	$	
Action A-1.3.c	Work with Trails LA County and/or the Stough Canyon Nature Center to design and implement a program that invites all residents to visit the local natural ecosystems and utilize the local hiking trails, that also provides a multi-lingual educational component, with an emphasis on low-income and disadvantaged community members.	Parks	Grants and Staff Time	1 – 2	$	
Action A-1.3.d	Review and identify funding opportunities to update and maintain a tracking mechanism to regularly evaluate biodiversity in the City.	Parks	Grants and Staff Time	2 – 3	$	

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Appendix A: Regulatory Background

Regulatory Summary

As the impacts of climate change are being recognized, many strategies that address climate change have emerged at all levels of government. This section provides an overview of the regulatory context at the international, State, and local levels relative to the City of Burbank's actions toward reducing greenhouse gas (GHG) emissions.

International Climate Action Guidance

1992 United Nations Framework Convention on Climate Change

The primary international regulatory framework for GHG reduction is the United Nations Framework Convention on Climate Change Paris Agreement (UNFCCC). The UNFCCC is an international treaty adopted in 1992 with the objective of stabilizing atmospheric GHG concentrations to prevent disruptive anthropogenic climate change. The framework established non-binding limits on global GHG emissions and specified a process for negotiating future international climate-related agreements.[1]

1997 Kyoto Protocol

The Kyoto Protocol is an international treaty that was adopted in 1997 to extend and operationalize the UNFCCC. The protocol commits industrialized nations to reduce GHG emissions per county-specific targets, recognizing that they hold responsibility for existing atmospheric GHG levels. The Kyoto Protocol involves two commitment periods during which emissions reductions are to occur, the first of which took place between 2008-2012 and the second of which has not entered into force.[2]

2015 The Paris Agreement

The Paris Agreement is the first-ever universal, legally binding global climate agreement that was adopted in 2015 and has been ratified by 190 countries worldwide.[3] The Paris Agreement establishes a roadmap to keep the world under 2° C of warming with a goal of limiting an increase of temperature to 1.5° C. The agreement does not dictate one specific reduction target, instead relying on individual countries to set nationally determined contributions (NDCs) or reductions based on GDP and other factors. According to the International Panel on Climate Change (IPCC) limiting global warming to 1.5° C will require global emissions be reduced through 2030 and hit carbon neutrality by mid-century.[4]

1 United Nations Framework Convention on Climate Change (UNFCCC). United Nations Framework Convention on Climate Change. https://unfccc.int/files/essential_background/background_publications_htmlpdf/application/pdf/conveng.pdf
2 UNFCCC. What is the Kyoto Protocol? https://unfccc.int/kyoto_protocol
3 UNFCCC. Paris Agreement - Status of Ratification. https://unfccc.int/process/the-paris-agreement/status-of-ratification
4 IPCC. Global Warming of 1.5 C. https://www.ipcc.ch/sr15/

California Regulations and State GHG Targets

California remains a global leader in the effort to reduce GHG emissions and combat climate change through its mitigation and adaptation strategies. With the passage of Assembly Bill (AB) 32 in 2006, California became the first state in the United States to mandate GHG emission reductions across its entire economy. To support AB 32, California has enacted legislation, regulations, and executive orders (EO) that put it on course to achieve robust emission reductions and address the impacts of a changing climate. The following is a summary of executive and legislative actions most relevant to the City of Burbank's Greenhouse Gas Reduction Plan Update (GGRP Update).

2002 Senate Bill 1078

In 2002, (Senate Bill) SB 1078, established the California Renewables Portfolio Standards (RPS) Program and was accelerated in 2006 by SB 107, requiring that 20 percent of retail electricity sales be composed of renewable energy sources by 2010. EO S-14-08 was signed in 2008 to further streamline California's renewable energy project approval process and increase the State's RPS to the most aggressive in the nation at 33 percent renewable power by 2020.

2002 Assembly Bill 1493

In 2002, AB 1493, also known as the Pavley Regulations, directed the California Air Resources Board (CARB) to establish regulations to reduce GHG emissions from passenger vehicles to the maximum and most cost-effective extent feasible. CARB approved the first set of regulations to reduce GHG emissions from passenger vehicles in 2004, with the regulations initially taking effect with the 2009 model year.

2005 Executive Order S-3-05

EO S-3-05 was signed in 2005 establishing statewide GHG emissions reduction targets for the years 2020 and 2050. The EO calls for the reduction of GHG emissions in California to 2000 levels by 2010, 1990 levels by 2020, and 80 percent below 1990 levels by 2050. The 2050 emission reductions target would put the State's emissions in line with the worldwide reductions needed to reach long-term climate stabilization as concluded by the IPCC *2007 Fourth Assessment Report*.

2006 Assembly Bill 32

California's major initiative for reducing GHG emissions is outlined in AB 32, the "California Global Warming Solutions Act of 2006," which was signed into law in 2006. AB 32 codifies the statewide goal of reducing GHG emissions to 1990 levels by 2020 and requires CARB to prepare a Scoping Plan that outlines the main State strategies for reducing GHG emissions to meet the 2020 deadline. In addition, AB 32 requires CARB to adopt regulations to require reporting and verification of statewide GHG emissions.

Based on this guidance, CARB approved a 1990 statewide GHG baseline and 2020 emissions limit of 427 million metric tons of CO_2 equivalent (MMT CO_2e). The Scoping Plan was approved by CARB on December 11, 2008 and included measures to address GHG emission reduction strategies related to energy efficiency, water use, and recycling and solid waste, among other measures. Many of the GHG reduction measures included in the Scoping Plan (e.g., Low Carbon Fuel Standard, Advanced

Clean Car standards,[5] and Cap-and-Trade) have been adopted since approval of the Scoping Plan.

In May 2014, CARB approved the first update to the AB 32 Scoping Plan. The 2014 Scoping Plan update defined CARB's climate change priorities for the next five years and set the groundwork to reach post-2020 statewide goals. The update highlighted California's progress toward meeting the "near-term" 2020 GHG emission reduction goals defined in the original Scoping Plan. It also evaluated how to align the State's longer-term GHG reduction strategies with other State policy priorities, including those for water, waste, natural resources, clean energy, transportation, and land use (CARB 2014).

2007 Executive Order S-1-07

Also known as the Low Carbon Fuel Standard, EO S-1-07, issued in 2007, established a statewide goal that requires transportation fuel providers to reduce the carbon intensity of California's transportation fuels by at least 10 percent by 2020. EO S-1-07 was readopted and amended in 2015 to require a 20 percent reduction in carbon intensity by 2030, the most stringent requirement in the nation. The new requirement aligns with California's overall 2030 target of reducing climate changing emissions 40 percent below 1990 levels by 2030, which was set by SB 32 and signed by the governor in 2016.

2007 Senate Bill 97

Signed in August 2007, SB 97 acknowledges that climate change is an environmental issue that requires analysis in California Environmental Quality Act (CEQA) documents. In March 2010, the California Natural Resources Agency adopted amendments to the State CEQA Guidelines for the feasible mitigation of GHG emissions or the effects of GHG emissions. The adopted guidelines give lead agencies the discretion to set quantitative or qualitative thresholds for the assessment and mitigation of GHG and climate change impacts.

2008 Senate Bill 375

SB 375, signed in August 2008, enhances the State's ability to reach AB 32 goals by directing CARB to develop regional GHG emission reduction targets to be achieved from passenger vehicles by 2020 and 2035. In addition, SB 375 directs each of the State's 18 major Metropolitan Planning Organizations (MPOs), including the Southern California Association of Governments (SCAG) in Los Angeles, to prepare a "sustainable communities strategy" (SCS) that contains a growth strategy to meet these emission targets for inclusion in the MPO's Regional Transportation Plan (RTP).

On March 22, 2018, CARB adopted updated regional targets for reducing GHG emissions from 2005 levels by 2020 and 2035. The SCAG, of which Burbank is a member, was assigned targets of an 8 perfect reduction in GHGs from transportation sources by 2020 and a 19 percent reduction in GHGs from transportation sources by 2035. In the SCAG region, SB 375 also provides the option for the coordinated development of subregional plans by the subregional Councils of Governments and the County Transportation Commissions to meet SB 375 requirements.

5 On September 19, 2019 the National Highway Traffic Safety Agency (NHTSA) and the US Environmental Protection Agency (EPA) issued a final action entitled the One National Program on Federal Preemption of State Fuel Economy Standards Rule. This action finalizes Part I of the Safer, Affordable, Fuel-Efficient (SAFE) Vehicles Rule. This rule states that federal law preempts State and local tailpipe greenhouse gas (GHG) emissions standards as well as zero emission vehicle (ZEV) mandates. The SAFE Rule withdraws the Clean Air Act waiver it granted to California in January 2013 as it relates to California's GHG and zero emission vehicle programs.

2009 California Green Building Code

The California Green Building Standards Code (CALGreen) is Part 11 of the California Building Standards Code or Title 24 and is the first statewide "green" building code in the nation. The purpose of CALGreen is to improve public health, safety, and general welfare by enhancing the design and construction of buildings. Enhancements include reduced negative impact designs, positive environmental impact designs, and encouragement of sustainable construction practices. The first CALGreen Code was adopted in 2009 and has been updated in 2013, 2016, and 2019. The CALGreen Code will have subsequent, and continually more stringent, updates every three years.

2009 Senate Bill X7-7

In 2009, SB X7-7, also known as the Water Conservation Act, was signed, requiring all water suppliers to increase water use efficiency. This legislation sets an overall goal of reducing per capita urban water use by 20 percent by2020.

2011 Senate Bill 2X

In 2011, SB 2X was signed, requiring California energy providers to buy (or generate) 33 percent of their electricity from renewable energy sources by 2020.

2012 Assembly Bill 341

AB 341 directed the California Department of Resources Recycling and Recovery (CalRecycle) to develop and adopt regulations for mandatory commercial recycling. As of July 2012, businesses are required to recycle, and jurisdictions must implement a program that includes education, outreach, and monitoring. AB 341 also set a statewide goal of 75 percent waste diversion by the year 2020.

2014 Assembly Bill 32 Scoping Plan Update

In 2014, CARB approved the first update to the Scoping Plan. This update defines CARB's climate change priorities and sets the groundwork to reach the post-2020 targets set forth in EO S-3-05. The update highlights California's progress toward meeting the near-term 2020 GHG emissions reduction target, defined in the original Scoping Plan. It also evaluates how to align California's longer-term GHG reduction strategies with other statewide policy priorities, such as water, waste, natural resources, clean energy, transportation, and land use.

2014 Assembly Bill 1826

AB 1826 was signed in 2014 to increase the recycling of organic material. GHG emissions produced by the decomposition of these materials in landfills were identified as a significant source of emissions contributing to climate change. Therefore, reducing organic waste and increasing composting and mulching are goals set out by the AB 32 Scoping Plan. AB 1826 specifically requires jurisdictions to establish organic waste recycling programs by 2016, and phases in mandatory commercial organic waste recycling over time.

2015 Senate Bill 350

SB 350, the Clean Energy and Pollution Reduction Act of 2015, has two objectives: to increase the procurement of electricity from renewable sources from 33 percent to 50 percent by 2030 and to double the energy efficiency of electricity and natural gas end users through energy efficiency and conservation.

2015 Executive Order B-30-15

In 2015, EO B-30-15 was signed, establishing an interim GHG emissions reduction target to reduce emissions to 40 percent below 1990 levels by 2030. The EO also calls for another update to the CARB Scoping Plan.

2016 Senate Bill 32

On September 8, 2016, the governor signed SB 32 into law, extending AB 32 by requiring the State to further reduce GHGs to 40 percent below 1990 levels by 2030 (the other provisions of AB 32 remain unchanged). The bill charges CARB to adopt the regulation so that the maximum technologically feasible emissions reductions are achieved in the most cost-effective way.

2016 Senate Bill 1383

Adopted in September 2016, SB 1383 requires CARB to approve and begin implementing a comprehensive strategy to reduce emissions of short-lived climate pollutants. The bill requires the strategy to achieve the following reduction targets by 2030:

- Methane – 40 percent below 2013 levels
- Hydrofluorocarbons – 40 percent below 2013 levels
- Anthropogenic black carbon – 50 percent below 2013 levels

SB 1383 also requires the CalRecycle, in consultation with the CARB, to adopt regulations that achieve specified targets for reducing organic waste in landfills. The bill further requires 20 percent of edible food disposed of at the time to be recovered by 2025.

2017 Scoping Plan Update

On December 14, 2017, CARB adopted the 2017 Scoping Plan, which provides a framework for achieving the 2030 goal set by SB 32. The 2017 Scoping Plan relies on the continuation and expansion of existing policies and regulations, such as the Cap-and-Trade Program, as well as implementation of recently adopted policies, such as SB 350 and SB 1383 .

The 2017 Scoping Plan also puts an increased emphasis on innovation, adoption of existing technology, and strategic investment to support its strategies. As with the 2014 Scoping Plan Update, the 2017 Scoping Plan does not provide project-level thresholds for land use development. Instead, it recommends that local governments adopt policies and locally appropriate quantitative thresholds consistent with statewide per capita goals of six metric tons (MT) CO_2e by 2030 and two MT CO_2e by 2050. As stated in the 2017 Scoping Plan, these goals may be appropriate for plan-level analyses (city, county, subregional, or regional level), but not for specific individual projects because they include all emissions sectors in the State (CARB 2017).

2018 Senate Bill 100

Adopted on September 10, 2018, SB 100 supports the reduction of GHG emissions from the electricity sector by accelerating the State's RSP Program, which was last updated by SB 350 in 2015. SB 100 requires electricity providers to increase procurement from eligible renewable energy resources to 33 percent of total retail sales by 2020, 60 percent by 2030, and 100 percent by 2045.

2018 Executive Order B-55-18

On September 10, 2018, the governor issued Executive Order B-55-18, which established a new statewide goal of achieving carbon neutrality by 2045 and maintaining net negative emissions thereafter. This goal is in addition to the existing statewide GHG reduction targets established by SB 375, SB 32, SB 1383, and SB 100.

2018 Executive Order B-55-18

In September 2020, EO N-79-20 requires that, by 2035, all new cars and passenger trucks sold in California be zero-emission vehicles. EO N-79-20 also requires that 100 percent of medium- and heavy-duty vehicles in the State be zero-emission by 2045 for all operations where feasible and by 2035 for drayage trucks and notes that the State shall transition to 100 percent zero-emission off-road vehicles and equipment by 2035, where feasible.

City of Burbank Sustainability Plans and Policies

The City of Burbank has established actions related to increasing sustainability and reducing GHG emissions and the potential impacts of climate change. These actions are outlined in in the City's Bicycle Master Plan, North San Fernando Boulevard Master Plan, City of Burbank 2013 GGRP, GGRP Scorecard, BWP Integrated Resource Plan, and Complete Streets Plan.

1997 Burbank Center Specific Plan

The Burbank Center Specific Plan was adopted in 1997 and is an economic revitalization plan addressing transportation planning and long range use of the downtown area. It encourages mixed-use projects to minimize vehicular traffic and encourage compatible uses within close proximity of existing modes of transportation.[6] The plan encourages reduction of vehicle traffic which could lead to decrease in GHG emissions.

Bicycle Master Plan

The City of Burbank's Bicycle Master Plan[7] was adopted on December 15, 2009 and serves as a policy document to guide the development and maintenance of a bicycle network, support facilities, and other programs for the City. Policies in the Bicycle Master Plan address issues related to bikeways, such as planning, community involvement, utilization of existing resources, facility design, multi-modal integration, safety education, and support facilities, as well as specific programs, implementation, maintenance, and funding.

City of Burbank Sustainability Action Plan and Zero Waste Policy

In January 2008, the City Council adopted the Sustainability Action Plan to support the United Nations Urban Environmental Accords. The Sustainability Action Plan addresses the City's efforts toward providing a clean, healthy and safe environment. The Accords include 21 specific actions organized into seven urban themes designed to collectively address urban sustainability concerns.

6 City of Burbank. 1997. Burbank Center Plan. <https://www.burbankca.gov/home/showpublisheddocument?id=2627> Accessed December 28, 2020.

7 https://www.burbankca.gov/home/showdocument?id=5371

The themes include energy, waste reduction, urban design, urban nature, transportation, environmental health and water (City of Burbank 2008a). Action items related to waste include zero waste, manufacturer responsibility, and consumer responsibility. As part of the Sustainability Action Plan, the City adopted the Zero Waste Strategic Plan that includes a goal to achieve zero waste by 2040. The Zero Waste Plan includes four basic strategies, with a priority placed on "upstream" solutions to eliminate waste before it is created. The plan also includes actions to build on the City's traditional "downstream" recycling programs to fully utilize the existing waste diversion infrastructure (City of Burbank 2008b). The four basic strategies include:

a. Advocate for Manufacturer Responsibility for Product Waste and Support Elimination of Problem Materials
b. Adopt New Rules and Incentives to Reduce Waste
c. Expand and Improve Local and Regional Recycling and Composting
d. Educate, Promote, and Advocate a Zero Waste Sustainability Agenda

North San Fernando Boulevard Master Plan

The North San Fernando Boulevard Master Plan[8] is a policy document that provides a strategy to guide future development and streetscape improvements along the segment of North San Fernando Boulevard between Interstate 5 and Burbank Boulevard. Additionally, it includes recommendations to improve the surrounding residential and commercial streets. Specific policies included in the North San Fernando Boulevard Master Plan aim to enhance pedestrian comfort and safety, expand the tree canopy, and allow mixed-use developments. In general, these policies encourage people to actively commute instead of drive somewhere.

Burbank 2035: General Plan

The City's General Plan is focused on balanced development, community image and character, complete streets, economic vitality, environmental equality, housing variety, open space and conservation, proactive and responsive government, quality neighborhoods and schools, and safety for the City of Burbank's community. The Plan has set goals policies to address the goal of reducing greenhouse gas emissions and preparing for effects due to climate change. The implementation of the GGRP and Climate Change Adaption strategies are how the general plan address the previously mentioned goals.[9]

City of Burbank 2013 GGRP

On February 19, 2013, the Burbank City Council adopted the GGRP, which is a standalone planning document that accompanies Chapter 2, Air Quality and Climate Change Element, of the Burbank 2035 General Plan. The 2013 GGRP established a baseline GHG emission inventory for 2010 and forecast emissions for 2020 and 2035 (See Inventory, Forecast, and Targets, for a discussion of the 2010 inventory and for more information on how it is integrated into this GGRP Update).

8 https://www.burbankca.gov/home/showpublisheddocument?id=17217

9 City of Burbank. Burbank 2035: General Plan. < https://www.burbankca.gov/home/showpublisheddocument?id=23448> Accessed December 26, 2020.

Additionally, the 2013 GGRP enabled development streamlining opportunities for discretionary projects under the CEQA through 2020 and serves as the foundation for this GGRP Update.

GGRP Scorecard

The GGRP established goals for 2020 and 2035, where a majority of 2035 measures were designed to build off the 2020 measure or may be updated based on the success of the established 2020 measures. The implementation of measures prior to 2020 are intended to achieve a majority of the reduction needed to reach the City's 2020 target, with the remaining gap of emissions to be reduced through the community's initiative. Because it is not possible to track the community's contribution to overall GHG reduction without conducting a GHG inventory update, the GGRP scorecard[10] is designed to summarize and report the City's progress towards meeting the GHG Measure reduction 2020 target quantified in the GGRP and adopted by the City Council. Measures that have been successfully implemented to the extent that reductions exceed the 2020 target provide substantial progress towards the City achieving the established 2035 goal. The progress on each measure in the GGRP to meet the 2020 measure targets and overall goal is presented, including the status of implementation, reductions originally estimated, progress quantification methodology, and actual reductions resulting from implementation to date. Progress towards each quantifiable measure was based on available data provided by the City that generally spanned from the start of the 2013 fiscal year to the end of the 2019 fiscal year.

BWP Integrated Resource Plan

The 2019 Integrated Resource Plan (IRP)[11] is a long-term planning document designed to provide policy guidance for BWP's electric supply to its customers over the next twenty years, from 2019 through 2038. The IRP, like all long-term planning, is directional rather than determinative. In other words, the IRP helps Burbank see the broad contours of its energy future and the general direction Burbank should head to reach that future; it is not a roadmap for decision-making beyond the near-term.

Complete Streets Plan

The Citywide Complete Streets Plan[12] aims to transform the Burbank2035 General Plan's goals and policies into an actionable plan for implementation. As outlined in the Citywide Complete Streets Plan, it aims to:

- Analyze and catalog existing street conditions;
- Establish new policies, guidelines, and performance measures for street improvements Citywide;
- Identify priority projects within Focus Areas;
- Build better neighborhoods; and
- Create an ongoing mechanism for evaluating street improvements.

The plan is ultimately a guidebook for use by the City to ensure that improvements in the public right-of-way are consistent with good urban design, multi-modal mobility, and place making. The

10 https://burbank.granicus.com/MetaViewer.php?view_id=29&clip_id=8880&meta_id=361252

11 https://burbankwaterandpower.com/images/administrative/downloads/CityCouncilApproved_2019_Integrated_Resource_Plan_DIGITAL.pdf

12 https://www.burbankca.gov/home/showpublisheddocument?id=54111

Citywide Complete Streets Plan is a 20-year long-range transportation plan that will need to be updated regularly between every five to ten years.

Appendix B: Cal-Adapt

Cal-Adapt Resource Guide

Cal-Adapt[1] is an interactive platform that allows users to explore how climate change might affect California at the local level. The site was developed by the University of California, Berkeley's Geospatial Innovation Facility (GIF) with funding and advisory oversight by the California Energy Commission's Public Interest Energy Research (PIER) Program. The data used within the Cal-Adapt visualization tools have been gathered from California's scientific community, and represent peer-reviewed, high-quality scientific information.[2]

The site includes the following climate change projections:

- Annual Averages (temperature and precipitation)
- Extreme Precipitation Events
- Extreme Heat Days and Warm Nights
- Cooling Degree Days and Heating Degree Days
- Snowpack
- Sea Level Rise
- Wildfire
- Streamflow
- Extended Drought

These localized climate change projections are available on the Cal-Adapt landing page or via the *Tools* tab. Another way to download data is through the *Data* tab. The *Data* tab allows you to download spatial and non-spatial data from individual publishers. This technical appendix describes the process of downloading data from the landing page, or Tools *tab*, as it is more interactive and provides visualizations of the data, which are included in the GGRP Update.

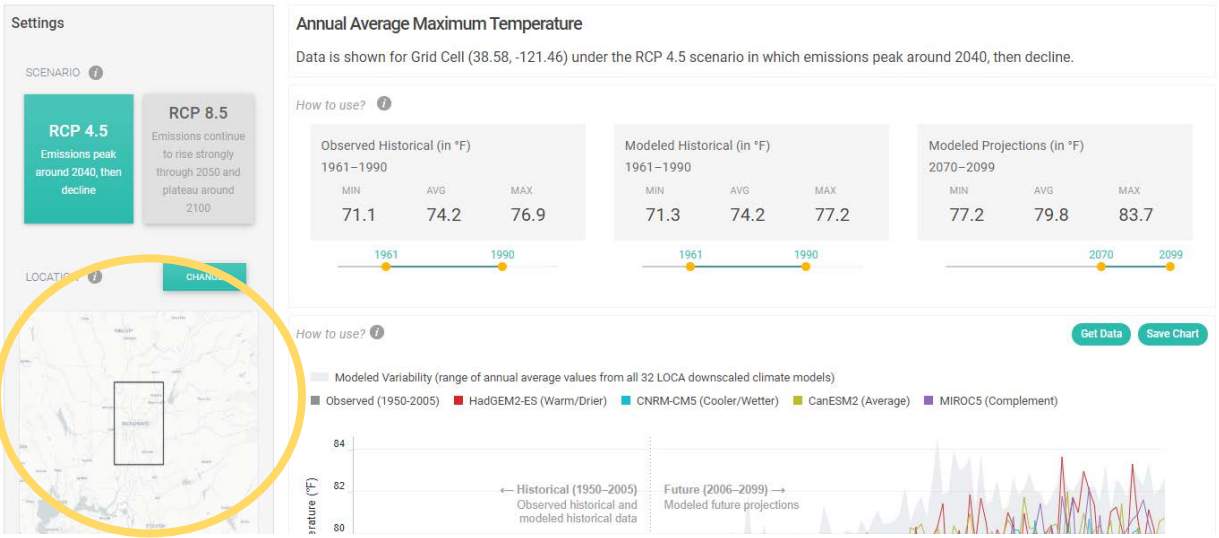
[1] Cal-Adapt https://cal-adapt.org/
[2] Cal-Adapt https://cal-adapt.org/about/

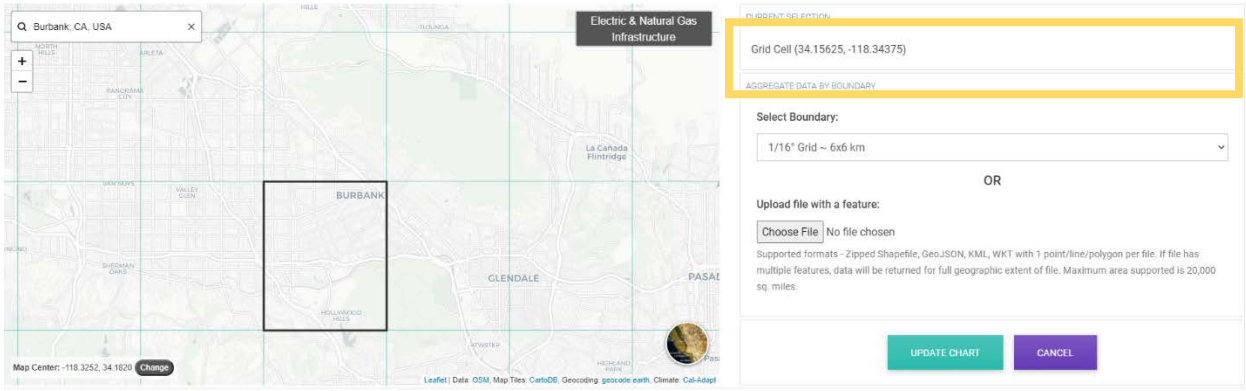
Best Practices

The following section details the best practices related to choosing a location, which scenario is most appropriate, establishing a baseline and future timeframes, and choosing climate models.

Location

When choosing a location, Cal-Adapt will prompt the user to select a 6x6 kilometer grid cell or a county, among other options. The grid cell used for Burbank is shown below (Grid Cell 34.15625, -118.34375).



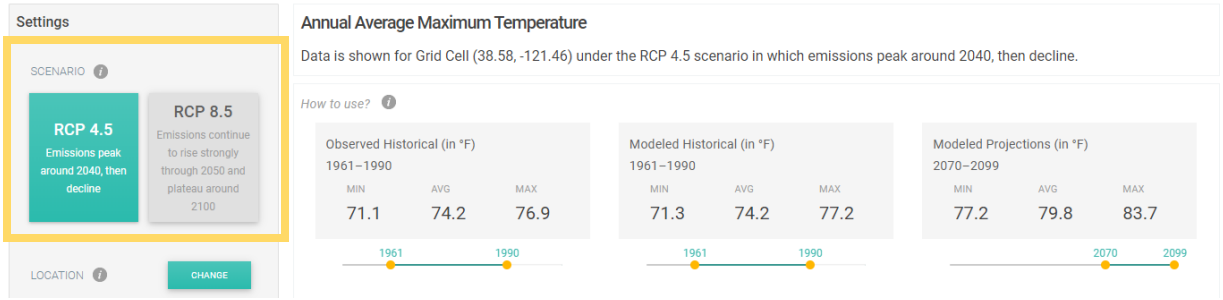


Representative Concentration Pathways (RCP)

The Representative Concentration Pathways (RCP) are scenarios adopted by the Intergovernmental Panel On Climate Change (IPCC) that describe possible greenhouse gas (GHG) concentration trajectories. Each RCP provides only one of many possible scenarios that would lead to the specific radiative forcing, which is the difference between sunlight absorbed by the Earth and energy radiated back to space.

The California Adaptation Planning Guide[3] recommends always using the high emissions scenario (RCP 8.5).[4] The stabilizing scenario (RCP 4.5)[5] may also be used to provide a wider range of possible futures.

[3] https://resources.ca.gov/CNRALegacyFiles/docs/climate/01APG_Planning_for_Adaptive_Communities.pdf
[4] Under the high emissions scenario, emissions continue to rise through the end of the century before leveling off.
[5] Under the stabilizing scenario, emissions rise through 2050 before leveling off.

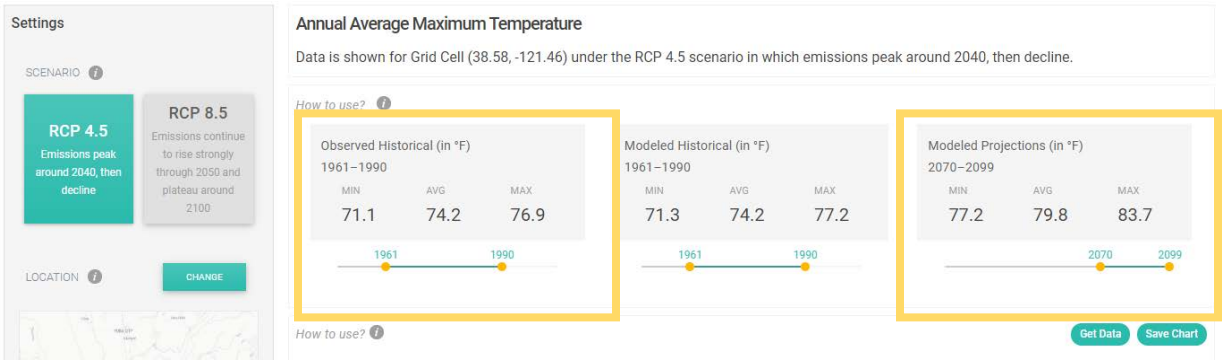


Past and Future Year Horizons

To gain an understanding of how climate change may impact a location, it is essential to know the historical and projected conditions. Below are the past and future year horizons used for the *Climate Change in the City of Burbank* subsection of the Burbank Greenhouse Gas Reduction Plan.

- Historical/Current: 1990 and 2005
- Long-term: 2099

It is important to consider a long-term benchmark year when working with climate change projections to understand the potential impacts over a specific period of time.



Climate Models

Cal-Adapt allows the user to choose whether to use the minimum, average, or maximum estimates (shown below). These are calculated over all models shown in the chart provided by Cal-Adapt. For a representative value of all models combined, rather than selecting the lowest or highest predicting model, it's best to use the average value. The four models used in this assessment are:

- HadGEM2-ES: a warm/drier simulation
- CNRM-CM5: a cooler/wetter simulation
- CanESM2: an average simulation
- MIROC5: a complement simulation (most unlike the other three models)

These models were selected by California's Climate Action Team Research Working Group as the priority models for research contributing to California's Fourth Climate Change Assessment. To determine projected timing of extreme heat days, Rincon used the range all four priority models. This allows for conservative planning, recommended by the California Adaptation Planning Guide.

Resources

Cal-Adapt https://cal-adapt.org/

California Adaptation Planning Guide
https://resources.ca.gov/CNRALegacyFiles/docs/climate/01APG_Planning_for_Adaptive_Communities.pdf

Appendix C: Forecast, Target, and Measures

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October 30, 2020

Fred Ramirez, Assistant Community Development Director
City of Burbank
275 East Olive Avenue
Burbank, California 91502
Via email: framirez@burbankca.gov

Subject: **City of Burbank 2019 Greenhouse Gas Emissions Inventory, Forecast, and Reduction Targets Memorandum**

Dear Mr. Ramirez,

To inform development of the City of Burbank (City) Greenhouse Gas Reduction Plan Update (GGRP Update), Rincon Consultants Inc. (Rincon), has prepared a current (2019) greenhouse gas (GHG) emission inventory, a GHG emissions forecast, and GHG emission reduction targets. The GHG emission inventory for the 2019 calendar year is based on the most recent full year of available activity data and calculates the GHG emissions associated with transportation, energy usage (electricity and natural gas), water consumption and waste and wastewater generation. The inventory includes a comprehensive community inventory that addresses the GHG emissions generated from activities occurring within the City, and a municipal inventory which accounts for the portion of the community GHG emissions that can be attributed directly to the City's municipal operations. The GHG emissions forecast provides an estimate of how the City's GHG emissions are expected to change in the years 2030 (Senate Bill 32), 2035 (City of Burbank's General Plan horizon year), and 2045 (EO B-55-18) as a result of economic and population growth, as well as the impacts state climate related legislation will have on these future GHG emissions.

This memorandum also includes GHG emission reduction targets based on the state's goals and provides a pathway to determine the quantity of GHG emissions that Burbank needs to reduce to contribute their fair share reduction towards achieving California's long-term GHG emission reduction goals.[1] A recalculation of the 2010 GHG inventory developed as part of the 2035 GGRP was also performed to ensure that methodologies followed for both inventory years are consistent, progress since the 2035 GGRP is accurately represented, and the reduction targets are based on an equivalent comparison of past and future GHG emissions. The reassessment of the 2010 GHG inventory includes updated global warming potentials and updated methodologies associated with the Community Protocol for Accounting and Reporting of Greenhouse Gas Emissions.[2] The following sections provide a summary of the results for the GHG emission inventories, GHG emission forecast, and GHG reduction targets to be included in the City of Burbank GGRP Update.

[1] California's long-term GHG emission reduction goals were established by the landmark Assembly Bill 32, Senate Bill 32, and Executive Order B-55-18. Collectively, these legislative actions provide a GHG reduction trajectory for the state of reducing statewide GHG emissions to 1990 GHG emission levels by 2020, 40% below 1990 GHG emissions levels 2030, and carbon neutrality by 2045.

[2] ICLEI. July 2019. U.S. Community Protocol for Accounting and Reporting of Greenhouse Gas Emission.

Introduction

California considers GHG emissions and the impacts of climate change to be a serious threat to public health, the environment, economic well-being, and natural resources of the state, and has taken an aggressive stance to mitigate the impact on climate change through the adoption of legislation and policies, the most relevant of which are summarized below.

- **Executive Order (EO) S-3-05,** signed by the Governor in 2005, establishes 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% below 1990 levels. The 2050 target was accelerated by the 2045 carbon neutral target in Executive Order B-55-18, as discussed below.[3]
- **Assembly Bill (AB) 32,** known as *the Global Warming Solutions Act of 2006,* requires that California's GHG emissions be reduced to 1990 levels by the year 2020 (approximately a 15% reduction from 2005 to 2008 levels). The AB 32 Climate Change Scoping Plan, 2008, identifies mandatory and voluntary measures to achieve the statewide 2020 emissions goal, and encourages local governments to reduce municipal and community GHG emissions proportionate with state goals.[4]
- **Senate Bill (SB) 32,** signed by the Governor in 2016, establishes a statewide mid-term GHG reduction goal of 40% below 1990 levels by 2030. The California Air Resources Board (CARB) formally adopted an updated Climate Change Scoping Plan in December 2017, establishing the roadmap to achieve the 2030 goal and giving guidance to achieve substantial progress toward the 2050 state goal.
- **Executive Order (EO) B-55-18,** signed by the Governor in 2018, expanded upon EO S-3-05 by creating a statewide GHG goal of carbon neutrality by 2045. EO B-55-18 identifies CARB as the lead agency to develop a framework for implementation and progress tracking toward this goal.

This memorandum identifies the provisional GHG emission reduction targets identified for the City of Burbank GGRP Update for the years 2030 (SB 32 target year), 2035 (City of Burbank's General Plan horizon year), and 2045 (EO B-55-18 target year). The provisional reduction targets presented here are an adjustment of the targets established in the 2035 GGRP to align with the legislation passed since its adoption, including SB 32 and EO B-55-18. In identifying these provisional targets, an updated GHG emissions forecast was developed to estimate future GHG emissions in each of the target years and is based on the GHG emissions level identified in the most recent GHG inventory for 2019.

The 2019 GHG inventory update is a valuable tracking mechanism for the City's emission reduction progress since calculations of the baseline 2010 GHG inventory and implementing the 2013 GGRP. An update of the 2010 Baseline GHG inventory methodology is also provided here to ensure an equitable comparison of past, present, and future GHG emissions. The results of the 2019 GHG inventory show that the City has exceeded its 2013 GGRP GHG emission reduction targets for the 2020 AB 32 target year

[3] Executive Orders are binding only unto state agencies. Accordingly, Executive Order S-3-05 will guide state agencies' efforts to control and regulate GHG emissions but will have no direct binding effect on local government or private actions.

[4] Specifically, the AB 32 Scoping Plan states that CARB, "encourages local governments to adopt a reduction goal for municipal operations emissions and move toward establishing similar goals for community emissions that parallel the State commitment to reduce GHG emissions by approximately 15% from current levels by 2020" (p. 27). "Current" as it pertains to the AB 32 Scoping Plan is commonly understood as between 2005 and 2008.

of reducing emissions to 15% below 2010 levels. The updated provisional GHG reduction targets presented here will build upon this success and provide the basis for GHG reduction strategy development to meet the SB 32 and EO B-55-18 reduction goals.

City Operations

The City of Burbank owns and operates Burbank Water and Power (BWP) which provides the majority of the water and power provided to the community. The City also operates the Burbank Landfill Site No. 3, which is the City landfill that process approximately 35% of landfilled waste generated in the City [5] , and the Burbank Water Reclamation Plant (BWRP), which treats the majority of the wastewater generated in the City. These operations provide a unique opportunity for GHG emission reductions, as the City is able to exert higher influence over its energy, water, and waste emission sources which can affect the total GHG emissions generated by the community. The 2019 GHG inventory is broken out to specifically highlight this intersection, by showing GHG emissions that are attributed to the entire community and municipal operations, with the municipal operations inventory further disaggregated into emission sources that directly impact the community emissions by acting as the source for the sector emission factors. These emission sources include electricity generated and purchased by BWP, emissions from wastewater treatment facilities, and the City operated landfill, Burbank Landfill Site No. 3; which are addressed separately within the municipal GHG inventory as "Industrial Operations".

Greenhouse Gases

The GHG municipal and community emission inventories were developed based on methodologies outlined in ICLIE's LGOP and Community Protocol for Accounting and Reporting of Greenhouse Gas Emissions, respectively. Both the LGOP and Community Protocol state that local governments should assess emissions of all six internationally recognized GHGs. These gases are outlined in Table 1, which includes their sources and global warming potential (GWP).[6] This inventory was prepared in conformance with International Organization of Standardization (ISO) 14064-1 and therefore, incorporates the latest 100-year GWP values published in the Intergovernmental Panel on Climate Change (IPCC) Fifth Assessment Report (AR5).[7] The GWP refers to the ability of each gas to trap heat in the atmosphere. For example, one pound of methane has 28 times more heat capturing potential than one pound of carbon dioxide. This report focuses on the three GHGs most relevant to local government policymaking: carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (N_2O). These gases comprise a large majority of GHG emissions at the community level. Other gases such as hydrofluorocarbons, perfluorocarbons, and sulfur hexafluorides are emitted primarily in private sector manufacturing and electricity transmission[8] and are the subject of regulation at the state level and therefore, have been

[5] CalRecycle. Local Government Central: Jurisdiction Disposal and Alternative Daily Cover (ADC) Tons by Facility. Los Angeles County - Burbank, 2019. https://www2.calrecycle.ca.gov/LGCentral/DisposalReporting/Destination/DisposalByFacility. Accessed August 30, 2020.
[6] According to the United States Environmental Protection Agency (USEPA), the GWP was developed to allow comparisons of the global warming impacts of different gases. Specifically, it is a measure of how much energy the emissions of one ton of a gas will absorb over a given period of time, relative to the emissions of one ton of carbon dioxide (USEPA 2017; https://www.epa.gov/ghgemissions/understanding-global-warming-potentials. Accessed October 5, 2020)
[7] International Organization for Standardization (ISO) published ISO 14064-1 in 2006 (revised 2018) to provide an international standard for the quantification and reporting of GHG emissions.
[8] Although Burbank Water and Power (BWP) may generate hydrofluorocarbons, perfluorocarbons, and sulfur hexafluorides emissions through transmission of electricity, the data to complete this analysis using the LGOP protocols is currently unavailable. The emissions from this source may be included in future iterations of the inventory as the protocol is revised and data tracking evolves.

omitted from this inventory. GHG emissions are reported in metric tons of carbon dioxide equivalent (MT CO_2e) units, per standard practice. When dealing with an array of emissions, the gases are converted to their carbon dioxide equivalents for comparison purposes.

Table 1 Summary of Greenhouse Gas Emission

Greenhouse Gas	Formula	Primary Source(s)	GWP (CO_2e)
Carbon Dioxide	CO_2	Fuel combustion	1
Methane	CH_4	Fuel combustion, anaerobic decomposition of organic waste (landfills, wastewater treatment plants), fuel handling	28
Nitrous Oxide	N_2O	Combustion and wastewater treatment	265
Hydrofluorocarbons	Various	Leaking refrigerants and fire suppressants	4 – 12,400
Perfluorocarbons	Various	Aluminum production, semiconductor manufacturing, HVAC equipment manufacturing	6,630 – 11,100
Sulfur Hexafluoride	SF_6	Transmission and distribution of power	23,500

Source: Intergovernmental Panel on Climate Change (IPCC), Fifth Assessment Report AR5, Chapter 8 Anthropogenic and Natural Radiative Forcing. 2014. https://www.ipcc.ch/site/assets/uploads/2018/02/WG1AR5_Chapter08_FINAL.pdf. Accessed October 5, 2020.
GWP: Global Warming Potential

2019 Greenhouse Gas Inventory Overview

The 2019 GHG inventory includes an assessment of the City of Burbank's community-wide GHG emissions that serve as the basis for the GHG emissions forecast. Additionally, the updated inventory provides a mechanism for the City to track progress from the 2010 baseline inventory and establish an understanding of how successful the original measures were implemented as well as whether or not the emission reduction target for 2020 was achieved. The 2019 community GHG inventory includes all emissions occurring within Burbank's geo-political control (i.e., sources of emissions within the City limits over which the City has significant influence or jurisdictional authority). As such, the community inventory also includes a municipal inventory which summarizes the emissions resulting from facilities that the City owns and/or operates (e.g. City Hall). The municipal inventory is a subset of the community inventory, meaning that all municipal operations are included in the commercial, transportation, solid waste, or water categories of the community-wide inventory. The municipal inventory should not be added to the community analysis; rather, it should be looked at as a portion of the total community emissions. The municipal inventory allows the City to track its GHG emissions resulting from the City-owned facilities and vehicles over which it is able to exert control with GHG reduction policies and ultimately lead by example.

The reporting and calculation of GHG emissions are consistent with the recommendations of ICLEI.[9] The community inventory reports GHG emissions by their source sector, which includes energy, transportation, water, and solid waste. The calculation of GHG emissions uses the best available data and guidance of the ICLEI methodologies. A detailed assessment of the data and its sources, calculation methodologies, and GHG emissions reporting by scope and sector is provided in the September 2020

[9] ICLEI. July 2019. U.S. Community Protocol for Accounting and Reporting of Greenhouse Gas Emission.

City of Burbank Greenhouse Gas Emission Inventory Methodology and Data Evaluation Memorandum, (Data Evaluation and Methodology Memo), which is included here as Attachment A.

2019 Municipal GHG Inventory

The 2019 municipal GHG inventory assesses the contribution to total community GHG emissions of activities, entities and GHG emission sources under the operational control of the City. With the unique circumstances in Burbank, where the City has some degree of operational control over the energy supply, wastewater treatment and landfill, the municipal GHG inventory can be broken into an "Industrial Operations" sector and a "Municipal Operations" sector. The Industrial Operations sector addresses direct emission sources from electricity procurement and landfill and wastewater management with significant risk of double counting. This double counting risk arises because the activities that contribute to these Industrial Operations emissions are captured in both the Municipal Operations and community GHG inventories. As such, the City can exert large influence over these Industrial Operations emission sources that have implications for the emissions generated by the community. Similarly, the Municipal Operations sector of the municipal GHG inventory is based upon activity data that is captured in the community inventory and is considered to be a subset of the community inventory.

The results of GHG emission calculations are presented by emissions "scope," relating to the degree of control the City has over emission sources, and the sector that the emissions sources are associated with in relation the community GHG inventory. Emissions sources are categorized as direct (Scope 1) or indirect (Scope 2 or Scope 3), in accordance with the World Resources Institute and the World Business Council for Sustainable Development's Greenhouse Gas Protocol Corporate Standard, which are summarized below:

- **Scope 1:** Direct GHG emissions from sources within a local government's operations that it owns and/or controls. This includes stationary combustion to produce electricity, steam, heat, and power equipment; mobile combustion of fuels; process emissions from physical or chemical processing; fugitive emissions that result from production, processing, transmission, storage and use of fuels; and other sources.
- **Scope 2:** Indirect GHG emissions associated with the consumption of electricity, steam, heating, or cooling that are purchased from a utility provider that also provides energy to other jurisdictions and/or is located outside City boundaries.
- **Scope 3:** All other indirect GHG emissions not covered in Scope 2, such as emissions resulting from the extraction and production of purchased materials and fuels, transport-related activities in vehicles not owned or controlled by the City (e.g., employee commuting and business travel, outsourced activities, waste disposal, etc.).

Industrial Operations

The Industrial Operations sector of the municipal GHG inventory includes GHG emissions from energy generation and procurement by BWP, wastewater treatment at BWRP, and management of the Burbank Landfill Site No. 3. The separation of these emission sources in the municipal GHG inventory allows a clear demonstration of the emission sources that are under the operational control of the City but have major implication for the overall community GHG emissions. Management of the emissions from BWPs electricity generation and procurement have a direct impact on the magnitude of emissions generated

from electricity consumption in the City. Similarly, management of emissions from the City operated landfill have direct impact on community waste emissions.

In 2019, BWP generated electricity through combustion of natural gas at the Lake One and Magnolia Power Plants and purchased electricity from in-state and out-of-state sources. The emissions generated from these electricity sources, as well as emissions from the loss of electricity in transmission and distribution of power, are provided below in Table 2. In total, BWP was responsible for approximately 509,439 MT CO_2e in 2019. The Burbank Landfill Site No.3 also generated approximately 12,178 MT of CO_2e from the decay of waste landfilled, and the BWRP generated approximately 2,360 MT CO_2e.

Table 2 Industrial Operations GHG Emissions for 2019 Municipal GHG Inventory

Sub-Sector	Emissions (MT CO_2e)	Emission Source Scope
Burbank Water and Power	509,439	
Electric Power Generation	201,937	Scope 1
Electricity Procurement[1]	301,955	Scope 2
Transmission and Distribution Losses	5,547	Scope 2
Burbank Landfill Site No. 3	12,178	Scope 1
Burbank Water Reclamation Plant	2,360	Scope 1

Notes: MT CO_2e = Metric tons of carbon dioxide equivalent

1. GHG emissions from electricity procurement are not included in the LGOP protocols as a GHG emission source that should be reported; however, these emissions are captured in the community GHG inventory.

2. The GHG emissions associated with the water facilities are captured under the scope 2 electricity consumption GHG emissions, and as such, are not added to the GHG emission totals for risk of double counting with the electric power generation emissions.

The Industrial Operations sector presents unique opportunities for the City to leverage its control over these sources to make effective reductions in community GHG emissions. Reduction of energy emissions from power generation, through reduced fossil natural gas consumption or increased renewable energy procurement, would reduce the carbon intensity of energy consumed by the community. Management of the City landfill also presents opportunity for emission reductions in the community, since nearly 35% of the community waste sent to landfill is processed at the Burbank Landfill Site No. 3. More accurate landfill emission estimates from the tracking of volumes of landfill gas capture, and expansion of the landfill gas capture rate are areas for emissions reduction improvements. Similarly, a better understanding of the emission from BWRP and increased emission capture could also significantly influence community-wide GHG emissions.

Municipal Operations

The Municipal Operations sector of the municipal GHG inventory includes GHG emissions calculated from activity data resulting from the regular operations for the City. The Municipal Operations are inherently captured in the community GHG inventory and are therefore considered as a subset of community GHG emissions. Municipal Operations GHG emissions are considered by the scope of the emission source, as well as be sector. The results of the Municipal Operations inventory are provided in Figure 1 as they relate to the GHG emission source scope, and Table 3 as they pertain to GHG emission source scope and sector. A discussion of the emissions by sector follows for the four primary emission sectors of: energy, transportation, water and waste.

Figure 1 2019 Municipal Operations GHG Emission Inventory Results

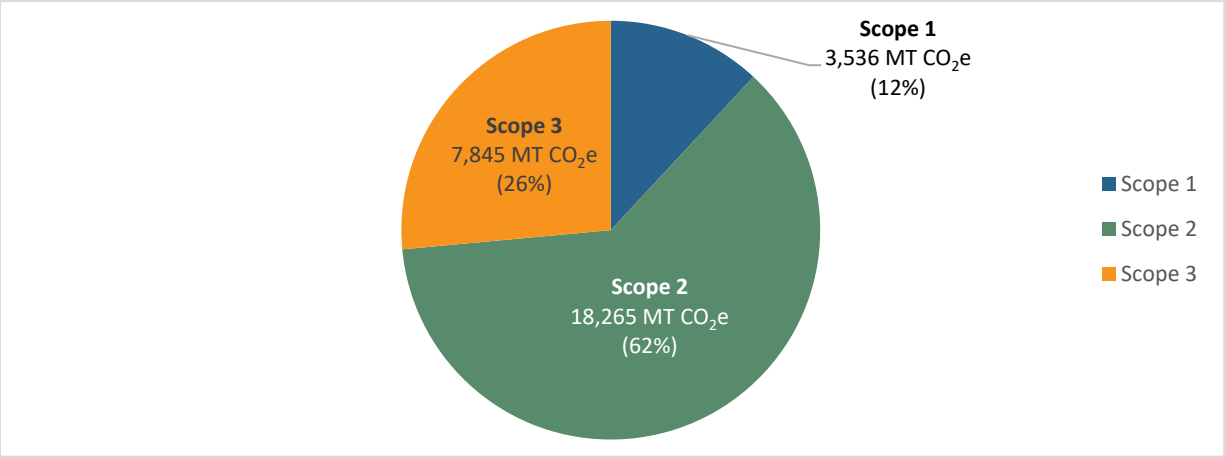


Table 3 2019 Municipal Operations GHG Emission Inventory Results (MT CO_2e)

Sector	Scope 1[1]	Scope 2	Scope 3	Total
Energy	790	18,252	N/A	19,042
Transportation	2,746	13	5,133	7,892
Water[2]	N/A	N/A	1,019	1,019
Solid Waste	N/A	N/A	2,712	2,712
Cumulative Emissions	**3,536**	**18,265**	**7,845**	**29,647**

Notes: All values presented are in units of metric tons of carbon dioxide equivalent (MT CO_2e); N/A = Not applicable

1. Scope 1 emissions from electric power generation, wastewater treatment, and the City operated landfill are considered in the Industrial Operations inventory. The Municipal Operations inventory accounts for emissions generated by daily municipal operation activities.

2. Water sector GHG emissions under scope 3 are not added to the Municipal Operations GHG emission total due to risk of double counting with energy sector scope 2 emissions. The scope 2 energy sector GHG emissions include electricity used to pump and treat water supplied to the City.

Energy

Energy sector Municipal Operations GHG emissions include scope 1 and scope 2 emission sources that relate to the combustion of natural gas in end uses in municipal buildings and facilities (scope 1) and the consumption of electricity in various municipal processes, buildings and facilities (scope 2). The GHG emissions associated with energy sector sources in the Municipal Operations GHG emission inventory are provided in Table 4.

Table 4 Electricity Sector Municipal Operations GHG Emissions

Sub-Sector	Emissions (MT CO_2e)	Emission Source Scope
Natural Gas Consumption – Buildings and Facilities	790	Scope 1
Electricity Consumption	18,252	Scope 2
Water Facilities	6,762	Scope 2
Wastewater Facilities	1,434	Scope 2
Streetlights and Traffic Signals	2,814	Scope 2
Buildings and Facilities	7,242	Scope 2
Cumulative Sector Emissions	**19,042**	

Notes: MT CO_2e = Metric tons of carbon dioxide equivalent

Transportation

Transportation sector Municipal Operations GHG emissions include scope 1, scope 2, and scope 3 GHG emission sources that relate to the combustion of fossil fuels in the City's vehicle, equipment, and transit fleets (scope 1), electricty used in electric vehicles (scope 2) and City employee commute and business travel (scope 3). Emissions from fleet vehicles can be directly influenced by the City through purchase of renewable fuels or zero-emission vehicles (ZEVs), while employee business travel and commute emissions are largely controlled by consumer and employee behavior, which can be incentivized but not directly influenced by the City. No GHG emission sources in the transportation sector are excluded from the total municipal GHG emissions. The GHG emissions associated with transportation sector sources in the Municipal Operations inventory are provided in Table 5.

Table 5 Transportation Sector Municipal Operations GHG Emissions

Sub-Sector	Emissions (MT CO_2e)	Emission Source Scope
Municipal Fleet – Vehicles and Equipment	2,303	Scope 1
Gasoline Fueled	911	Scope 1
Diesel Fueled	214	Scope 1
CNG Fueled	1,165	Scope 1
Propane Fueled	<1	Scope 1
Electric Vehicle Fleet	13	Scope 2
Transit Fleet	456	Scope 1
Gasoline Fueled	57	Scope 1
CNG Fueled	399	Scope 1
Employee Commute	5,113	Scope 3
Employee Business Travel	19	Scope 3
Cumulative Sector Emissions	**7,892**	**N/A**

Notes: MT CO_2e = Metric tons of carbon dioxide equivalent; CNG = Compressed natural gas; N/A = Not applicable

Water

Municipal Operations water emissions scope 3 emissions from municipal water consumption in buildings and facilities and for irrigation. GHG emissions associated with municipal water consumption are generated by the electricity used to supply water to municipal facilities. Since there is risk of double counting this electricity consumption with the scope 2 electricity consumption emissions under the energy sector, water consumption emissions are excluded from the municipal GHG emission totals. However, it is beneficial to quantify and report these emissions to provide insight to the potential GHG reduction impact of water use reduction policies. In 2019 Municipal Operations water consumption generated approximately 1,019 MT CO_2e.

Solid Waste

Municipal Operations solid waste GHG emissions include 3 emissions from waste generated by municipal facilities. The GHG emissions associated with solid waste generation for Municipal Operations totaled approximately 2,712 MT CO_2e in 2019.

2019 Community GHG Inventory

The 2019 community GHG inventory provides the total GHG emissions resulting from activities occurring within, or attributable to the community within the City of Burbank. The results will be used to estimate future GHG emissions and reflect the progress in GHG emission reductions achieved by the City since the 2010 GHG inventory was calculated as part of the 2035 GGRP. Community GHG emission are reported by emission sector, consistent with the CARB 2017 Climate Change Scoping Plan and the ICLEI Community Protocol for Accounting and Reporting of Greenhouse Gas Emissions, which include energy, transportation, water and solid waste.[10] A detailed description of the activity data, data sources, and calculation methodology for community GHG emission calculations can be references in the Data Evaluation and Methodology Memo (Attachment A).

In 2019, the City of Burbank generated approximately 1,084,854 MT CO_2e. The City of Burbank 2019 community GHG emissions were largely dominated by the energy sector emission sources generating 53% of the City's total GHG emissions, with transportation being the second largest source, generating 43% of the City's total GHG emissions. Water and solid waste sector emissions make a much smaller contribution to overall GHG emissions, at 3% and less than 1%, respectively. The results of the community inventory are provided in Figure 2 and Table 6.

[10] There are primary sectors from the 2017 Scoping Plan that are excluded from the 2019 Community inventory. Agriculture sector is excluded because there is not significant agricultural activities in Burbank. Industrial emission sources are excluded because GHG emission from these emission sources are regulated by the state under the Mandatory GHG Reporting Program and the Cap-and-Trade Program. High-GWP sector emissions are also excluded due to a lack a reliable community-wide data set encompassing these emission sources.
California Air Resources Board (CARB). 2017. California's 2017 Climate Change Scoping Plan. https://ww2.arb.ca.gov/sites/default/files/classic//cc/scopingplan/scoping_plan_2017.pdf?utm_medium=email&utm_source=govdelivery. Accessed September 24, 2020.

Figure 2 2019 Community GHG Inventory Results

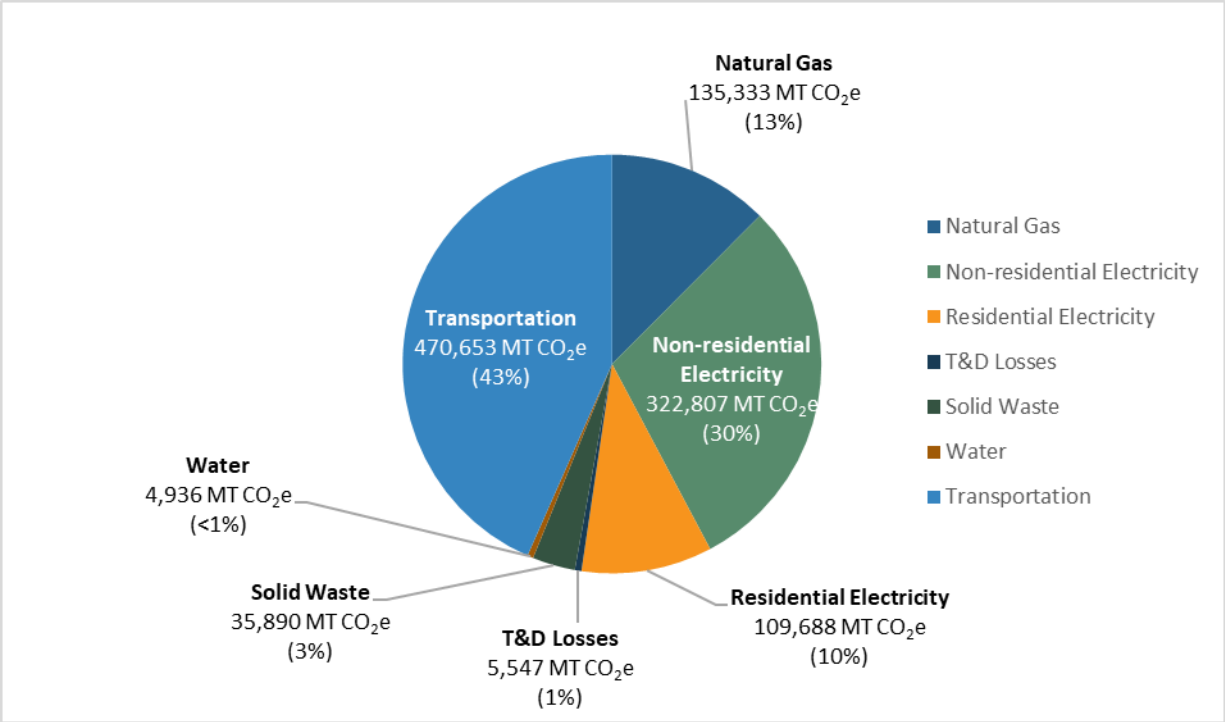


Table 6 2019 Community GHG Inventory Results

Sector/Emission Source	GHG Emissions (MT CO_2e)	Percentage of Total
Energy	**573,376**	**53%**
Non-Residential Electricity Generation	322,807	30%
Natural Gas	135,333	12%
Residential Electricity Generation	109,688	10%
Electricity Transmission and Distribution Losses	5,547	1%
Transportation	**470,653**	**43%**
Passenger On-road Vehicles	388,157	36%
Commercial On-road Vehicles	71,042	7%
Off-road Equipment	9,880	1%
Public Transit	1,573	<1%
Solid Waste[2]	**35,890**	**3%**
Waste Sent to Landfill	34,372	3%
Landfilling Process Emissions	1,491	<1%
Waste Sent to Combustion Facilities	26	<1%
Water	**4,936**	**<1%**
Imported Potable Water Supply	2,576	<1%
Wastewater Treatment Process and Fugitive Emissions	2,360	<1%
Local Potable Water Supply[1]	5,120	<1%
Wastewater Collection and Treatment Energy[1]	2,172	<1%
Cumulative Emissions	**1,084,854**	**100%**

Notes: MT CO_2e = Metric tons of carbon dioxide equivalent

1. GHG emissions generated by electricity consumption involved in producing local groundwater supplies and the collection and treatment of wastewater are not added to the GHG emissions total to avoid double counting. The electricity consumption involved in these processes is already encompassed in non-residential electricity consumption in the energy sector.

2. GHG emissions generated by the collection and transport of waste generated within the City are captured in the Commercial On-road Vehicle source in the Transportation sector.

2010 Community GHG Inventory Update

An update of the 2010 community GHG inventory, which was included in the 2035 GGRP, was calculated to ensure a consistent (apples-to-apples) comparison of GHG emission total in the 2019 community GHG inventory. The update utilizes the same activity data as used to calculate GHG emissions in the 2035 GGRP with updated IPCC AR5 GWPs and methodologies to match those used in the 2019 community GHG inventory (see Data Evaluation and Methodology Memo for the 2019 community inventory methodology, included as Attachment A). Notable changes to the reporting of emissions and methodology include:

- Update of GWPs from IPCC Third Assessment Report (AR3) to AR5.

- Inclusion of electricity transmission and distribution losses.[11]
- Exclusion of industrial natural gas consumption.[12]
- Updated on-road transportation emission factors based on those provided in EMFAC2017.[13]
- Inclusion of public transit, using 2019 activity data and 2010 emission factor from EMFAC2017.[14]
- Inclusion of off-road equipment, using 2019 community GHG inventory methodology.
- Updated wastewater GHG emission methodology to include process and fugitive N_2O emissions.
- Inclusion of imported potable water supply as a GHG emission source.[15]
- Exclusion of local potable water supply (Groundwater and Water Distribution) for risk of double counting with energy sector.
- Updated solid waste GHG emission methodology and data source to match 2019 community GHG inventory.

The results of the 2010 community GHG inventory update estimate the City of Burbank generated 1,534,779 MT CO_2e. This updated estimate is slightly lower than the previous estimate included in the 2035 GGRP of 1,682,494 MT CO_2e, which can be primarily attributed to the lower emission factors used to calculate on-road transportation GHG emissions.

The results of the 2010 community GHG inventory update show the transportation and energy sector GHG emission sources generated nearly equivalent total GHG emissions, each contributing 48% to the 2010 GHG emissions total. Solid waste and water sector emission sources each contributed 2% of total 2010 GHG emissions. The results of the 2010 community GHG inventory update are provided in Figure 3 as they relate to the GHG emission sector, and Table 7 as they pertain to GHG emission sector and the associated emission sources.

[11] To provide a conservative estimate, electricity transmission and distribution losses are assumed to occur at the same rate as in 2019, at 1.1% of total electricity consumption.
[12] Due to a lack of granular data for industrial natural gas consumption in 2010, the same total industrial natural gas consumption that was removed from the 2019 community GHG inventory was removed from the 2010 GHG inventory update. See the Data Evaluation and Methodology Memo for discussion of community natural gas activity data.
[13] EMFAC2017 is the California Air Resources Board mobile emissions factors database. GHG emission factors used for emissions calculations are the average emission rates provided for each vehicle class, weighted by the model provided VMT for each vehicle class in the year 2010. These emission factors include start-up emissions, which are considered separately in the 2035 GGRP.
[14] Vehicle miles traveled via public transit are conservatively assumed to have not changed significantly between 2010 and 2019.
[15] Water imported from Metropolitan Water District (MWD) is an additional included GHG emission source in the 2010 community GHG inventory update that was not included in the original inventory in the 2035 GGRP. The total imported water from MWD was obtained from the Burbank Water and Power 2010 Urban Water Management Plan. GHG emission calculation used the same energy intensity as included in the 2019 community GHG inventory, with an Emissions & Generation Resources Integrated Database (e-GRID) 2010 regional electricity emissions factor.

Figure 3 2010 Community GHG Inventory Update Results

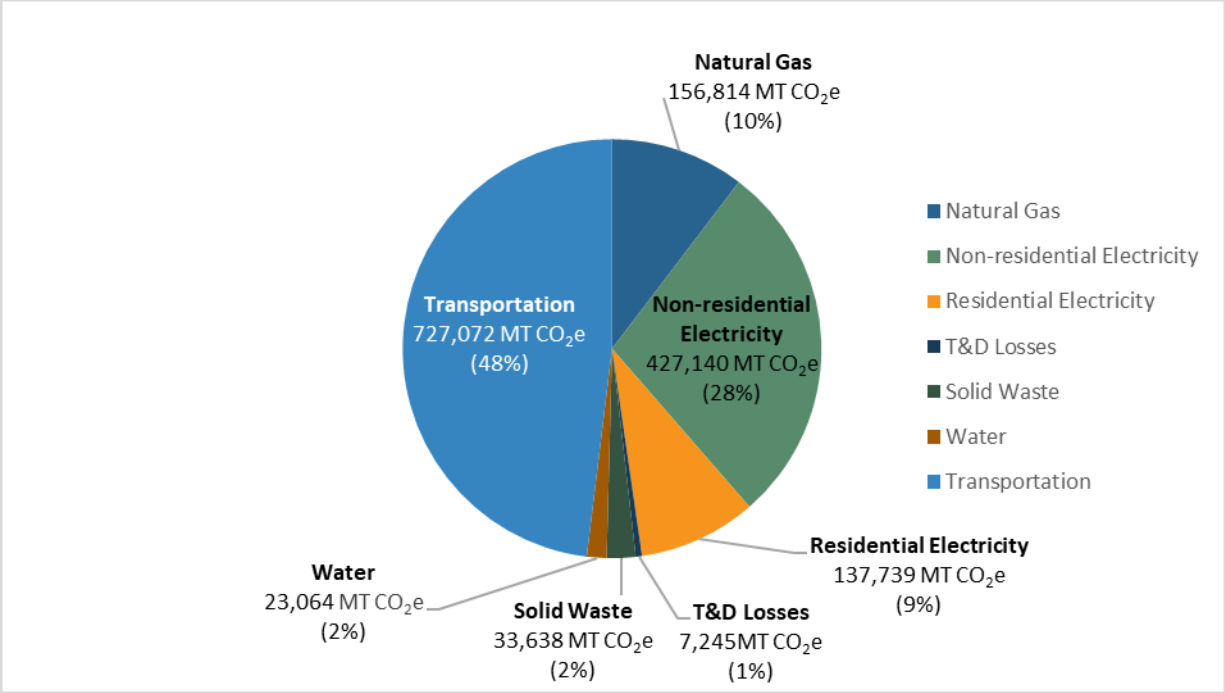


Table 7 2010 Community GHG Inventory Update Results

Sector/Emission Source	GHG Emissions (MT CO_2e)	Percentage of Total Emissions
Energy	**728,939**	**48%**
Non-Residential Electricity	427,140	28%
Natural Gas	156,814	10%
Residential Electricity	137,739	9%
Electricity Transmission and Distribution Losses	7,245	<1%
Transportation	**727,072**	**48%**
On-road Vehicles	718,931	48%
Off-road Equipment	6,571	<1%
Public Transit	1,570	<1%
Solid Waste	**33,638**	**2%**
Waste Sent to Landfill	32,226	2%
Landfilling Process Emissions	1,398	<1%
Waste Sent to Combustion Facilities	14	<1%
Water	**23,064**	**2%**
Imported Potable Water Supply	20,752	1%
Wastewater Treatment Process and Fugitive Emissions	2,312	<1%
Local Potable Water Supply[1]	20,697	1%
Wastewater Collection and Treatment Energy[1]	3,632	0%
Cumulative Emissions	**1,512,713**	**100%**

Notes: MT CO_2e = Metric tons of carbon dioxide equivalent

1. GHG emissions generated by electricity consumption involved in producing local groundwater supplies and the collection and treatment of wastewater are not added to the GHG emissions total to avoid double counting. The electricity consumption involved in these processes is already encompassed in non-residential electricity consumption in the energy sector.

GHG Emission Reductions Progress Since 2010

The 2035 GGRP established a 2020 emission reduction target of 15% below 2010 GHG emission levels and a 2035 target of 30% below 2010 GHG emission levels. As of 2019, the City of Burbank has reduced GHG emission by 28%, exceeding the 2020 target and nearly meeting the 2035 target established in the original GGRP well in advance of the horizon year. The majority of these GHG emission reductions occurred in the transportation and energy sectors through increased efficiency and increased renewable energy procurement by BWP, as well as increased fuel efficiency in the on-road vehicle fleet. The water sector also experienced relatively significant GHG emission reductions through increased renewable energy procurement statewide. Table 8 provides an overview of the GHG emission reductions in each community emission source and sector between 2010 and 2019.

Table 8 GHG Emission Reductions between 2010 and 2019

Sector/Emission Source	Change in GHG Emissions since 2010 (MT CO_2e)	Percent Change in GHG Emissions since 2010
Energy	**-155,563**	**-21%**
Non-Residential Electricity	-104,333	-24%
Natural Gas	-21,481	-14%
Residential Electricity	-28,051	-20%
Electricity Transmission and Distribution Losses	-1,698	-23%
Transportation	**-256,419**	**-35%**
On-road Vehicles	-259,731	-36%
Off-road Equipment	3,309	50%
Public Transit	3	<1%
Solid Waste[2]	**2,251**	**7%**
Waste Sent to Landfill	2,146	7%
Landfilling Process Emissions	93	7%
Waste Sent to Combustion Facilities	12	86%
Water	**-18,128**	**-79%**
Imported Potable Water Supply	-18,176	-88%
Wastewater Treatment Process and Fugitive Emissions	48	2%
Local Potable Water Supply[1]	-15,577	-75%
Wastewater Collection and Treatment Energy[1]	-1,460	-40%
Cumulative Emissions	**-427,859**	**-28%**

Notes: MT CO_2e = Metric tons of carbon dioxide equivalent

1. GHG emissions generated by electricity consumption involved in producing local groundwater supplies and the collection and treatment of wastewater are not added to the GHG emissions total to avoid double counting. The electricity consumption involved in these processes is already encompassed in non-residential electricity consumption in the energy sector.

2. Calculation of the change in emissions for waste sent to landfill between 2010 and 2019 includes a combination of waste sent to landfill and waste-to-energy emissions from 2019.

Energy sector emission reductions can be directly attributed to increased energy efficiency and an increase in renewable energy generation and procurement. Between 2010 and 2019, Burbank's population increased by approximately 2%; however, in the same time period residential electricity consumption decrease by 6%. This decrease in consumption can be attributed to the success of energy efficiency rebate and incentive programs provided by BWP, in which a total of 6,444 residential appliances in Burbank were replaced by more efficient ENERGY STAR appliances through BWP's customer rebate and free installation programs.[16] While the breakout of residential natural gas consumption is not provided in this assessment, it is likely that this program had a similar impact to reductions in natural gas emissions. Renewable energy generation also contributed to reductions in electricity consumption through the installation of photovoltaic systems at residential and commercial

[16] Burbank, City of. 2019. Greenhouse Gas Reduction Program Measure Quantification Analysis. https://burbank.granicus.com/MetaViewer.php?view_id=42&clip_id=8880&meta_id=361252. Accessed October 15, 2020.

buildings, with approximately 6.6 megawatts of capacity installed between 2012 and 2019.[17] Further renewable energy procurement by BWP in this time frame also contributed significantly to emissions generated by grid purchased electricity, with GHG emissions attributed to non-residential electricity consumption decreasing by 24%, even though electricity consumption in this sector has increased by 128%. Direct attribution of emission reductions to specific measures implemented through the 2035 GGRP is difficult due to the variety of economic and consumer choice factors that can influence emission trends; however, there is clear indication that measure were successful in reducing residential energy consumption.

Transportation sector GHG emission reductions can be primarily attributed to reduced vehicle emissions from increased fuel efficiency and an estimated reduction in vehicle miles traveled (VMT). Different modeling methods were used for the 2010 and 2019 inventory years; therefore, challenges are presented in a direct comparison of policies that may have resulted in VMT reductions. The 2019 GHG inventory uses the SCAG 2016 Transportation Demand Model, which use up to date, regionally consistent demographics data to estimate VMT.

Waste sector GHG emission increased slightly, which is directly related to an increase in the amount of waste generated in Burbank that is sent to landfills. The 7% increase in emissions between 2010 and 2019 is a direct result of a 7% increase in waste sent to landfill. While the total waste generated may have increased in this time period as population and employment grew, diversion of recyclables and organics has resulted in a decrease in waste generation per service population. By implementing waste reduction policies and conforming with state waste reduction legislation, Burbank has experienced an effective reduction of waste landfilled from 0.451 tons landfilled per service population in 2010 to 0.383 tons landfilled per service population in 2019.[18]

Water sector GHG emission sources also saw significant reductions in total emissions between 2010 and 2019. GHG emissions from water supply are generated by the energy used to convey, treat and distribute water, with imported water sources requiring a high energy intensity. Between 2010 and 2019, Burbank reduced its reliance on imported water by 25%. However, the primary driver for emission reductions in this sector result from the decreased carbon intensity of electricity used to supply water to Burbank.

[17] Burbank, City of. 2019. Greenhouse Gas Reduction Program Measure Quantification Analysis. https://burbank.granicus.com/MetaViewer.php?view_id=42&clip_id=8880&meta_id=361252. Accessed October 15, 2020.
[18] Service population is the combined total population and employment of Burbank. In 2010 the service population was 189,021 and in 2019 it was 237,496.

GHG Emissions Forecast

A GHG emissions inventory sets a reference point for a single year; however, annual GHG emissions change over time due to factors such as population and job growth as well as new technologies and policies. A GHG emissions forecast estimates future GHG emission changes by accounting for projected community growth. Calculating the difference between the GHG emissions forecast and GHG emissions reduction targets set by a jurisdiction determines the gap in GHG emissions that needs to be closed through the implementation of local GHG reduction policies. This section includes an estimate of the future emissions for the City of Burbank in the years 2030, 2035 and 2045 in a *business-as-usual scenario* (BAU) forecast and a *legislative adjusted scenario* (adjusted) forecast, which are defined as follows:

- B*usiness-as-usual scenario*- Provides a forecast of how future GHG emissions would change if consumption trends continue as they did in 2019 and growth were to occur as projected in the City's General Plan, absent any regulations that would reduce local emissions.
- *Legislative adjusted scenario*- Provides a forecast of how currently adopted legislation would reduce GHG emissions from the *business-as-usual scenario*. The *legislative adjusted scenario* represents the state's contribution to reducing local GHG emissions to meet state goals.

In addition, Rincon reviewed BWP's long-range planning documents to determine how the projections were generated and determine if they should be included in this analysis (see the *Relationship of GHG Emission Forecast Results and the BWP 2019 Integrated Resource Plan* section for a detailed discussion of BWP's applicable long-range plans). The adjusted forecast incorporates the impact of state regulations that provide GHG emission reduction potential to offer a more accurate picture of future GHG emission growth and the responsibility of the City for GHG reductions.

Business-as-usual Scenario GHG Emissions Forecast

The BAU forecast provides an estimate of how GHG emissions would change in the forecast years if consumption trends continue as in 2019, absent any new regulations or actions which would reduce local GHG emissions. Future GHG emissions were calculated by multiplying projected activity data under the BAU forecast with baseline emission factors, established by the 2019 community GHG emissions inventory. Several indicator growth rates were developed from 2019 activity data and GHG emission levels for GHG emission sectors and applied to demographic projections to estimate future year emissions. On-road transportation and off-road equipment GHG emissions were alternatively projected using modeled activity data and emissions. Emission factors for the BAU forecast remain constant for all forecast years, derived from the 2019 community GHG emissions inventory. To simplify calculations, GHG emission sources that did not contribute to total GHG emissions in the community GHG inventory are not accounted for in the BAU forecast, including local water supply emissions and wastewater collection and treatment energy consumption. A description of the demographic metrics used to project activity data and associated growth factors for each forecasted GHG emission source are provided in Table 9 for each for the GHG emission sources in the 2019 community GHG emissions inventory.

Table 9 GHG Emission Sources and Growth Factors for BAU Scenario Forecast

GHG Emissions Source	Demographic Projection Metric	Growth Factor	Value
Energy			
Residential Natural Gas Consumption	Households	Natural Gas Consumption (therms) per Household	348
Non-residential Natural Gas Consumption	Employment	Natural Gas Consumption (therms) per Employment	75.2
Residential Electricity Consumption	Households	Electricity Consumption (kWh) per Household	5,857
Non-residential Electricity Consumption	Employment	Electricity Consumption (kWh) per Employment	5,833
Transmission and Distribution Losses (T&D Losses)	N/A	T&D Losses Factor (1.28%) applied to total Electricity Consumption	N/A
Transportation			
On-Road Transportation	N/A	Annual Vehicle Miles Traveled as obtained from Southern California Association of Governments Travel Demand Model	N/A
Off-Road Equipment	N/A	MT CO_2e as obtained from CARB's OFFROAD2007 off-road transportation emissions model	N/A
Public Transit	SP	Public Bus Annual Vehicle Miles Traveled (VMT) per Service Population	3.18
Water			
Imported Water Supply Electricity Consumption	SP	Imported Potable Water Supply Electricity Consumption (kWh) per Service Person	47.9
Wastewater Process and Fugitive Emissions	SP	Wastewater Process and Fugitive Emissions (MT CO_2e) per Service Person	0.00994
Solid Waste			
Solid Waste Disposal	SP	Solid Waste Disposed (tons) per Service Person	0.383

Notes: MT CO_2e = Metric tons of carbon dioxide equivalent; kWh = kilowatt-hour; VMT = vehicle miles traveled; N/A = Not Applicable; SP = Service Population – the combined total number of employees and residents in the City

Demographics applied to the growth factors use Southern California Association of Governments (SCAG) estimates of population, employment, and vehicle miles traveled. Population, and employment based growth factors use the most recent SCAG *Connect SoCal* 2020 - Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) demographic forecasts.[19] Household based growth factors similarly use SCAG 2020 RTP/SCS forecast; however these are adjusted to account for the 6th Cycle Regional Housing Needs Assessment (RHNA) allocation of housing needs for the City of Burbank between 2021 and 2030. As such, the number of households in Burbank is expected to grow by 8,752 units between 2020 and 2030, with steady growth after 2030 at a rate of 151 households per year,

[19] Southern California Association of Governments. May 2020. Connect SoCal. Demographics and Growth Forecast. https://www.connectsocal.org/Documents/Draft/dConnectSoCal_Demographics-And-Growth-Forecast.pdf. Accessed September 22, 2020.

consistent with SCAG 2020 RTP/SCS projected growth rates for Burbank.[20] On-road transportation VMT projections utilize data obtained from the SCAG 2016 RTP/SCS Regional Transportation Demand Model, as provided in the Data Evaluation and Methodology Memo. A summary of the demographics and projection metrics for each forecast year in the BAU forecast are provided in Table 10.

Table 10 BAU Forecast Demographic and Projection Metrics by Forecast Year

Metric	Data Source	2019	2030	2035	2045
Population	SCAG 2020 RTP/SCS	105,496	109,686	111,591	115,400
Employment	SCAG 2020 RTP/SCS	132,000	136,275	138,219	142,105
Service Population	SCAG 2020 RTP/SCS	237,496	245,961	249,809	257,505
Households	SCAG 2020 RTP/SCS and SCAG 6th Cycle RHNA Allocation	44,674	53,577	54,332	55,842
Passenger Annual VMT	Data Evaluation and Methodology Memo	1,148,613,722	1,176,589,903	1,189,016,551	1,213,869,848
Commercial Annual VMT	Data Evaluation and Methodology Memo	61,400,262	66,170,818	68,338,990	72,675,333

Notes: VMT = vehicle miles traveled; RHNA = Regional Housing Needs Allocation

Data Sources:

SCAG 2020 RTP/SCS – Southern California Association of Governments. May 2020. Connect SoCal. Demographics and Growth Forecast. https://www.connectsocal.org/Documents/Draft/dConnectSoCal_Demographics-And-Growth-Forecast.pdf. Accessed September 22, 2020.

SCAG. 2020. SCAG 6th Cycle Draft RHNA Allocation Based on Final RHNA Methodology & Final Connect SoCal. https://scag.ca.gov/sites/main/files/file-attachments/rhna-draft-allocations-090320-updated.pdf?1602188695.

City of Burbank Greenhouse Gas Emission Inventory Methodology and Data Evaluation Memorandum (Attachment A)

Using the above demographic and projection metrics in Table 10, multiplied by the growth factors in Table 9 and the 2019 community GHG inventory emission factors, the BAU forecast can be calculated. In the BAU forecast, GHG emissions are expected to increase through 2045. A summary of the BAU forecast results by GHG emission sector is provided in Table 11.

Table 11 BAU Forecast Results Summary by Emission Sector

Sector	2019	2030	2035	2045
Energy	573,376	624,269	633,133	650,859
Transportation	470,653	487,384	494,957	510,104
Solid Waste	35,890	37,169	37,751	38,914
Water	4,936	5,112	5,192	5,352
Total	**1,084,854**	**1,153,935**	**1,171,033**	**1,205,229**

Notes: All values are presented in metric tons of carbon dioxide equivalent (MT CO_2e)

[20] SCAG. 2020. SCAG 6th Cycle Draft RHNA Allocation Based on Final RHNA Methodology & Final Connect SoCal. https://scag.ca.gov/sites/main/files/file-attachments/rhna-draft-allocations-090320-updated.pdf?1602188695.

Legislative Adjusted Scenario GHG Emissions Forecast

Several federal and state regulations have been enacted that would reduce Burbank's GHG emissions below the BAU forecasted levels in 2030, 2035, and 2045. The impact of these regulations was quantified and incorporated into the adjusted forecast to provide a more accurate depiction of future emissions growth and the GHG emission reduction responsibility of Burbank, once established state regulations have been implemented. The state legislation included in the adjusted forecast result in GHG emission reductions related to transportation, building efficiency and renewable electricity. A brief description of each regulation and the methodology used to calculate associated reductions is provided in the following, as well as a description of why specific legislation was excluded from the analysis.

Transportation Legislation

Major regulations incorporated into the CARB's 2017 transportation modeling include Advanced Clean Car Standards (LEV III, ZEV program, etc.), Senate Bill 1, and Phase 2 Federal GHG Standards and Fuel Efficiency Standards for Medium- and Heavy-Duty Engines and Vehicles. Additional reductions were calculated for the newly promulgated Innovative Clean Transit (ICT) regulations from the CARB.

Signed into law in 2002, AB 1493 (Pavley Standards) required vehicle manufacturers to reduce GHG emissions from new passenger vehicles and light-duty trucks from 2009 through 2016. Regulations were adopted by the CARB in 2004 and took effect in 2009 when the United States Environmental Protection Agency (USEPA) issued a waiver confirming California's right to implement the bill. The CARB anticipates the Pavley I standard to reduce GHG emissions from new California passenger vehicles by about 30% in 2016, while simultaneously improving fuel efficiency and reducing motorists' costs.[21]

Prior to 2012, mobile emission regulations were implemented on a case-by-case basis for GHG and criteria pollutant emissions separately. In January 2012, the CARB approved a new emissions-control program known as the Advanced Clean Cars program combining the control of smog, soot-causing pollutants, and GHG emissions into a single coordinated package of requirements for passenger cars and light trucks for model years 2017 through 2025. The Advanced Clean Cars program coordinates the goals of the Low Emissions Vehicles, Zero Emissions Vehicles, and Clean Fuels Outlet programs into a single coordinated package of requirements for model years 2017 to 2025. The new standards will reduce GHG emissions by 34% in 2025.[22]

Reductions in GHG emissions from the above referenced standards were calculated using CARB's EMFAC2017 model for Los Angeles County. The newly updated EMFAC2017 model integrates the estimated reductions from state and federal transportation legislation into the mobile source emissions portion of the model.[23] The degree to which GHG emissions from on-road transportation will be reduced

[21] CARB. Clean Car Standards – Pavley, Assembly Bill 1493. May 2013. http://www.arb.ca.gov/cc/ccms/ccms.htm

[22] CARB. Facts About the Advanced Clean Cars Program. December 2011. http://www.arb.ca.gov/msprog/zevprog/factsheets/advanced_clean_cars_eng.pdf

[23] Additional details are provided in CARB's EMFAC2017 Technical Documentation, July 2018. (https://www.arb.ca.gov/msei/downloads/emfac2017-volume-iii-technical-documentation.pdf). Note that the Low Carbon Fuel Standard (LCFS) regulation is excluded from EMFAC2017 because most of the emissions benefits due to the LCFS come from the production cycle (upstream emissions) of the fuel rather than the combustion cycle (tailpipe). As a result, LCFS is assumed to not have a significant impact on CO_2 emissions from EMFAC's tailpipe emission estimates.

can be quantified as the difference between transportation emissions calculated using the 2019 provided emission factors and calculated using the reduced emission factors for the target years.

Public transit GHG emissions will also be reduced in the future through the Innovative Clean Transit (ICT) regulation, which was adopted in December 2018. It requires all public transit agencies to gradually transition to a 100-percent zero-emission bus fleet by 2040. Under ICT, large transit agencies are expected to adopt Zero-Emission Bus Rollout Plans to establish a roadmap towards zero emission public transit buses.[24]

At the time of this forecast, the future impacts of state legislation on tailpipe emission standard in California remains uncertain due to the federal Safer Affordable Fuel Efficient (SAFE) Rule. The SAFE Rule proposes to amend certain existing Corporate Average Fuel Economy (CAFE) and GHG emission standards.[25] This specifically affects the ability of California to set its own fuel efficiency standards that supersede federal standards. The sunset year of the SAFE Rule is 2026, which is before the 2030, 2035, and 2045 target years of the GGRP Update. Thus, there is uncertainty in the long-term impact that the SAFE Rule may have on GHG emissions and its impact is excluded from this analysis.

Title 24

The California Code of Regulations Title 24, Part 6: California's Energy Efficiency Standards for Residential and Nonresidential Buildings, was first adopted in 1978 in response to a legislative mandate to reduce California's energy consumption, which in turn reduces fossil fuel consumption and associated GHG emissions. The standards are updated triennially to allow consideration and possible incorporation of new energy-efficient technologies and methods. Since the 2019 GHG inventory year, the 2019 Title 24 Energy Efficiency Standards have come into effect, creating significantly more efficient new building stock. For example, new residential developments must include on-site solar generation and near-zero net energy use. For projects implemented after January 1, 2020, the California Energy Commission (CEC) estimates that the 2019 standards will reduce consumption by 54% for residential buildings and 30% for commercial buildings, relative to the 2016 standards. The CEC further estimates that 2022 and 2025 will result in efficiency increases of five percent for both residential and non-residential uses. This diminishing return is largely due to the achievement of zero net energy in the 2019 code cycle and uncertainty in the 2019 California Energy Efficiency Action Plan for achieving non-residential energy efficiency savings. These percentage savings relate to space heating and cooling, lighting, and water heating only and do not include other appliances, outdoor lighting that is not attached to buildings, plug loads, or other energy uses.

The calculations and GHG emissions forecast assume that all future growth in the residential and non-residential sectors results in energy increases in newly constructed buildings. Accordingly, Title 24 is expected to reduce energy consumption from the BAU forecast levels by a percentage of the additional energy use above the levels in 2019. The 2019, 2022, and 2025 Title 24 requirements would reduce the consumption below baseline by a total of 54% for non-residential growth and by 30% for residential growth in each forecast year.

[24]Innovative Clean Transit. Approved August 13, 2019. https://ww2.arb.ca.gov/sites/default/files/2019-10/ictfro-Clean-Final_0.pdf?utm_medium=email&utm_source=govdelivery

[25]USEPA. Regulations for Emissions from Vehicles and Engines. https://www.epa.gov/regulations-emissions-vehicles-and-engines/safer-affordable-fuel-efficient-safe-vehicles-proposed. Accessed July 26th, 2020.

The SB 32 Scoping Plan calls for the continuation of ongoing triennial updates to Title 24 that will yield regular increases in the mandatory energy and water savings for new construction. Future updates to Title 24 standards for residential and non-residential alterations past 2025 are not taken into consideration due to lack of data and certainty about the magnitude of energy savings that will be realized with each subsequent update.

Renewables Portfolio Standard & Senate Bill 100

Established in 2002 under Senate Bill 1078, enhanced in 2015 by Senate Bill 350, and accelerated in 2018 under Senate Bill 100, California's Renewables Portfolio Standard (RPS) is one of the most ambitious renewable energy standards in the country. The RPS program requires investor-owned utilities, publicly owned utilities, electricity service providers, and community choice aggregators to increase procurement from eligible renewable energy resources to 50% of total procurement by 2026 and 60% of total procurement by 2030. The RPS program further requires these entities to increase procurement from GHG-free sources to 100% of total procurement by 2045.

BWP currently provides electricity to the City of Burbank and is subject to the RPS requirements. BWP's emission factors that included compliance with RPS were used to project emissions through 2045. Based on the future RPS estimates provided in the BWP 2019 Integrated Resource Plan,[26] Table 12 provides the estimated electricity emission factors that would result from SB 100.

Table 12 Burbank Water and Power Forecasted RPS and Electricity Emission Factor

Metric	2019	2030	2035	2045
Renewable Portfolio Standard Percentage	40%	60%	73%	100%
Electricity Emission Factor (MT CO_2e/kWh)	0.419	0.279	0.186	0.000

Notes: MT CO_2e = Metric tons of carbon dioxide equivalent; kWh = kilowatt-hour

Data Source: Burbank Water and Power. 2019. Integrated Resources Plan. https://burbankwaterandpower.com/2019-irp. Accessed September 22, 2020.

State Legislation not Considered in the Adjusted Forecast

The following discussion highlights state legislation that plays an integral role in reducing GHG emissions; however, were not included in the GHG emissions forecast calculations as they will be addressed in the GGRP Update.

Assembly Bill 939 & Assembly Bill 341

In 2011, AB 341 set the target of 75% recycling, composting, or source reduction of solid waste by 2020 calling for the California Department of Resources Recycling and Recovery (CalRecycle) to take a statewide approach to decreasing California's reliance on landfills. This target was an update to the former target of 50% waste diversion set by AB 939. As of 2018, the most recent year for which data is

[26] Burbank Water and Power. 2019. Integrated Resources Plan. https://burbankwaterandpower.com/2019-irp. Accessed September 22, 2020.

available, the City of Burbank had exceeded both its residential and commercial source reduction targets.[27]

Senate Bill 1383

In 2016, SB 1383 established a methane emission reduction target for short-lived climate pollutants[28] (SLCP) in various sectors of the economy. Specifically, SB 1383 establishes targets to achieve a 50% reduction in the level of the statewide disposal of organic waste from the 2014 level by 2020 and a 75% reduction by 2025 (CalRecycle 2019).[29] Additionally, SB 1383 requires a 20% reduction in "current" edible food disposal by 2025. Although SB 1383 has been signed into law, compliance at the jurisdiction-level has proven difficult. For example, Santa Clara County, in their *SB 1383 Rulemaking Overview* presentation (June 20, 2018),[30] suggest that the 75% reduction in organics is not likely achievable under the current structure; standardized bin colors are impractical; and the general requirement is too prescriptive. As such, SB 1383 has not been included as part of the adjusted forecast. Instead measures addressing compliance with SB 1383 will be addressed through GHG reduction measures included in the GGRP Update.

Senate Bill X7-7

SB X7-7, also known as the Water Conservation Act of 2009, requires that all water suppliers increase their water use efficiency. SB X7-7 establishes an urban water use reduction target of 20% below 2010 per capita daily water use levels by 2020. The most recent water use reduction targets are typically provided in *2015 Urban Water Management Plan*s (UWMPs). Because water reduction policies play an important role in GHG reduction and climate resilience, measures addressing water conservation will be addressed through GHG reduction measures included in the GGRP Update.

Legislative GHG Emission Reduction Contribution

Based on the above described legislation and emission reduction potential for each, the City of Burbank can expect significant help from these state regulations in meeting state GHG emission reduction goals. These GHG emissions reductions primarily contribute to the energy sector and transportation sectors, with some impact from SB 100 on GHG emissions from imported water. A summary of the reductions from the BAU forecast that can be expected under the adjusted forecast are provided in Table 13.

[27] CalRecycle. 2020. Local Government Central. Diversion Programs. Jurisdiction Diversion/Disposal Rate Detail: City of Burbank, 2018. https://www2.calrecycle.ca.gov/LGCentral/DiversionProgram/JurisdictionDiversionDetail?year=2018&jurisdictionID=57. Accessed October 5, 2020.
[28] Short-lived climate pollutants (SLCP) are powerful climate forcers that have relatively short atmospheric lifetimes. These pollutants include the greenhouse gases methane and hydrofluorocarbons, and anthropogenic black carbon. CARB 2019. https://ww2.arb.ca.gov/our-work/programs/short-lived-climate-pollutants. Accessed October 5, 2020.
[29] CalRecycle. April 16, 2019. Short-Lived Climate Pollutants (SLCP): Organic Waste Methane Emissions Reductions (General Information). https://www.calrecycle.ca.gov/climate/slcp. Accessed October 5, 2020.
[30] Santa Clara County. June 20, 2018. SB 1383 Rulemaking Overview. https://www.sccgov.org/sites/rwr/rwrc/Documents/SB%201383%20PowerPoint.pdf. Accessed October 5, 2020.

Table 13 Summary of Legislative GHG Emission Reductions

Metric	2030	2035	2045
Senate Bill 100 and Renewable Portfolio Standards	150,731	252,974	463,247
Title 24	16,183	18,774	23,967
Transportation (Pavley, Innovative Clean Transit, etc.)	126,187	148,119	178,660
Total	**295,896**	**424,475**	**674,026**

Notes: All values are presented in metric tons of carbon dioxide equivalent (MT CO_2e)

Legislative Adjusted Scenario Forecast Results

In the adjusted emissions forecast, the electricity and water sectors all experience a strong downward trend, approaching near-zero in 2045 due to stringent RPS requirements from SB 100. Natural gas emissions are expected to continue an upward trajectory until 2045 due to population and employment growth projections. This trend is partially offset due to the increasingly stringent efficiency requirements for new construction in the upcoming Title 24 code cycles. Transportation emissions are expected to decrease sharply in the next 10 to 15 years due to existing fuel efficiency requirements and fleet turnover rates. As most current regulations expire in 2025 or 2030, emissions standards will experience diminishing returns while VMT continues to increase, leading to lower rates of emissions reduction in the transportation sector. A detailed summary of Burbank's projected GHG emissions under the adjusted forecast by sector and year through 2045 can be found in Table 14.

Table 14 *Legislative Adjusted Scenario* Forecast Results

GHG Emissions Source	2019	2030	2035	2045
Energy	**573,376**	**455,123**	**358,061**	**158,286**
Natural Gas	135,333	152,226	154,246	158,286
Residential Electricity	109,688	79,709	53,525	0
Non-residential Electricity	322,807	219,353	147,709	0
T&D Losses	5,547	3,836	2,581	0
Transportation	**470,653**	**361,197**	**346,838**	**331,444**
Passenger On-road Vehicles	388,157	288,545	275,079	259,271
Commercial On-road Vehicles	71,042	60,295	58,944	58,072
Off-Road Equipment	9,880	11,582	12,422	14,101
Public Transit	1,573	776	394	0
Water	**4,936**	**4,549**	**3,908**	**2,559**
Imported Water Supply	2,576	2,105	1,425	0
Wastewater Process and Fugitive Emissions	2,360	2,445	2,483	2,559
Solid Waste	**35,890**	**37,169**	**37,751**	**38,914**
Solid Waste Disposal	35,890	37,169	37,751	38,914
Total GHG Emissions	**1,084,854**	**858,039**	**746,557**	**531,203**

Notes: All values are presented in metric tons of carbon dioxide equivalent (MT CO_2e)

Relationship of GHG Emission Forecast Results and the BWP 2019 Integrated Resource Plan

In 2019, the Burbank City Council adopted the BWP 2019 Integrated Resource Plan (IRP), which is a long-range planning document designed to provide policy guidance for BWP's electric supply to its customers over the next 20 years. As part of the IRP, BWP estimates future electricity consumption in the City of Burbank between 2019 and 2038 under scenarios with and without the impacts of incremental BWP actions for customer-side energy resources (i.e. energy efficiency programs and increased demand from electric vehicles). The 2019 IRP also provides BWP's projected future renewable energy procurement to demonstrate compliance with SB 100, which is included in the calculation of the adjusted forecast describe in the current memorandum.[31] A discussion of the forecasted energy consumption in both the 2019 IRP and GHG emission forecast results is provided to highlight that both provide similar estimates of future energy consumption, and slightly different results are due to modeling assumptions and baseline inputs.

While the energy forecasts included in the IRP utilize multiple variables, including population, economics, and increases in solar PV generation, the results follow the same general trend as the model included in the GHG emissions forecast. The energy forecasts in the 2019 IRP are likely more accurate estimate of the energy consumption that could be included in GHG emissions forecast under the *legislative adjusted scenario*; however, challenges are presented in aligning this data with the current 2019 GHG inventory results.

Data for total electricity retail sales provided by BWP for the 2019 GHG inventory, based on real electricity sales, are approximately 9% lower than the projected retail sales provided in the 2019 IRP.[32] While it is reasonable that the actual data for 2019 does not exactly match projections provided in the 2019 IRP, this discrepancy presents a challenge for using the 2019 IRP projected energy consumption for the GHG emissions forecast without manipulating the 2019 IRP data to more closely match the GHG inventory data. However, even though the 2019 baseline data does not precisely match, when projecting the data forward in the adjusted scenario forecast, electricity consumption approaches the energy demand forecasted in the 2019 IRP through 2035, with an approximate 1% difference in 2030 and 2035. In both the GHG emissions forecast and the 2019 IRP electricity demand is forecasted assuming that Title 24 will reduce energy consumption; however other nuances between the models likely have an additional impact to the discrepancy. In consideration of the challenge with aligning the baseline energy consumption in the 2019 GHG emission inventory with the projected 2019 IRP energy consumption, both modeled scenarios follow the same general trend providing confidence in using the electricity consumption forecast generated in the GHG emissions forecast. Additional energy efficiency measures identified in the 2019 IRP will be included in the GHG reduction measures of the GGRP Update.

[31] Burbank Water and Power. 2018. 2019 Integrated Resource Plan of Burbank Water and Power. https://burbankwaterandpower.com/2019-irp. Accessed October 4, 2020.
[32] Total 2019 actual retail sales as provided by BWP for the 2019 GHG inventory were 1,031,660 megawatt-hours, as compared to the forecasted value of 1,131,000 megawatt-hours provided in Table 2.1 of the 2019 BWP IRP (page 16).

Provisional GHG Emissions Reduction Target Setting

GHG reduction targets can be set as either an efficiency target (MT CO_2e per capita) or as a community-wide mass emissions target (total MT CO_2e). With CARB's 2017 Scoping Plan Update, the state recommended using efficiency metrics for local targets to incentivize growth in a coordinated manner and not penalize cities which are growing at significant rates.[33] Throughout this section, targets are discussed in terms of per capita metrics; however, they must occasionally be translated into absolute emissions reductions to quantify reduction measures and identify the magnitude of reductions required.

GHG Emissions Reduction Target Setting

Target setting is an iterative process which must be informed by the reductions that can realistically be achieved through the development of feasible GHG reduction measures. As such, the targets identified herein should remain provisional until the quantification and analysis of potential GHG reduction measures has been completed. The purpose of target setting is to develop the trajectory toward achieving the state's 2030 goal and prepare for the deep decarbonization needed by 2045 in a cost-effective manner by setting an incremental path toward achieving the EO B-55-18 goals. As such, it is recommended that the City 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.

To maintain consistency with the 2035 GGRP, GHG emission reduction targets will be set based on the 2010 community GHG inventory. The 2035 GGRP established the following GHG emission reduction targets:

- Reduce GHG emissions to 15% below 2010 levels by 2020 (AB 32 target year) and
- Reduce GHG emissions to 30% below 2010 levels by 2035.

With the GHG reduction legislation enacted by the state since adoption of the 2035 GGRP, we recommend updating the original targets which were based on AB 32, to levels which are consistent the current state goals established by SB 32 and EO B-55-18. These update targets would be:

- Reduce GHG emissions to 49% below 2010 levels by 2030 (SB 32 target year),
- Reduce GHG emissions to 66% below 2010 levels by 2035 (General Plan horizon year), and
- Achieve carbon neutrality by 2045 (EO B-55-18 target year).

While State legislation compares emissions reduction targets to a 1990 baseline, the targets provided here for the City are compared to a 2010 baseline. Consistent with the methodology used for setting targets in the 2013 GGRP, 1990 GHG emission levels are assumed to be 15% below 2010 levels.[34] Table 15 provides a description of the calculations performed to convert the State's 1990 baseline targets to align with the City's 2010 baseline.

[33] California Air Resources Board. 2017. California's Climate Change Scoping Plan, p. 99-102.
[34] Governor's Office of Planning and Research (OPR). 2017. General Plan Guidelines. Ch 8 Climate Change. p. 228. https://opr.ca.gov/docs/OPR_C8_final.pdf.

Table 15 Effective GHG Emission Reduction Target Calculation

Year	Target Description	Effective Reduction Target Calculation	Effective Reduction Below Baseline
1990	15% reduction below Baseline	Baseline x (1- 0.15)	15% reduction below Baseline
2010	Baseline	Baseline	Baseline
2030	40% reduction below 1990	Baseline x (1 - 0.15) x (1 - 0.40)	49% reduction below Baseline
2035	60% reduction below 1990	Baseline x (1 - 0.15) x (1 - 0.60)	66% reduction below Baseline

This pathway establishes the minimum GHG reductions that the City will need to achieve to meet state goals, with a straight-line trajectory of GHG emissions from 2019 to 2030 and then from 2030 to 2045. The recommended interim target GHG reductions of 66% below 2010 levels by 2035 sets a point for monitoring progress on the pathway to carbon neutrality at the General Plan horizon year. The long-term reduction targets are provisional and may need to be adjusted based on the reductions that can realistically be achieved from feasible GHG reduction measures that will be identified during the GHG reduction planning process. The intent of the GGRP Update will be to demonstrate substantial progress toward the long-term State reduction targets. New opportunities are anticipated to emerge that could yield additional reductions beyond those identified in this GGRP Update. Another phase of local GHG reduction planning will be needed to continue and expand the actions in the GGRP Update and to explore new strategies to meet the 2045 GHG reduction goal.

With GHG emission reduction targets in place, the reduction gap that the City will be responsible for through local action can be calculated. The GGRP Update will assess the GHG reduction gap based on the difference between the *legislative adjusted scenario* GHG emissions forecast, discussed previously, and the established GHG reduction targets. Table 16 provides a summary of the GHG emission reduction targets and gap in both mass emissions and per capita emissions metrics. The per capita targets are calculated by dividing forecasted GHG emissions by the expected City population in each target year.

Table 16 Summary of GHG Emission Reduction Targets and Gap Analysis

Metric	2010	2019[6]	2030[3]	2035[4]	2045[5]
Mass Emissions Target and Gap					
Mass Emissions Adjusted Forecast (MT CO_2e)	1,512,713	1,084,854	858,039	746,557	531,203
Mass Emissions Targets (MT CO_2e)[2]	1,512,713	1,084,854	771,484	514,322	0
Remaining Emissions Gap (MT CO_2e)	0	0	86,555	232,235	531,203
Per Capita Emissions Target and Gap					
Population[1]	103,340	105,496	109,686	111,591	115,400
Per Capita Adjusted Forecast (MT CO_2e per capita)	14.6	10.3	7.8	6.7	4.6
Per Capita Targets (MT CO_2e per capita)	14.6	10.3	7.0	4.6	0.0
Remaining Per Capita Emissions Gap (MT CO_2e per capita)	0.0	0.0	0.8	2.1	4.6

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. Population projections from SCAG Connect SoCal. Demographics and Growth Forecast. https://www.connectsocal.org/Documents/Draft/dConnectSoCal_Demographics-And-Growth-Forecast.pdf. Accessed September 22, 2020.

2. These provisional targets are consistent with both SB 32 and a trajectory set forth to achieve EO B-55-18 targets set by the state.

3. SB 32 requires the CARB to ensure that statewide GHG emissions are reduced to 40% below the 1990 level by 2030.

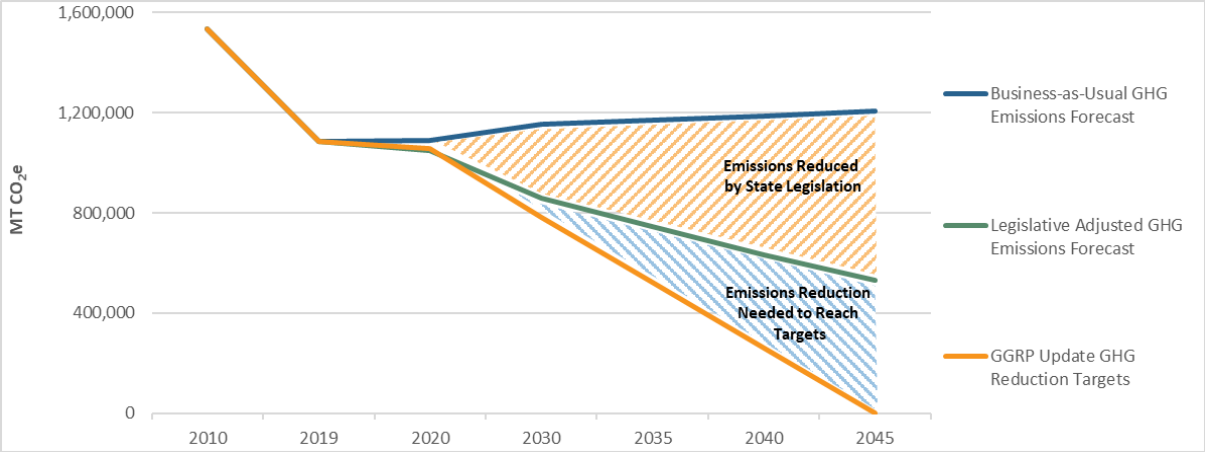
4. Interim target year based on General Plan horizon year.

5. EO-B-55-18 sets a 2045 target of Carbon Neutrality.

6. As of 2019, the City has exceeded the 2020 GHG reduction target of 15% reduction below 2010 GHG emissions levels. The current targets represent updated targets based on SB 32 and EO-B-55-18.

Figure 4 provides a visual representation of past and future GHG emissions, with the impacts of state legislation and the remaining gap the City of Burbank will be responsible for the meet the GHG emission reduction targets.

Figure 4 Past and Future GHG Emissions and Reduction Targets



Meeting the Targets

The 2030, 2035, and 2045 targets identified above will be achieved through a combination of existing state measures and the implementation of local measures that are identified in the Burbank GGRP Update. Local measures were identified through a comprehensive assessment of existing local and regional policies, programs, and actions and by assessing any gaps and identifying additional opportunities. Additional measures were developed from best practices of other similar and neighboring jurisdictions, as well as those recommended by organizations and agencies, such as the California Air Pollution Control Officers Association (CAPCOA), the Office of Planning and Research, CARB's 2017 Scoping Plan, and Association of Environmental Professionals (AEP).

Sincerely,

Rincon Consultants, Inc.

Hannah Mize
Sustainability Project Manager

Erik Feldman, MS, LEED AP
Principal

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DRAFT MEMORANDUM

To: Ms. Hannah Mize Rincon Consultants 180 N Ashwood Ave, Ventura, CA 93003	**From:** Chris Devlin, Senior Engineer Iteris, Inc. 1700 Carnegie Avenue, Ste. 100 Santa Ana, CA 92705

Date: September 3, 2020

RE: City of Burbank Vehicle Miles Traveled (VMT) Estimates

Dear Ms. Mize,

The following memorandum documents the calculation of Year 2019, 2030, 2045 and 2050 Vehicle Miles Traveled (VMT) attributable to the City of Burbank as part of the analysis for the City's Greenhouse Gas (GHG) Inventory.

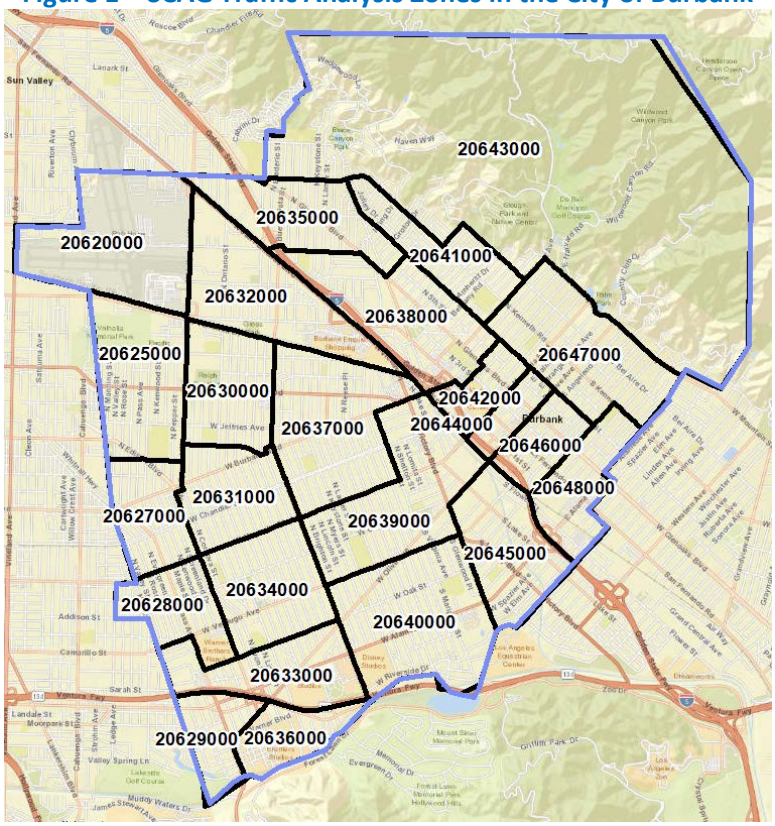
VMT Definition

VMT is calculated by multiplying the number of vehicles by their distance traveled. There are two methods of calculating VMT: link-based VMT and zone-based VMT. Link-based VMT calculates the VMT on each roadway segments aggregated to calculate total VMT within the City. The link-based method of VMT calculation is useful for Noise and Air quality purposes but it does not calculate the total VMT attributable to City residents, businesses and educational facilities since it includes VMT associated with through trips and excludes the portion of the trip that occurs outside of the City. For the purposes of GHG and SB 375 calculations, the zone-based VMT methodology is used as described below.

Zone-Based VMT

A zone-based VMT calculation identifies the total number of trips produced by, or attracted to, a zone (area of the City) and multiplies it by the full length of the trip from its origin to destination. The number of trips and the length of the trip is calculated using a traffic model. For this study, the SCAG Regional Transportation Plan (RTP) model was used. This model generates trips for several trip purposes separately (such as Home to Work, Home to School etc.) which have different characteristics and average trip lengths. The model also generates trips separately by vehicle class (autos and trucks) and time period (AM, Midday, PM, Evening and Nighttime) and aggregates these time periods, vehicle classes and trip purposes to calculate daily VMT. The current SCAG model has scenarios for Existing (Year 2017) and Future (Year 2040) Conditions. The VMT for the analysis years was interpolated or extrapolated from these model two years. The City of Burbank is represented by twenty-four zones known as Traffic Analysis Zones (TAZs) in the SCAG model as shown in **Figure 1**. The SCAG TAZ boundaries are contiguous with the City boundary.

Figure 1 – SCAG Traffic Analysis Zones in the City of Burbank



VMT Calculation

Daily VMT by zone was calculated by multiplying the SCAG origin-destination trip tables by travel distance ("skims") from the model highway assignment for each time period separately. Each time is calculated separately because travel paths between origin and destination (and the resulting VMT) can vary due in congested versus uncongested travel conditions. The time periods were summed together to calculate the daily VMT. Zone-based VMT was calculated for four different categories:

1. Travel wholly within the City boundaries (Internal to Internal)
2. Trips originating within the City but ending outside the City (Internal to External)
3. Trips originating outside the City and ending inside the City (External to Internal)
4. Trips with origins and destinations outside the City (External to External)

	Internal (I)	**External (X)**
Internal (I)	**Internal to Internal (I-I)**	**Internal to External (I-X)**
External (X)	**External to Internal (X-I)**	**External to External (X-X)**

For the purposes of GHG estimation the VMT associated with "External to External" trips are not attributable to the City. By convention only 50 percent of the VMT associated with "Internal to External" and "External to Internal" trips are allocated to the City itself and the other 50 percent allocated to the non-City (or "external") end on the trip.

Table 1 shows the VMT extracted from the SCAG RTP model attributable to the City of Burbank for Years 2019, 2030, 2045 and 2050 after factoring 50 percent for Internal-External and External-Internal Trips. Annual VMT was calculated by multiplying the typical daily VMT from the model by a daily to annual factor 347 which was obtained from SCAG. The current annual VMT attributable to the City is approximately 1.2 billion miles.

Table 1 - Daily VMT Attributable to City of Burbank [1]

		Auto		Light-Heavy Trucks [2]		Medium-Heavy Trucks		Heavy-Heavy Trucks		All VMT			
Year	I/X	I	X	I	X	I	X	I	X	I	X	Total VMT	Annual VMT[3]
2019	I	133,210	1,596,176	1,727	18,342	1,663	16,279	993	51,868	139,431	1,682,665		
	X	1,580,740	-	18,238	-	16,186	-	51,650	-	1,666,814	-	3,488,910	1,210,651,606
2030	I	145,154	1,620,607	1,856	19,541	1,781	17,378	1,067	56,221	149,858	1,713,746		
	X	1,624,988	-	19,490	-	17,308	-	56,052	-	1,717,838	-	3,581,442	1,242,760,415
2045	I	158,936	1,653,921	2,031	21,175	1,942	18,877	1,169	62,156	164,078	1,756,129		
	X	1,685,327	-	21,197	-	18,838	-	62,054	-	1,787,416	-	3,707,623	1,286,545,156
2050	I	163,530	1,665,025	2,089	21,720	1,996	19,376	1,202	64,135	168,818	1,770,257		
	X	1,705,440	-	21,766	-	19,348	-	64,054	-	1,810,609	-	3,749,683	1,301,140,069

Source: SCAG 2016 RTP/SCS Model

Notes

[1] External (X) to Internal (I) and I-X VMT factored by 50 percent

[2] Light Heavy Trucks - 8,500 lbs to 14,000 lbs gross vehicle weight (GVW), Medium Heavy - 14,001 to 33,000 lbs GVW, Heavy-Heavy >33,000 lbs GVW

[3] SCAG Average weekday to annual factor = 347

Table 2 shows the socioeconomic data (SED) assumptions used in the SCAG model for each forecast Year.

Table 2 - Socio-economic data - City of Burbank- Interpolated from SCAG

Category	2019	2030	2045	2050
Population	108,878	122,632	141,387	147,638
Population <65	91,575	99,700	110,779	114,472
Population >65	17,302	22,932	30,608	33,166
Households	44,890	51,565	60,668	63,703
Resident Workers	50,172	57,321	67,070	70,319
Employment	118,463	140,697	171,017	181,123
K-12	18,180	19,356	20,961	21,496
College Students	0	983	2,117	2,495

Table 3 shows the average trip length by vehicle class for the City for each scenario year. Average trip length are forcast to slightly decline in the future forecast years. **Table 4** compares the average trip length for Burbank trips to the SCAG region for 2019. The average trip length for Burbank trips is 10.3 miles Which is almost identical to the average for the SCAG region as as whole which is 10.2 miles per trip. The City of Burbank accounts for approximately 1.7 percent of all trips within the SCAG region and 1.7 percent of VMT.

Table 3 –Average Trip Length In miles

Year	Auto	Light Truck	Medium Truck	Heavy Truck	Average	Trips
2019	10.4	10.7	10.6	23.5	10.3	680,872
2030	9.2	10.7	10.6	23.7	10.0	716,555
2045	7.7	10.6	10.5	23.9	9.7	765,214
2050	7.2	10.6	10.5	24.0	9.6	781,434

Table 4 –2019 Average Trip Length compared to SCAG Region Average

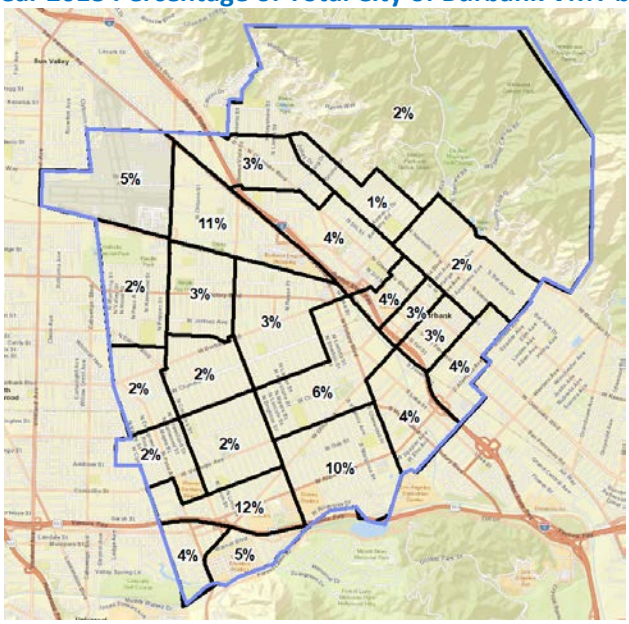
Area	Auto	Light Truck	Medium Truck	Heavy Truck	Average	Total Trips	% all Trips
Burbank	10.4	10.7	10.6	23.5	10.3	680,872	1.7%
SCAG Region	10.2	11.6	10.8	26.5	10.2	40,881,125	100%

Table 5 shows total VMT associated with the twentyfour SCAG TAZs which comprise the City of Burbank. **Figure 2** shows the percentage split of VMT by TAZ for 2019. Three of the twentyfour TAZs generate over 10% of the City's VMT, these are the industrial area TAZ east of the ariport (11%) and the two TAZs representing the studios – Warner Brothers and NBC Studios TAZ (12%) and Disney Studios TAZ (10%). These three TAZs generate a third of all VMT within the City.

Table 5 – Total Daily VMT by TAZ

TAZ	2019	2030	2045	2050
20620000	174,038	151,946	121,819	111,777
20625000	70,427	72,303	74,860	75,713
20627000	64,935	71,206	79,757	82,607
20628000	66,233	73,615	83,683	87,038
20629000	155,538	154,293	152,595	152,029
20630000	102,633	107,266	113,583	115,689
20631000	68,068	82,747	102,764	109,436
20632000	373,785	356,019	331,793	323,718
20633000	406,929	388,668	363,765	355,465
20634000	66,018	74,830	86,846	90,852
20635000	91,818	95,794	101,215	103,023
20636000	184,375	162,493	132,653	122,707
20637000	117,363	134,406	157,648	165,395
20638000	133,036	150,071	173,300	181,044
20639000	221,714	239,919	264,744	273,019
20640000	348,005	355,457	365,619	369,006
20641000	44,476	48,570	54,153	56,014
20642000	146,172	142,751	138,086	136,531
20643000	67,298	71,243	76,622	78,415
20644000	92,381	114,780	145,324	155,506
20645000	151,924	167,415	188,539	195,580
20646000	110,181	134,920	168,655	179,900
20647000	84,111	89,120	95,949	98,226
20648000	147,451	141,612	133,649	130,995
Total	**3,488,910**	**3,581,442**	**3,707,623**	**3,749,683**

Figure 2 – Year 2018 Percentage of Total City of Burbank VMT by SCAG TAZ



Several TAZs show a declining VMT in the future scenarios. The likely reason for this is improved transit service which offset growth in these areas including improved rail service, High-speed rail and the new Burbank Airport North station as well as the future North Hollywood to Pasadena Bus Rapid Transit service (BRT) as shown in **Figure 5**

Figure 4 – TAZs with Declining VMT in Forecast Years

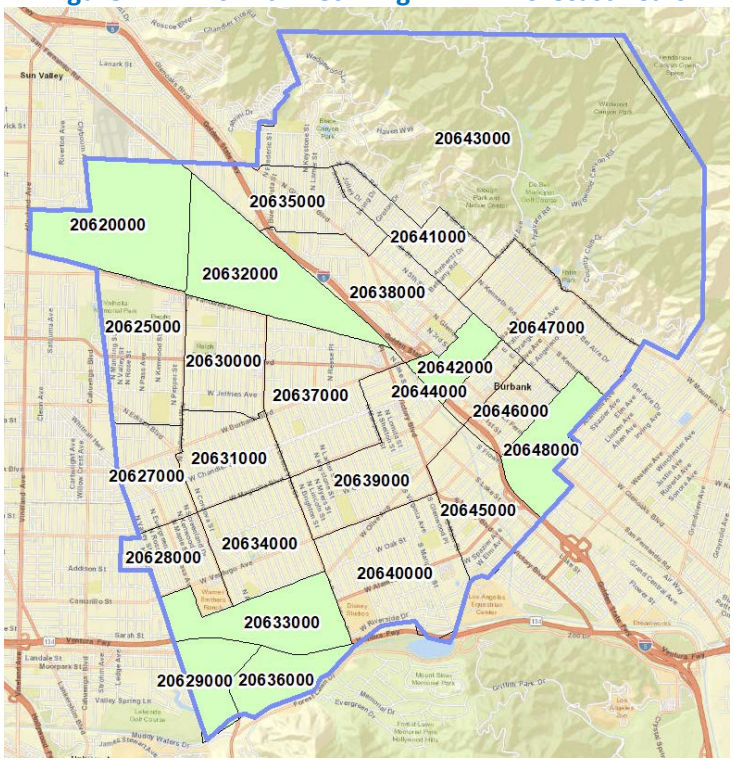


Figure 5 – Rail Stations and NoHo to Pasadena Future BRT Stops

VMT associated with transit trips is not typically included in zone-based VMT calculations since there are multiple trip origins and destination for each bus. Instead link-based VMT was calculated for the transit lines operating within the City of Burbank. Nine existing Metro transit routes traverse the City as shown in **Figure 6**, as well as three Burbank Bus routes shown in **Figure 7**. The link-based VMT associated with bus travel within the City is shown in **Table 5** and is aproximately 760,00 vehicle miles per year.

Figure 6 – Existing Metro Bus Services within the City of Burbank

Figure 7 – Existing Burbank Bus Services within the City of Burbank

Table 5 – Existing VMT for Bus Services within the City of Burbank

Route	Route Miles Within Burbank	Number of Buses [2]				VMT	
		Per Weekday	Saturday	Sunday	Weekly	Weekly	Annual
BBNA	5.50	52	0	0	260	1,430	74,360
BBNM	4.89	37	0	0	185	905	47,042
Pink	3.21	51	0	0	255	819	42,565
92	3.28	63	63	63	441	1,446	75,217
94	5.11	88	94	94	628	3,209	166,872
96	2.52	27	27	27	189	476	24,767
155	4.64	28	28	28	196	909	47,291
169	1.97	32	0	0	160	315	16,390
183	5.26	32	25	25	210	1,105	57,439
222	4.36	40	40	40	280	1,221	63,482
501	3.31	42	42	42	294	973	50,603
794	5.11	68	0	0	340	1,737	90,345
Total	**49.2**	**560**	**319**	**319**	**3,438**	**14,546**	**756,372**

[1] 5x Weekday plus Saturday and Sunday
[2] Pre-Covid-19

Summary

The Baseline annual VMT attributable to the City of Burbank is approximately 1.2 billion miles. Which is around 1.6 percent of the VMT associated with the SCAG Region. Average trip lengths are around the same as the regional average.

Appendix D: Measure Substantial Evidence

Greenhouse Gas Reduction Plan Update

Reduction Measure Substantial Evidence and GHG Reduction Quantification

prepared for

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Tables

1 Introduction

The California Environmental Quality Act (CEQA) Guidelines Section 15183.5(b) establishes criteria to guide the preparation of a "plan for the reduction of greenhouse gas emissions." Subsection (D) notes that a CEQA Guideline-consistent greenhouse gas (GHG) reduction plan (GGRP) must include, "measures or a group of measures, including performance standards, that substantial evidence demonstrates, if implemented on a project-by-project basis, would collectively achieve the specified emissions level." This appendix details the evidence to demonstrate that the Measures and Actions included in the Burbank GGRP Update can achieve the City's emission reduction targets for 2030.

The City of Burbank (City) has established GHG emissions reduction targets which are consistent with California's GHG reduction goals established by Assembly Bill (AB) 32, Senate Bill (SB) 32 and Executive Order (EO) B-55-18. The City established a target that was consistent with the State's AB 32 goal as part of the City's 2013 GGRP, which called for reducing community GHG emissions 15 percent below baseline levels by 2020. After the adoption of the 2013 GGRP, SB 32 was enacted by the State in 2016, establishing a statewide goal of reducing GHG emission to 40 percent below 1990 levels by 2030. Furthermore, in 2018, EO B-55-18 set a long-term goal of statewide carbon neutrality by 2045. To focus efforts on achieving the 2030 and 2045 goals, the City is building upon previous efforts in the 2013 GGRP, to exceed the near-term State GHG reduction goals of reducing emissions an additional 40% below 1990 levels and work towards achieving carbon neutrality by 2045.

To maintain consistency with the targets adopted in the 2013 GGRP, the reduction targets specific to the City are assessed using their 2010 Community GHG Inventory as the baseline for future emission reductions. Accordingly, the City has established targets that assume 1990 levels are 15 percent below the 2010 Community GHG inventory levels, resulting in a GHG reduction target for AB 32 of 15 percent below 2010 levels by 2020, and a target for SB 32 of 49 percent below 1990 levels by 2030.[1] The City has also established a long-term target of carbon neutrality by 2045. Table 1 provides the calculation of the effective emission reduction targets using a 2010 baseline as compared to the targets established by the State through AB 32 and SB 32 using a 1990 baseline.

[1] Pursuant to the California AB 32 Scoping Plan, the City's baseline GHG emissions were estimated and reduced by 15 percent to estimate a 2020 year target. The used a 2010 GHG inventory as their baseline and set a target to reduce emissions from 2010 levels by 15 percent, based on the Governor's Office of Planning and Research (OPR) General Plan Guidelines recommendations. While OPR recommends using a baseline between the years 2005 and 2008, use of a 2010 baseline is considered more conservative as the State's total annual GHG emissions have decreased significantly between 2008 and 2010.
Sources: Governor's Office of Planning and Research. 2017. General Plan Guidelines. Chapter 8. Pg. 228. https://opr.ca.gov/docs/OPR_C8_final.pdf. Accessed May 26, 2021.
California Air Resources Board (CARB). 2020. California Greenhouse Gas Emissions for 2000 to 2018 Trends of Emissions and Other Indicators. https://ww3.arb.ca.gov/cc/inventory/pubs/reports/2000_2018/ghg_inventory_trends_00-18.pdf. Accessed May 26, 2021.

Table 1 Effective GHG Emission Reduction Target Calculation

Year	Target Description	Effective Reduction Target Calculation	Effective Reduction Below Baseline	GHG Emissions Targets (MT CO_2e)
1990	15% reduction below Baseline[1]	Baseline x (1- 0.15)	15% reduction below Baseline	1,285,806
2010	Baseline	Baseline	Baseline	1,512,713
2020	15% reduction below Baseline (AB 32 Target)[2]	Baseline x (1- 0.15)	15% reduction below Baseline	1,285,806
2030	40% reduction below 1990 (SB 32 Target)[3]	Baseline x (1 - 0.15) x (1 - 0.40)	49% reduction below Baseline	771,484
2045	Carbon neutrality (EO B-55-18)[4]	Baseline x 0	100% reduction below Baseline	0

Notes: MT CO_2e = metric tons of carbon dioxide equivalent

1. The 15% reduction below Baseline establishes an estimate of 1990 emission levels for the City. This is based on the Governor's Office of Planning and Research General Plan Guidelines.
2. AB 32 establishes a GHG reduction target of reducing GHG emissions to below 1990 levels by 2020.
3. SB 32 establishes a GHG reduction target of reducing GHG emissions to 40% below 1990 levels by 2030.
4. EO B-55-18 establishes a GHG reduction target of achieving carbon neutrality by 2045.

As of 2019, the City has exceeded its 2020 emission reduction target, having effectively reduced GHG emissions to 28 percent below 2010 levels.

To reach the targets that align with State GHG reduction goals, the City has established GHG emission sector specific GHG reduction goals and foundational actions (Measures and Actions). Each of the Measures is designed to mitigate GHG emissions associated with a specific sector. The GHG reductions were calculated using published third-party evidence provided through controlled investigations, studies, and articles carried out by qualified experts that establish the effectiveness for Measures and Actions. Further, the Measures and Actions were developed to achieve the 2030 target and make substantial progress towards the 2045 target. The estimates and underlying calculations provided in this report include the substantial evidence and a transparent approach to achieving the City's GHG emissions reduction target.

The City partnered with Rincon Consultants Inc. (Rincon) to identify a quantified path to achieving these goals. Rincon worked closely with City staff, stakeholders, and the community to craft and refine comprehensive, realistic, and achievable Measures and Actions that can meet or exceed the GHG reduction targets while reflecting the conditions and character of the Burbank community. The quantification in this report is intended to illustrate one of several viable paths to pursue as the Measures and Actions of the GGRP Update are implemented at full scale. As required in CEQA Guidelines Section 15183.5(b)(e), mechanisms to monitor the GRRP Update's progress toward achieving the GHG emission reductions provided in this report have been established through the GGRP Update development process. If, based on the tracking of community GHG emissions, the City is found to not be on target to reach the GHG reduction levels specified here for meeting SB 32 targets, the GGRP as a whole or specific Measures and Actions will be amended and revisions to the current GGRP Update will be prepared that includes altered or additional Measures and Actions and evidence that upon implementation will achieve the City's targets.

The quantification in this report also provides substantial evidence that the City can achieve consistency with SB 32's target of 40% below 1990 levels by 2030 (or 49% below 2010 levels)

Measures are summarized by specific sector Strategies, as outlined in Table 2.

Table 2 GGRP Update Measures and Associated Emission Reductions

Strategy	Measure		GHG Emissions Reduction Contribution
Cornerstone	C-1.1	Lead by example by focusing on equity constraints associated with existing building electrification by leveraging BWP's operations and efficiency programs to develop an Affordable Housing Electrification Program to lead Burbank's electrification targets through retrofitting low-income and affordable housing units in Burbank to all electric, retrofitting 100 affordable housing units by 2030 and all 320 affordable housing units owned by Burbank Housing Corporation in the City by 2045.	2030: 90 MT CO_2e 2045: 591 MT CO_2e
Building Energy and Efficiency	BE-1.1	Electrify 100% of new construction in the City by 2023.	2030: 5,631 MT CO_2e 2045: 17,603 MT CO_2e
	BE-1.2	Leverage BWPs marketing programs to convert 3,000 residential and 170 commercial natural gas-fueled HVAC and water heating units in existing private buildings to electric heat pumps by 2030, and 10,000 residential and 560 commercial units by 2045.	2030: 6,867 MT CO_2e 2045: 46,352 MT CO_2e
	BE-1.3	Continue to increase building energy efficiency through BWP's rebate and incentive programs to reduce annual customer energy use by a collective 63 GWh by 2030.	2030: 17,549 MT CO_2e 2045: Not Quantified
Electricity Generation	EG-1.1	Goal to achieve 100% GHG-neutral electricity generation by 2040.	2030: Not Quantified 2045: Not Quantified
Reduce Passenger Car Vehicle Miles Traveled	T-1.1	Implement the Complete Our Streets Plan, increasing active transportation mode share 2% by 2030 and 3% by 2045.	2030: 941 MT CO_2e 2045: 1,566 MT CO_2e
	T-1.2	Provide clean, abundant, affordable, and accessible public transit, with a zero-emissions bus fleet by 2040.	2030: Not Quantified 2045: Not Quantified
Transportation Demand Management	T-2.1	Continue Transportation Management Organization (TMO) Expansion, reaching 60% of employers by 2030 and 90% by 2045.	2030: Supportive 2045: Supportive
	T-2.2	Strengthen the TMO program and ordinance to increase compliance with the City's 1.61 Average Vehicle Ridership (AVR) Goal to reduce employees commuting to Burbank via single occupancy vehicle. Require 30% of TMO businesses achieve the 1.61 AVR target by 2030, and 60% by 2045.	2030: 7,682 MT CO_2e 2045: 8,759 MT CO_2e

Strategy	Measure		GHG Emissions Reduction Contribution
Zero-Emission Vehicles	T-3.1	Increase zero-emission vehicle adoption to 23% of all passenger vehicles by 2030 and 100% by 2045.	2030: 38,179 MT CO_2e 2045: 238,989 MT CO_2e
Parking	T-4.1	Implement Parking Management as identified in the Burbank2035 General Plan Mobility Element and the City Council's Six Parking Management Principles.	2030: 968 MT CO_2e 2045: 7,334 MT CO_2e
Water-Energy Nexus	W-1.1	Reduce per capita water consumption from current levels of 132 GPCD (gallons per capita per day) to 124 GPCD by 2030 (a 6.1% reduction) and to 120.5 GPCD by 2045 (an 8.7% reduction).	2030: 405 MT CO_2e 2045: Not Quantified
Organic Waste Diversion	SW-1.1	Meet SB 1383 organics and recycling requirements, reducing organic waste disposal 75% by 2025.	2030: 11,040 MT CO_2e 2045: 11,692 MT CO_2e
Carbon Sequestration	CS-1.1	Plant 2,000 net new trees by 2030 and 5,000 net new trees by 2045 to sequestrator carbon and create urban shade to reduce the urban heat island effect.	2030: 71 MT CO_2e 2045: 177 MT CO_2e
City Government Action	CG-1.1	Complete annual progress reporting and a triennial GGRP review and update.	2030: Supportive 2045: Supportive
	CG-1.2	Retrofit all City Streetlights and Outdoor Lighting at City facilities to Light-Emitting Diode (LED) by 2030.	2030: 953 MT CO_2e 2045: Not Quantified
	CG-1.3	Electrify 25% of existing City facilities by 2030 and 100% of existing City facilities, where electrification is practical and feasible, by 2045, as well as all newly constructed City buildings.	2030: 88 MT CO_2e 2045: 722 MT CO_2e
	CG-1.4	Implement a flexible employee commute program, with a target of having 25% of applicable City employee staff time utilizing telecommuting by 2030.	2030: 181 MT CO_2e 2045: 157 MT CO_2e
Total			**2030: 90,347 MT CO_2e** **2045: 333,943 MT CO_2e**

Under each of the above Measures are a number of Actions that provide mechanisms and support necessary to implement each Measure.

1.1 Greenhouse Gas Emissions Reduction from Measures and Actions

This report presents the supportive evidence for the GHG reduction pathway to achieve the City's fair share of GHG emissions reduction necessary to support the State's achievement of the SB 32 GHG

reduction goal and provide substantial progress to achieve the 2045 goal of carbon neutrality. The reduction Measures and Actions reflect local policy and document industry best practices towards decarbonization. The emissions reduction from the Actions are calculated individually to identify the total GHG reduction associated with each. Some Measures and Actions provide minimal or non-quantifiable GHG emissions reduction or don't have sufficient evidence to support a reduction calculation; however, they support the implementation and sustainability of the Measure and overall GGRP itself through education, teaming with the community, promoting equity, identifying funding, evaluating feasibility, and increasing resilience to the impacts of climate. These Measures and Actions are considered *supportive*. The supportive Measures include T-2.1, and CG-1.1. Additionally, there are some Measures that have GHG reduction potential but GHG emissions reduction have not been quantified, which are denoted as *not quantified*. These Measures have not been quantified due to either a either a lack of relevant and available data to support substantial evidence for GHG emissions quantification, or the emissions reduction occurs in a year that is not one of the target years (2030 or 2045) and there is risk of double counting the emissions reductions in the target years. Measure that have not quantified emissions reduction include: EG-1.1, T-1.2, W-1.1, and CG-1.2. A summary of the expected GHG emissions reduction from each of the quantifiable Measures in 2030 and 2045 are provided Table 3.

Table 3 Summary of GHG Emissions Reduction from GGRP Update Measures

Measure	2030 Emissions Reduction (MT CO_2e)	2045 Emissions Reduction (MT CO_2e)
Cornerstone 1.1 (C-1.1)	90	591
Building Energy 1.1 (BE-1.1)	5,631	17,603
Building Energy 1.2 (BE-1.2)	6,847	46,352
Building Energy 1.3 (BE-1.3)	17,549	Not Quantified
Electricity Generation 1.1 (EG-1.1)	Not Quantified	Not Quantified
Transportation 1.1 (T-1.1)	941	1,566
Transportation 1.2 (T-1.2)	Not Quantified	Not Quantified
Transportation 2.1 (T-2.1)	Supportive	Supportive
Transportation 2.1 (T-2.2)	7,682	8,759
Transportation 3.1 (T-3.1)	38,179	238,989
Transportation 4.1 (T-4.1)	689	7,334
Water 1.1 (W-1.1)	405	Not Quantified
Solid Waste 1.1 (SW-1.1)	11,040	11,692
Carbon Sequestration 1.1 (CS-1.1)	71	177
City Government 1.1 (GC-1.1)	Supportive	Supportive
City Government 1.2 (CG-1.2)	953	Not Quantified
City Government 1.3 (CG-1.3)	88	722
City Government 1.4 (CG-1.4)	181	157
Total Reduction from Measures	**90,347**	**333,943**

Notes: MT CO_2e = metric tons of carbon dioxide equivalent.

Measure EG-1.1, W-1.1, and CG-1.2 have no emissions reduction potential for 2045, as these measure related specifically to GHG emissions generated by electricity consumption, which is expected to be carbon-neutral by 2045 per the requirements of Senate Bill 100.

To assess the magnitude of GHG emissions reduction needed to contribute a fair share GHG emissions reduction towards achieving the State's goal for 2030 (40% below 1990 levels) and 2045 (carbon neutrality), the City developed a *business-as-usual scenario* GHG emissions forecast which assessed the impact of future population growth on the City's GHG emissions. From the *business-as-usual scenario*, a *legislative adjusted scenario* was developed which accounts for the impacts of State and federal policies on GHG emissions. The difference between the business-as-usual and legislative adjusted scenarios was used to calculate the GHG emissions reduction the City would be responsible for to meet its emissions reduction targets.[2] The combined annual reductions from existing State and federal law is expected to result in a reduction of 295,896 metric tons of carbon dioxide equivalent (MT CO_2e) by 2030 and 674,026 MT CO_2e by 2045. The combined local reductions from the Measures and Actions would result in a reduction of 90,347 MT CO_2e in 2030 and 333,943 MT CO_2e in 2045. In reference to the GHG reduction targets established using the 2010 Community GHG Inventory, conducted as part of the 2013 GGRP, this results in a total 745,021 MT CO_2e, or 49 percent, reduction below the 2010 baseline in 2030, and an 1,315,452 MT CO_2e, or 87 percent, reduction below the baseline projected in 2045. When translating this information to the reductions necessary to meet the State targets

[2] The City has identified targets for 2030 (40% below 1990 levels) and 2045 (carbon neutrality) that are consistent with the State's goals and are intended to establish a level, based on substantial evidence, below which the contribution to GHG emissions from activities covered by this GGRP Update would not be cumulatively considerable

established by SB 32 (i.e., 40 percent reduction in GHG emissions below 1990 levels) the total GHG emission reductions are anticipated to exceed it by 3,792 MT CO_2e. The GHG emissions forecast scenarios, targets, and emissions reductions attained from the Measures are provided in Table 4.

Table 4 GHG Emissions Forecasts, Reduction Targets, and Impact of Measures

GHG Emissions Scenario	2030 (MT CO_2e)	2045 (MT CO_2e)
Business-as-Usual Scenario Forecast[1]	1,153,935	1,205,229
Reductions from Current Legislation	*295,896*	*674,026*
Legislative Adjusted Scenario Forecast[1]	858,039	531,203
Reductions from Measures	*90,347*	*333,943*
Targets (SB 32 and Carbon Neutrality)[1]	771,484	0
GHG Emissions after Reductions from Measures	767,692	197,261
Remaining Gap to Meet Targets	**Target Met (-3,792)**	**197,261[2]**
Percent Reduction Below Baseline (2010)	**49%**	**87%**
Percent Reduction Below 1990	**40%**	**85%**

Notes: MT CO_2e = metric tons of carbon dioxide equivalent

1. See Appendix C of the GGRP Update for the methodology and details for establishing the forecast scenarios and the reduction targets.

2. The emissions reductions required to meet the 2045 goal will be addressed in future iterations of the GGRP through new and potentially unknown technologies that allow furthering of the following efforts: full electrification of building and transportation systems, an increased shift to shared and active mobility, and increased waste reduction and diversion

The remaining gap to reach carbon neutrality in 2045 remains at 197,261 MT CO_2e. While the Measures and Actions identified in this GGRP Update will lead to significant progress in reducing in GHG emissions towards achieving net carbon neutrality, achieving the 2045 goal will require additional changes to the technology, legislation and systems currently in place at both the State and local level and will require further policies and programs that build on this plan. Future GGRP updates will outline new measures needed to reach the ultimate target of carbon neutrality every five years after adoption of the GGRP Update.[3]

With implementation of the Measures and Actions in the GGRP Update, the 2030 State goals can be reasonably achieved through local actions and substantial progress towards reaching the long-term goal of carbon neutrality can be demonstrated. While the GGRP Update does not provide the GHG emissions reduction to achieve carbon neutrality by 2045, it provides evidence-based actions the City can take towards eventually attaining this target, and includes a schedule for regular updates to the GGRP at a five year interval to allow for incorporation of new strategies that reflect updates to technology and legislation that could contribute to achieving carbon neutrality. It also illustrates the that reaching carbon neutrality will require significant additional effort and support from the state and federal governments.

[33] Consistent with AEP Climate Change Committee recommendations, SB 32 is considered an interim target toward meeting the 2045 State goal. Consistency with SB 32 is considered to be contributing substantial progress toward meeting the State's long-term 2045 goals. Avoiding interference with, and making substantial progress toward, these long-term State targets is important as these targets have been set at levels that achieve California's fair share of international emissions reduction targets that will stabilize global climate change effects and avoid the adverse environmental consequences described under Section 3.1.3, *Potential Effects of Climate Change* (Executive Order B-55-18).

1.2 Greenhouse Gas Emissions Reduction Calculation Methodology

The analysis and emissions reduction calculations for each of the Measures of the GGRP Update outlined in the following pages includes:

- Description of background behind the Measure and the basis for GHG emissions reduction.
- Description of the methodology and assumptions for calculating GHG emissions reduction for applicable Measures and Actions, including reference to data sources.
- A summary of the GHG reduction impact results of GHG emissions reduction calculations.
- Summary table of the impact that the specific Measure has on the overall GHG profile of the City in 2030 and 2045.

GHG emissions reduction calculations use conservative values to avoid over-representing the GHG emissions reduction potential for any individual Action or Measure. Special care has been taken to avoid double counting GHG emissions reduction for Measures and Actions.

Limitations and uncertainties regarding future trends in technology, behavior, and social norms are discussed in the final section of this analysis. Given time and the increasing shifts in financial markets, private industry, and governmental programs towards carbon reduction programs, these shifts will help to close the gap between Burbank's projected GHG reductions and carbon neutrality. These developments would be considered in future regular updates to the plan.

2 Greenhouse Gas Emissions Reduction

As mentioned above, the Actions and Measures are summarized by the overarching GHG reduction Strategies, which include:

- Cornerstone
- Building Energy
- Energy Generation
- Reduce Passenger Car Vehicle Miles Traveled
- Transportation Demand Management
- Zero-Emission Vehicles
- Parking
- Water-Energy Nexus
- Organic Waste Diversion
- Carbon Sequestration
- City Government Leadership

This document is summarized similarly and the substantial evidence for each quantifiable Measure and Action is detailed below.

2.1 Cornerstone

Measure C-1.1 Lead by example by focusing on equity constraints associated with existing building electrification by leveraging BWP's operations and efficiency programs to develop an Affordable Housing Electrification Program to lead Burbank's electrification targets through retrofitting low-income and affordable housing units in Burbank to all electric, retrofitting 100 affordable housing units by 2030 and all 320 affordable housing units owned by Burbank Housing Corporation in the City by 2045.

Connection to Cornerstone Pillars

The Cornerstone Measure represents a unique GHG reduction Measure that is specific to and a focus of pride for the community and clearly illustrates the six pillars that facilitate transformational change by engaging the community and fulfilling GHG emissions reduction goals. The six pillars of a well-designed GHG reduction strategy include:

- **Education**: engage and empower residents
- **Structural Change**: establish policy framework to support proposed changes
- **Associated GHG Reductions**: target emissions reduction for long-term sustainability and short-term air quality improvements
- **Equity**: provide for inclusive participation in decision making
- **Connectivity**: promote access to community resources

- **Economical**: cost-effective efforts that benefit resilience and sustainability

Measure C-1.1 embodies these ideas, maximizing the benefits associated with having Burbank Water and Power (BWP) and Burbank Housing Corporation to lead by example by focusing modernization and decarbonization of disadvantage housing. This measure works to establish a program that provides clean and safe energy to residents in low-income and affordable housing units, breaking down the **equity** barriers that inhibit the most vulnerable community members from having safe and comfortable housing that can be found in all-electric homes. The program first works towards establishing **connectivity and education** by partnering with the Burbank Housing Corporation and exploring opportunities with other non-profit groups for installation of solar photovoltaic (PV) energy generation at low-income housing units, in addition to providing workforce training. The **structural change** aspect of this measure is the establishment of a policy that will fund the transition away from fossil fuels by electrifying buildings, which also has associated **reductions in GHG emissions**. Lastly, building electrification is proven to be **economical** for building occupants, because it will be partially funded through a BWP program and not add costs to Burbank Housing Corporation Residents that could result from the passing of costs of retrofits performed by private property owners.[4]

Background

Equity is the primary driver of Measure C-1.1 and the associated Actions by creating a mechanism to include low-income families in the health and resilience benefits that can be achieved through retrofitting housing units to be all-electric, without passing the costs of retrofits on to economically disadvantaged residents through increased rental fees. There are numerous benefits to building electrification, including: reduced exposure to harmful indoor air pollutants from the combustion of natural gas in poorly ventilated rooms,[5] increased resilience to extreme weather events with cost-effective space heating and air conditioning,[6] and protection from energy bill burdens that are expected from future increases in natural gas prices.[7] These issues are of specific concern to low-income and disadvantaged communities, and the City has a unique opportunity to increase equitable access to the benefits of electrification .

The City of Burbank currently provides affordable housing through partnership with the non-profit Burbank Housing Corporation, which owns and operates approximately 320 affordable housing units within the City.[8] The majority of these units are medium to high-density residential units built or renovated around the year 2006. With most of these units being around 15 years old, it presents an opportunity to perform upgrades to the water and space heating, as well as the cooking appliances that are likely near their end of life. Replacing this equipment with new and efficient all-electric versions contributes to on-bill energy savings, since electric heat-pumps used for water and space heating have up to 400 percent efficiency.[9] This reduction in energy bill burden can help low-income

[4] Gridworks. 2019. California's Gas System in Transition. https://gridworks.org/wp-content/uploads/2019/09/GW_Calif-Gas-System-report-1.pdf. Accessed March 8, 2021.

[5] Weiwei Lin, Bert Brunekreef, Ulrike Gehring. International Journal of Epidemiology, Volume 42, Issue 6, December 2013, Pages 1724–1737, https://doi.org/10.1093/ije/dyt150.

[6] Evan Gillespie. 2020. Sierra Club. Electrification and California's Climate Emergency: Heat Wave Edition. https://www.sierraclub.org/articles/2020/09/electrification-and-california-s-climate-emergency-heat-wave-edition. Accessed March 8, 2021.

[7] Gridworks. 2019. California's Gas System in Transition. https://gridworks.org/wp-content/uploads/2019/09/GW_Calif-Gas-System-report-1.pdf. Accessed March 8, 2021.

[8] City of Burbank. 2020. Housing Authority of the City of Burbank AB 987 Affordable Housing Database. https://www.burbankca.gov/home/showpublisheddocument?id=56083. Accessed March 8, 2021.
Burbank Housing Corporation owned housing units are categorized under "Rehabilitated and New Rentals Housing".

[9] Dennis, Keith. 2015. Environmentally Beneficial Electrification: Electricity as the End-Use Option. The Electricity Journal. 28(9). pp. 100-112. https://doi.org/10.1016/j.tej.2015.09.019.

households maintain equitable access energy when energy needs for space heating and cooling are high. In addition to the reduction in energy bills, with the conversion to all-electric, these housing units will have decreasing GHG emissions associated with their energy use over time as electricity provided by BWP will become increasingly renewable and GHG-neutral sources, with the goal of eventually becoming GHG-neutral in 2040 (Measure EG-1.1).

The conversion of units to all-electric can be aligned to fit into the scheduled improvements of affordable housing units by providing resources, including discounted electric equipment and appliances, and technical assistance with electrical panel upgrades (Action C-1.1.c). Furthering this effort to include more affordable housing units will require investigation into the costs associated with equipment replacement and upgrades to electric panels and circuits (Action C-1.1.d). This assessment will provide a cost estimate to inform a pilot project for retrofitting an entire building of affordable housing units. (Action C-1.1.f).

Measure C-1.1 also aims to further the reach of existing building electrification into all 320 units owned by the Burbank Housing Corporation to set in motion the pathway towards carbon neutrality by 2045. A significant challenge of reaching this long-term goal will be removing fossil fuels from all buildings in the next 24 years. As part of Measure C-1.1, BWP will expand its current low-income Refrigerator Exchange Program to include heat-pump water heaters and heating, ventilation, and air conditioning (HVAC) units (Action C-1.1.a). This will help low-income residents to receive the benefits of highly efficient electric equipment in their homes when they may not otherwise have the initial capital to make the upgrades. BWP will also explore funding mechanisms, such as tariffed on-bill financing or utilizing some of the increased revenues from electrification adoption, to provide renters and home and building owners with assistance in financing or covering a portion of the cost of appliance and electrical panel and wiring upgrades (Actions C-1.1.i and C-1.1.j). Furthering this effort in the longer term (2030 and beyond), will be the identification of a pilot project for electrification of a complete neighborhood/block of buildings comprised of low-income and affordable housing units. This type of larger scale project allows opportunities for cost savings in bulk equipment purchases and electrical system upgrades, as well as potential for natural gas infrastructure pruning.[10]

Methodology and Assumptions

The GHG emissions reduction impact of Measure C-1.1 results from the reduced reliance on natural gas in the community. The emissions reduction associated with Measures C-1.1 for the year 2030 result primarily from the implementation of Actions C-1.1.c and C-1.1.f; however, the success of this Action is dependent on implementation of Action C-1.1.d. These GHG reductions are from electrification of affordable housing units under the ownership of the Burbank Housing Corporation. The emissions reduction for the year 2045 account for the electrification of all current affordable housing units owned by the Burbank Housing Corporation, which is 320 units.[11]

The target number of homes to be retrofit to become all-electric by 2030 is 100 units, which is based on the replacement cycle of typical home appliances and an effort by BWP to retrofit an entire building

[10] Natural gas infrastructure pruning is a process for cutting off the flow of natural gas to a block of buildings. The majority of costs of natural gas service for ratepayers is comprised of the cost of maintaining natural infrastructure. As electrification of buildings continues, reducing the amount of natural gas infrastructure that must be maintained can help reduce the overall cost of natural gas service to customers. The electrification of larger areas allows for less stranded natural gas assets that will continue to need maintenance into the future. Source: Gridworks. 2019. California's Gas System in Transition. https://gridworks.org/wp-content/uploads/2019/09/GW_Calif-Gas-System-report-1.pdf. Accessed March 8, 2021.

[11] City of Burbank. 2020. Housing Authority of the City of Burbank AB 987 Affordable Housing Database. https://www.burbankca.gov/home/showpublisheddocument?id=56083. Accessed March 8, 2021.
Burbank Housing Corporation owned housing units are categorized under "Rehabilitated and New Rentals Housing".

of affordable housing units. Of the approximately 320 affordable housing units owned or operated by Burbank Housing Corporation, 259 were built or last modified after 2008. The 2018 U.S. Energy Information Administration (EIA) report, *Updated Buildings Sector Appliance and Equipment Cost and Efficiencies*, provides the average lifespans of various equipment types, showing that residential gas fired furnaces, water heaters, and stoves/cook tops have an average lifespan of 21.5, 13, and 12 years, respectively[12]. Accordingly, it is expected that nearly all of these 259 units will have been constructed or last renovated over 22 years prior to 2030 and will likely need to have full replacement of natural gas fueled appliances. Given that it will take some time to establish the partnerships and funding mechanisms for providing electric appliances and technical assistance with electric conversions, it is unlikely that all of these units will be converted to all-electric by 2030 and 88 units are conservatively assumed to be retrofit under Action C-1.1.c. Additionally, the implementation of an electrification pilot project that targets an entire building of affordable housing units would be expected to convert an additional 12 units to all-electric by 2030 under Action C-1.1.f.[13]

GHG emissions reduction are calculated by assuming that each housing unit converted will no longer combust natural gas for end-uses, and the energy needed to fuel these end uses will be converted to all-electric. This increased electricity consumption is accounted for by converting the estimated natural gas consumption for each unit to the electrical equivalent, but accounting for increased efficiency that is gained from the use of electric heat pumps for water heating and HVAC.[14,15] Since the household natural gas use is primarily consumed by water heating and HVAC, and it is not likely that affordable and low-income housing units will have high natural gas consumption from end uses such as pool heating, it is appropriate to use this efficiency increase for the total estimated natural gas consumption for these units. The increase in electricity consumption from the conversion to all electric equipment will generate GHG emissions, partially offsetting the emissions reduction for reduced reliance on natural gas.

Based on the 2019 Community GHG Inventory, it is estimated that each housing unit in Burbank consumes 348 therms of natural gas annually.[16] This natural gas generates GHG emissions at a rate of 0.005313 metric tons of carbon dioxide equivalent (MT CO_2e) per therm.[17] The substitution of this energy consumption with electric is expected to generate GHG emissions at a rate of 0.000279 MT CO_2e per kilowatt-hour (kWh) in 2030 and 0 MT CO_2e per kWh in 2045, accounting for increase renewable and GHG-free electricity procurement associated with SB 100 and implementation of Measure EG-1.1, which aims for carbon neutral electricty by 2040.[18] The calculation of the GHG emissions reduction potential of Measures C-1.1 is provided below in Table 5.

[12] EIA. 2020. Annual Energy Outlook. Table 21. Residential Sector Equipment Stock and Efficiency, and Distributed Generation. https://www.eia.gov/outlooks/aeo/data/browser/#/?id=30-AEO2020&cases=ref2020&sourcekey=0. Accessed May 25th, 2020.

[13] The average size of a multi-family affordable housing unit building (greater than two units) under ownership or management of Burbank Housing Corporation is 12 units. Source: City of Burbank. 2020. Housing Authority of the City of Burbank AB 987 Affordable Housing Database. https://www.burbankca.gov/home/showpublisheddocument?id=56083. Accessed March 8, 2021.
Burbank Housing Corporation owned housing units are categorized under "Rehabilitated and New Rentals Housing".

[14] 29.3 kWh = 1 therm. Source: https://www.metric-conversions.org/energy-and-power/therms-us-to-kilowatt-hours.htm. Accessed March 8, 2021.

[15] Dennis, Keith. 2015. Environmentally Beneficial Electrification: Electricity as the End-Use Option. The Electricity Journal. 28(9). pp. 100-112. https://doi.org/10.1016/j.tej.2015.09.019. Accessed March 8, 2021.

[16] 2019 Community GHG Inventory. See Appendix C of the GGRP Update.

[17] United States Environmental Protections Agency. 2020. Emission Factors for Greenhouse Gas Inventories. Table 1. https://www.epa.gov/sites/production/files/2020-04/documents/ghg-emission-factors-hub.pdf. Accessed March 8, 2021.

[18] Legislative Adjusted GHG Emissions Forecast. See Appendix C of the GGRP Update.

Table 5 Measure C-1.1 GHG Emissions Reduction Calculations (Actions C-1.1.c and C-1.1.f)

Calculation Factor	2030	2045
Baseline Natural Gas Consumption from 2019 Inventory (therms/household) [1]	348	348
Natural Gas Emission Factor (MT CO_2e/therm) [2]	0.00531	0.00531
Total number of affordable housing/ low-income households addressed under measure	100	320
Natural Gas GHG Emissions Avoided (MT CO_2e)	185	591
Resulting Increase in Electricity Consumption (kWh) [3,4]	339,790	1,087,328
Electricity Emission Factor Adjusted for SB 100 (MT CO_2e/kWh) [5]	0.000279	0
Additional GHG Emissions from Increased Electricity Consumption (MT CO_2e)	95	0
Total GHG Emissions Reductions (MT CO_2e)	**90**	**591**

Notes: MT CO_2e = metric tons of carbon dioxide; kWh =-kilowatt-hour

1. 2019 Community GHG Inventory. See Appendix C of the GGRP Update.

2. United States Environmental Protections Agency. 2020. Emission Factors for Greenhouse Gas Inventories. Table 1. https://www.epa.gov/sites/production/files/2020-04/documents/ghg-emission-factors-hub.pdf. Accessed March 8, 2021.

3. 29.3 kWh = 1 therm. Source: https://www.metric-conversions.org/energy-and-power/therms-us-to-kilowatt-hours.htm. Accessed March 8, 2021.

4. Dennis, Keith. 2015. Environmentally Beneficial Electrification: Electricity as the End-Use Option. The Electricity Journal. 28(9). pp. 100-112. https://doi.org/10.1016/j.tej.2015.09.019. Accessed March 8, 2021.

5. Legislative Adjusted GHG Emissions Forecast. See Appendix C of the GGRP Update.

*Values may not add up due to rounding

Results

Measure C-1.1 would result in a reduction of 90 MT CO_2e in 2030 and 591 MT CO_2e in 2045, as shown in Table 6.

Table 6 GHG Emissions Reduction Associated with Measure C-1.1

Action ID	Actions	Emissions Reduction (MT CO_2e) 2030	2045
C-1.1.a	Expand upon BWP's low-income Refrigerator Exchange Program by identifying funding to provide electric heat-pump water heaters and HVAC units to low-income households.	Supportive	
C-1.1.b	Explore a partnership with non-profit organizations, such as GRID Alternatives, to implement a low-income solar installation program, which includes a workforce installation training program for groups not typically represented in the solar workforce.	Supportive	
C-1.1.c	Establish a program with Burbank Housing Corporation to provide discounted electric appliances and equipment, as well as technical assistance with installation and electrical panel and circuit upgrades for retrofits and time of replacement upgrades of appliances and equipment in affordable housing units.	90	591
C-1.1.d	Partner with Burbank Housing Corporation to perform an electrification needs and existing building retrofit cost assessment for all affordable housing units owned and managed by the Burbank Housing Corporation to identify an electrification retrofit pilot project that includes retrofitting of an entire building of affordable housing units.	Supportive	
C-1.1.e	Conduct targeted outreach to low-income housing developments to engage building owners, building managers, landlords and residents to communicate benefits of electrification, discuss potential for retrofitting buildings, gain buy-in from community members, and providing education and trainings on incentives, technical requirements, and available resources.	Supportive	
C-1.1.f	Implement a pilot project for retrofitting of an entire building of affordable housing units, as determined feasible with Action C-1.1.d	Reductions Combined with Action C-1.1.c	
C-1.1.g	Perform an existing buildings analysis specifically targeted towards low-income neighborhoods to identify neighborhoods or building blocks for larger-scale electrification projects in partnership with BWP.	Supportive	
C-1.1.h	Identify and implement a pilot project for electrification of a complete neighborhood composed of low-income and affordable housing, including energy bill protections in case energy bills exceed costs to residents prior to project implementation and pursuing opportunities for natural gas infrastructure pruning.	Supportive	
C-1.1.i	Develop a tariffed on-bill financing program or other incentive program to allow for equitable electrification of buildings within BWP service area.	Supportive	
C-1.1.j	Evaluate opportunities to provide technical and financial assistance to low-income property owners and low-income homeowners looking to electrify.	Supportive	

2.2 Building Energy

Measure BE-1.1 Electrify 100% of new construction in the City by 2023.

Connection to Cornerstone Pillars

The intent of Measure BE-1.1 is to influence **structural change** by reducing reliance on fossil fuels in new construction by requiring all new construction in the City to be all-electric. Action BE-1.1.a, the adoption of an Electrification Reach Code, is the primary action for imparting this change, which carries

substantial GHG emissions reduction that are **economical** for the City, builders and residents.[19] This action also strives to promote **equity** by ensuring new low-income housing protects residents from energy bill burdens, which are likely to occur with projected future increases in the cost of natural gas service.[20] Action BE-1.1.e serves to promote **connectivity** by connecting local building industry stakeholders with non-profit groups, such as Building Decarbonization Coalition, during the reach code development process. Lastly, **education** is key to the implementation of Measure BE-1.1, which is addressed by providing technical resources to installers and building owners/operators under Action BE-1.1.c, providing education and demonstrations of cooking with electric appliances under Action BE-1.1.b, and promoting the cost and environmental benefits of electrification through the City's webpage and permit counter under Action BE-1.1.d.

Background

To reach carbon neutrality by 2045, the majority of the buildings in the City, including those that have not yet been constructed, will need to be carbon neutral. Natural gas combustion for heating and cooking in commercial and residential buildings currently contributes nearly 13 percent of the City's total GHG emissions.[21] By transitioning buildings from the consumption of natural gas to electricity, emissions from this source can be reduced through SB 100 requirements for increased renewable electricity and the associated GHG emissions. A variety of studies have found that electrification of buildings, combined with renewable power generation is a potential path towards reaching carbon neutrality.[22] Additionally, the benefits in annual utility bill savings and decreased cost associated with piping of natural gas into new construction makes all-electric buildings more cost effective in some California Building Climate Zones; including, Zone 9, where Burbank is located.[23,24] As of February 2021, over 40 California cities have adopted building codes that reduce reliance on natural gas.[25]

Methodology and Assumptions

Action BE-1.1.a, the adoption of an Electrification Reach Code, eliminating the piping of natural gas in new buildings and accessory dwelling units, would result in all of the emissions reduction associated with Measure BE-1.1 by transitioning the energy consumption of any new construction to electricity. All other Actions under Measure BE-1.1 would incrementally support the overall goal of the Measure. Adoption of the Electrification Reach Code by 2023 would align with the California Building Code three-year cycle, stopping growth of natural gas consumption from new construction after 2023. The amount of future new development that will occur in the City is evaluated based on increases in employment

[19] All-electric new construction in the City of Burbank's climate zone requires less initial construction costs since there is no need to install natural gas infrastructure connections to new buildings. All-electric new buildings also have on-bill savings due to the high-efficiency of electric appliances and equipment as compared to natural gas fueled equipment. California Energy Codes and Standards. 2019. https://localenergycodes.com/content/resources. Accessed February 26, 2021.

[20] Gridworks. 2019. California's Gas System in Transition. https://gridworks.org/wp-content/uploads/2019/09/GW_Calif-Gas-System-report-1.pdf. Accessed March 8, 2021.

[21] 2019 Community GHG Inventory. See Appendix C of the GGRP Update.

[22] Williams, James et al., Pathways to Deep Decarbonization in the United States (San Francisco: Energy and Environmental Economics, 2014); Northeastern Regional Assessment of Strategic Electrification (Northeast Energy Efficiency Partnerships, 2017); Steinberg, Daniel et al., Electrification and Decarbonization: Exploring US Energy Use and Greenhouse Gas Emissions in Scenarios with Widespread Electrification and Power Sector Decarbonization (National Renewable Energy Laboratory, 2017).

[23] California Energy Codes and Standards. 2019. 2019 Cost Effectiveness Study: Low-Rise Residential New Construction. https://localenergycodes.com/content/resources. Accessed February 26, 2021.

[24] California Energy Codes and Standards. 2019. 2019 Nonresidential New Construction Reach Code Cost Effectiveness Study. https://localenergycodes.com/content/resources. Accessed February 26, 2021.

[25] Gough, Matt. 2021. Sierra Club. California's Cities Lead the Way to a Gas-Free Future. https://www.sierraclub.org/articles/2020/03/californias-cities-lead-way-gas-free-future. Accessed February 26, 2021.

and population provided by the Southern California Association of Governments SCAG *Connect SoCal* 2020 - Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) demographic forecasts.[26] This growth is assumed to be constant year-over-year in the GHG emissions forecast, with each additional resident's or employee's contribution towards natural gas consumption being equivalent to the per capita or per employment natural gas consumption in the 2019 Community GHG Inventory year, while also accounting for efficiency increases from future Title 24 requirements. The resulting calculated increase in natural gas consumption is conservative as it is assumed to be purely from new construction, and any increases beyond the time the ordinance is adopted would be shifted to electricity consumption.

Electrification of new residential and commercial construction will eliminate the use of natural gas for space heating, water heating, clothes drying, and cooking. Space heating is the largest energy use in buildings and is dominated by non-electric fuels.[27] According to the EIA *2020 Annual Energy Outlook,* electric heat pumps for commercial space heating and cooling are two to five times more efficient than natural gas fueled equipment.[28] Residential electric heat pumps for space heating and cooling are six to 20 times more efficient than natural gas equipment.[29] Emissions reduction account for this increased efficiency by conservatively assuming all electric constructions will use electric equipment that is three times more efficient than natural gas fueled equipment.

As mentioned above, emissions reduction calculations assume the ordinance will be adopted by 2023; therefore, increased natural gas consumption from population and employment growth beyond 2023 would be replaced by electricity consumption. Since electric appliances are approximately three times more efficient over similar natural gas burning equipment and appliances,[30] the use of electric equipment instead of natural gas would result in improved energy efficiency and a reduction in overall energy consumption for replaced natural gas equipment. The electricity consumption would generate GHG emissions that would offset the reduction in natural gas emissions from electrification. The calculations and assumptions used to estimate emissions reduction from Measure BE-1.1 are provided in Table 7.

[26] Southern California Association of Governments. May 2020. Connect SoCal. Demographics and Growth Forecast. https://www.connectsocal.org/Documents/Draft/dConnectSoCal_Demographics-And-Growth-Forecast.pdf. Accessed September 22, 2020.

[27] Deason, Jeff. et al. 2018. Electrification of buildings and Industry in the United States. pp.10. https://escholarship.org/content/qt8qz0n90q/qt8qz0n90q.pdf. Accessed March 8, 2021.

[28] EIA. 2020. Annual Energy Outlook. Table 22. Commercial Sector Energy Consumption, Floorspace, Equipment Efficiency, and Distributed Generation. https://www.eia.gov/outlooks/aeo/data/browser/#/?id=32-AEO2020&cases=ref2020&sourcekey=0. Accessed May 25th, 2020.

[29] EIA. 2020. Annual Energy Outlook. Table 21. Residential Sector Equipment Stock and Efficiency, and Distributed Generation. https://www.eia.gov/outlooks/aeo/data/browser/#/?id=30-AEO2020&cases=ref2020&sourcekey=0. Accessed May 25th, 2020.

[30] Dennis, Keith. 2015. Environmentally Beneficial Electrification: Electricity as the End-Use Option. The Electricity Journal. 28(9). pp. 100-112. https://doi.org/10.1016/j.tej.2015.09.019

Table 7 Measure BE-1.1 GHG Emissions Reduction Calculations

Calculation Factor	2030	2045
Natural Gas Consumption Growth Beyond Ordinance Adoption year (therms) [1]	2,172,607	3,313,424
Natural Gas Emission Factor (MT CO_2e/therm) [2]	0.00531	0.00531
Natural Gas GHG Emissions Avoided (MT CO_2e)	11,542	17,603
Resulting Increase in Electricity Consumption (kWh) [3,4]	21,219,129	32,361,106
Electricity Emission Factor Adjusted for SB 100 (MT CO_2e/kWh) [5]	0.000279	0
Additional GHG Emissions from Increased Electricity Consumption (MT CO_2e)	5,911	0
Total GHG Emissions Reductions (MT CO_2e)	**5,631**	**17,603**

Notes: MT CO_2e = metric tons of carbon dioxide; kWh =-kilowatt-hour

1. Legislative Adjusted GHG Emissions Forecast. See Appendix C of the GGRP Update.

2. United States Environmental Protections Agency. 2020. Emission Factors for Greenhouse Gas Inventories. Table 1. https://www.epa.gov/sites/production/files/2020-04/documents/ghg-emission-factors-hub.pdf. Accessed March 8, 2021.

3. 29.3 kWh = 1 therm. Source: https://www.metric-conversions.org/energy-and-power/therms-us-to-kilowatt-hours.htm. Accessed March 8, 2021.

4. Dennis, Keith. 2015. Environmentally Beneficial Electrification: Electricity as the End-Use Option. The Electricity Journal. 28(9). pp. 100-112. https://doi.org/10.1016/j.tej.2015.09.019. Accessed March 8, 2021.

5. Legislative Adjusted GHG Emissions Forecast. See Appendix C of the GGRP Update.

*Values may not add up due to rounding

Results

Action BE-1.1.a associated with Measure BE-1.1 would result in a reduction of 5,631 MT CO_2e in 2030 and 17,603 MT CO_2e in 2045, as shown in Table 8.

Table 8 GHG Emissions Reduction Associated with Measure BE-1.1

Action ID	Actions	Emissions Reduction (MT CO_2e) 2030	2045
BE-1.1.a	Adopt an Electrification Reach Code for all new buildings, which prohibits the piping of natural gas. In doing so the City will: ▪ Engage with stakeholders, both internal stakeholders, such as City staff and officials, and external stakeholders, such as local developers regarding the purpose and impact of the reach code ▪ Conduct a cost effectiveness study ▪ Develop and draft an ordinance ▪ Conduct public hearings, public notices, and formally adopt the ordinance ▪ Submit the adopted ordinance to the California Energy Commission (CEC) and California Building Standards Commission (CBSC)	5,631	17,603
BE-1.1.b	Provide education around cooking with electric appliances, including demonstrations from chefs and/or local restaurants, as available.	Supportive	
BE-1.1.c	Provide technical resources, including hosting workforce development trainings for installers and building owners/operators to discuss benefits and technical requirements of electrification.	Supportive	
BE-1.1.d	Building and Safety Division and BWP will promote the cost and environmental benefits of electrification to builders, property owners, and contractors on the City website and at the City permit counter.	Supportive	
BE-1.1.e	Establish a partnership with the Building Decarbonization Coalition, or a similar organization, to engage with local building industry stakeholders in development of an Electrification Reach Code.	Supportive	
BE-1.1.f	Conduct an electrification infrastructure and capacity feasibility study to identify expected increases in electricity demand due to building and vehicle electrification, ensure capacity to meet that demand, and identify any infrastructure improvements.	Supportive	
BE-1.1.g	Work with SoCal Gas to identify opportunities for natural gas infrastructure pruning to reduce the chance of stranded assets, provide potential funding, and establish an efficient transition to carbon neutral buildings.	Supportive	

Measure BE-1.2 Leverage BWPs marketing programs to convert 3,000 residential and 170 commercial natural gas-fueled HVAC and water heating units in existing private buildings to electric heat pumps by 2030, and 10,000 residential and 560 commercial units by 2045.

Connection to Cornerstone Pillars

The intent of Measure BE-1.2 is to influence **structural change** by reducing reliance on fossil fuels in in existing buildings in the City by providing resources to the community for converting buildings to all-electric. Key components of this Measure are **connectivity and education** through Action BE-1.2.b, which aims to leverage the current resources and influence of BWP to develop a targeted educational campaign that highlights the benefits of electrification and generates awareness of the resources that will be available for performing electrification retrofits, and connecting with non-profit organizations to use the electrification program in Burbank to develop an electrification best practices model. **Equity**

considerations are integrated into this Measure under Action BE-1.2.c, by performing an update on the available BWP rebates and incentives to increase procedural equitable access so they are being fairly distributed to the community. Measure BE-1.2 also includes a feasibility analysis of existing building electrification in the community to identify an **economical** path towards eventually retrofitting all buildings in the City. Lastly, each building in the City that is retrofit to be all-electric under this measure will **reduce GHG emissions** by shifting natural gas consumption to increasingly carbon-free electricity sources.

Background

To further the efforts of Measure E-1.1 in electrifying buildings in Burbank, the City intends to support the electrification of existing buildings through the adoption of electric appliances and electrification building retrofits. The Actions the City will take to facilitate fuel switching include:

- Developing an All-Electric Building Initiative, or tariffed on-bill financing program, which expands rebates and incentives to electric heat-pump water heating, HVAC units, and electrical panel upgrades and expands the business retrofit packages to include electric heat-pump water heaters and HVAC units. (Action BE-1.2.a)
- Partnering with BWP to develop an education campaign to promote the All-Electric Building Initiative that builds upon the success of other BWP programs. (Action BE-1.2.b)

In addition to these efforts, the City will work to identify further electrification strategies that can be implemented to reach the long-term target of electrifying 100 percent of the buildings in the City.

Methodology and Assumptions

The target for electrification of HVAC and water heaters in existing buildings by 2030 is based on the replacement of natural gas fueled equipment with electric equipment, through strategic employment of education and public outreach efforts and electrification focused incentive programs by the City and BWP. There are about 37,000 parcels in the City of Burbank, and it is estimated that effective implementation of these programs would reach about 10 percent of the building stock that is not already using electricity as the primary fuel for HVAC and water heating by 2030.

The number of individual units that would need to be converted through Measure BE-1.2 to meet the approximate 10 percent target was estimated based on the average natural gas consumption for HVAC and water heating end uses in residential and commercial buildings. Based on the United States Energy Information Administration (EIA) 2015 Residential Energy Consumption Survey (RECS), the average household annual consumption of natural gas is 167 hundred cubic feet (CCF) and 161 CCF for HVAC and water heating end uses, respectively.[31] These values can be averaged and converted to a unit of therms,[32] resulting in an approximate annual reduction in natural gas consumption of 170 therms per residential HVAC or water heating unit replaced with electric. Similarly, the average natural gas consumption of HVAC and water heating end uses in commercial buildings was estimated from the EIA 2012 Commercial Buildings Energy Consumption Survey (CBECS). The CBECS does not provide estimates of natural gas consumption per unit; however, the average energy consumption by end use

[31] Natural gas consumption per household from space heating and water heating in a Mixed-dry/Hot-dry climate region. Data Source: EIA. 2018. 2015 Residential Energy Consumption Survey. Table CE4.10 Annual household site end-use consumption by Fuel in the West – Averages, 2015. https://www.eia.gov/consumption/residential/data/2015/. Accessed May 24, 2021.

[32] Natural Gas Plans. What is the Difference Between a CCF, MCF, and Therm?. https://naturalgasplans.com/difference-between-ccf-mcf-therm/#:~:text=So%20if%20you%20want%20the,1.037%20MMBtu%2C%20or%2010.37%20therms. Accessed May 24, 2021.

per square foot[33] and a weighted average size of commercial buildings in the Western Pacific census region[34] were used to estimate that HVAC and water heating consume approximately 12,165 therms and 13,320 therms annually, respectively. These values can be averaged to represent the approximate reduction in natural gas consumption that would result from replacing natural gas fueled HVAC and water heating equipment in commercial uses, which is 12,743 therms. To meet the 2030 target of retrofitting 10 percent of buildings, approximately 3,000 residential and 170 commercial HVAC and water heating units would need to be replaced with electric heat pump equipment. A 2045 target for retrofits was developed by extrapolating the 2030 target forward with a similar rate of success, resulting in approximately 10,000 residential and 560 commercial unit replacements by 2045.

The ability to reach customers for promotion of all-electric appliance and equipment incentives and retrofit packages is based on the success of BWP's current incentives. Between 2012 and 2019, 2,980 ENERGY STAR refrigerators, 1,966 ENERGY STAR clothes washers, and 1,498 ENERGY STAR dishwashers were installed through customer rebates or BWP's free installation program for qualified customers.[35] This is only one of the many BWP incentive programs, which also include:

- Business Rebates, a rebate program open to all Burbank Businesses who make energy efficiency retrofits at their facilities
- Business Bucks, a direct install program for small to mid-sized businesses, providing up to $5,000 in energy savings installations
- Upstream HVAC Program, which includes rebates provided to distributers of high-efficiency HVAC equipment
- Residential Rebates, which provide cash incentives for residents who purchase and install high-efficiency appliances and products in their home

Direct tracking of the number of buildings affected by these incentive programs is not currently available; however, other studies show that direct engagement with customers substantiates the ability for these programs to reach about 10 percent of the building stock by 2030.

A 2016 analysis of the effectiveness of marketing, education, and outreach associated with the Energy Upgrade California program found that approximately 10 percent of people reached through one-on-one interactions had decided to purchase ENERGY STAR certified appliances after the interaction.[36] Similarly, the City expects to commit at least 10 percent of the people reached through their efforts in public education, program promotion, and one-on-one interactions at the permitting counter to purchase electric appliances and equipment instead of natural gas fueled alternatives.[37]

[33] Energy intensity for natural gas for mixed-dry/hot-dry climate for water heating energy sources (88.8 thousand Btu per square foot) and space heating energy sources (81.8 thousand Btu per square foot) averaged to equal 84.95 thousand Btu per square foot and converted to therms to equal 0.8495 therms per square foot. Data Source: EIA. 2016. 2012 Commercial Buildings Energy Consumption Survey. Table C10. Consumption and gross energy intensity by climate region for sum of major fuels, 2012. https://www.eia.gov/consumption/commercial/data/2012/. Accessed May 24, 2021.

[34] Weighted average of commercial building size calculated from the Building floorspace and number of buildings, weighted by the number of buildings, for the Pacific Western region. Data Source: EIA. 2016. 2012 Commercial Buildings Energy Consumption Survey. Table B4. Census region and division, number of buildings, 2012. https://www.eia.gov/consumption/commercial/data/2012/. Accessed May 24, 2021.

[35] City of Burbank. 2019. Greenhouse Gas Reduction Program Measure Quantification Analysis. https://burbank.granicus.com/MetaViewer.php?view_id=2&clip_id=8851&meta_id=359322. Accessed March 8, 2021.

[36] California Public Utilities Commission (CPUC). 2016. 2013-2015 California Statewide Marketing, Education, and Outreach Program: Verification and Integrated Effectiveness Study. pp. 88. https://www.cpuc.ca.gov/statewidemeo/. Accessed March 8, 2021.

[37] In regions where natural gas and electric utilities are separate entities, electrification incentives are strongest. Deason, Jeff. et al. 2018. Electrification of buildings and Industry in the United States. pp. 39. https://escholarship.org/content/qt8qz0n90q/qt8qz0n90q.pdf. Accessed March 8, 2021.

The need for equipment replacements at their natural end-of-life would far exceed this 10 percent target; however, it is likely that only a portion of replacements of natural gas equipment would be electric heat pumps. The 2018 EIA report, *Updated Buildings Sector Appliance and Equipment Cost and Efficiencies*, provides the average lifespans of various equipment types. Residential gas fired furnaces, water heaters, and stoves/cook tops have an average lifespan of 21.5, 13, and 12 years, respectively; while commercial natural gas fired furnaces, boilers, and water heaters have an average lifespan of 23, 25, and 10 years, respectively.[38] Taking the average lifespan of these equipment types, it is estimated that in the 10 years between 2020 and 2030, approximately 65 percent of all of these types of equipment in the City will have been replaced. Furthermore, under this same assumption, in the fifteen years between 2030 and 2045 all of these types of equipment would reach their end of life and need to be replaced.

Measure BE-1.2 GHG emissions reduction calculations assume that the target equipment replacements would occur with effective implementation of each measure, resulting in long term GHG emissions reduction from switching fuel sources for HVAC and water heating equipment from natural gas to electric. Since electric appliances are approximately three times more efficient over similar natural gas burning equipment and appliances,[39] the use of electric equipment instead of natural gas would result in improved energy efficiency and a reduction in overall energy consumption for replaced natural gas equipment. This electricity consumption would generate GHG emissions that would offset the reduction in natural gas emissions from electrification. The GHG emissions reduction accounted for in Measure C-1.1 would count towards the existing building electrification targets in Measure BE-1.2 and are therefore subtracted from the total emissions reduction calculations, to avoid double counting. The calculations and assumptions used to estimate emissions reduction from Measure BE-1.2 are provided in Table 9.

[38] EIA. 2018. Updated Buildings Sector Appliance and Equipment Cost and Efficiencies. Appendix C. pp. 9, 51, 75, 90, 98, 120 https://www.eia.gov/analysis/studies/buildings/equipcosts/pdf/full.pdf. Accessed March 8, 2021.

[39] Dennis, Keith. 2015. Environmentally Beneficial Electrification: Electricity as the End-Use Option. The Electricity Journal. 28(9). pp. 100-112. https://doi.org/10.1016/j.tej.2015.09.019. Accessed March 8, 2021.

Table 9 Measure BE-1.2 GHG Emissions Reduction Calculations

Calculation Factor	2030	2045
Average Natural Gas Consumption for Residential HVAC and Water Heating Equipment (therms) [1]	170	170
Residential Equipment Replacement Target through Measure BE-1.2 (units)	3,000	10,000
Resulting Reduction in Residential Natural Gas Consumption (therms)	510,204	1,700,680
Average Natural Gas Consumption for Commercial HVAC and Water Heating Equipment (therms) [2,3]	12,743	12,743
Commercial Equipment Replacement Target through Measure BE-1.2 (units)	170	560
Resulting Reduction in Commercial Natural Gas Consumption (therms)	2,166,225	7,135,800
Total Reduction in Natural Gas Consumption (therms)	2,676,429	8,836,480
Natural Gas Emission Factor (MT CO_2e/therm) [4]	0.00531	0.00531
Natural Gas GHG Emissions Avoided (MT CO_2e)	14,219	46,944
Resulting Increase in Electricity Consumption (kWh) [5,6]	26,139,790	86,302,955
Electricity Emission Factor Adjusted for SB 100 (MT CO_2e/kWh) [7]	0.000279	0
Additional GHG Emissions from Increased Electricity Consumption (MT CO_2e)	7,281	0
GHG Emission Reductions Accounted for under Measure C-1.1	(90)	(591)
Total GHG Emissions Reductions (MT CO_2e)	**6,847**	**46,352**

Notes: MT CO_2e = metric tons of carbon dioxide; kWh =-kilowatt-hour

1. EIA. 2016. 2012 Commercial Buildings Energy Consumption Survey. Table C10. Consumption and gross energy intensity by climate region for sum of major fuels, 2012. https://www.eia.gov/consumption/commercial/data/2012/. Accessed May 24, 2021.
2. : EIA. 2016. 2012 Commercial Buildings Energy Consumption Survey. Table C10. Consumption and gross energy intensity by climate region for sum of major fuels, 2012. https://www.eia.gov/consumption/commercial/data/2012/. Accessed May 24, 2021.
3. EIA. 2016. 2012 Commercial Buildings Energy Consumption Survey. Table B4. Census region and division, number of buildings, 2012. https://www.eia.gov/consumption/commercial/data/2012/. Accessed May 24, 2021.

4. United States Environmental Protections Agency. 2020. Emission Factors for Greenhouse Gas Inventories. Table 1. https://www.epa.gov/sites/production/files/2020-04/documents/ghg-emission-factors-hub.pdf. Accessed March 8, 2021.

5. 29.3 kWh = 1 therm. Source: https://www.metric-conversions.org/energy-and-power/therms-us-to-kilowatt-hours.htm. Accessed March 8, 2021.

6. Dennis, Keith. 2015. Environmentally Beneficial Electrification: Electricity as the End-Use Option. The Electricity Journal. 28(9). pp. 100-112. https://doi.org/10.1016/j.tej.2015.09.019. Accessed March 8, 2021.

7. Legislative Adjusted GHG Emissions Forecast. See Appendix C of the GGRP Update.

*Values may not add up due to rounding ( ) denotes negative

Results

Measure BE-1.2 would result in a reduction of 6,847 MT CO_2e in 2030 and 46,352 MT CO_2e in 2045, as shown in Table 10. The GHG emissions reduction are attributed to the collective efforts of each Action.

Table 10 GHG Emissions Reductions Associated with Measure BE-1.2

Action ID	Action	Emissions Reduction (MT CO_2e) 2030	2045
BE-1.2.a	Build upon the success of BWP's retrofit package and rebate and incentive programs with an All-Electric Building Initiative, or tariffed on-bill financing program that expands rebates and incentives to electric heat-pump water heating, HVAC units, and electrical panel upgrades and expands the business retrofit packages to include electric heat-pump water heaters and HVAC units.		
BE-1.2.b	Partner with BWP to develop an education campaign to promote the All-Electric Building Initiative that builds upon the success of other BWP programs. The program would include: ▪ Utility bill inserts to advertise the incentive programs and the cost and health benefits of electric appliances ▪ Targeted outreach to builders and property managers with an informational brochure describing the financial benefits of replacing natural gas appliances with all electric appliance when they apply for permits ▪ Targeted outreach to local property managers to address appliance energy use and benefits of all electric appliances in multi-family units ▪ Provide informational webinars and an updated website to advertise and promote All-Electric Building Initiative rebates and incentives		
BE-1.2.c	Review incentives and rebates for procedural equity and develop a process so that existing and updated incentive programs continue to be equitably distributed to the community. Hurdles to equitable implementation could include credit checks, excessive procedural hurdles and lack of targeted outreach.	6,847	46,352
BE-1.2.d	Initiate separate application process for electric conversions in the building permit system to track the number of permitted natural gas fueled water heaters and HVAC equipment replaced with electric fueled equipment, as well as if this has resulted in a building becoming all-electric, with indication of whether or not BWPs incentive and rebate programs are being utilized to pay for new equipment.		
BE-1.2.e	Partnership between Building and Safety and BWP to perform an electrification feasibility study to identify costs, benefits, potential hurdles, and policy strategies for electrifying existing buildings in Burbank. Strategies could include time of replacement, time of sale, and building performance policies.		
BE-1.2.f	Work with a non-profit organization, such as Building Decarbonization Coalition or Rocky Mountain Institute, to develop a best practices model based on the progress electrifying existing buildings to significantly increase electrification post-2030.		

Measure BE-1.3 Continue to increase building energy efficiency through BWP's rebate and incentive programs to reduce annual customer energy use by a collective 63 GWh by 2030.

Connection to Cornerstone Pillars

Measure BE-1.3 aims to build upon the success of BWPs current incentive programs for energy efficiency and continue to increase energy efficiency in homes and businesses. The primary driver of

this measures is **GHG reductions** from reduced electricity consumption, which is achieved through **connectivity** to available incentives and rebate programs, which provide an **economical** means for the community to reduce their energy consumption. The measure works towards enacting **structural change** by implementing a retrofit tracking system for more detailed reporting of participation in BWP programs to inform future updates to BWP programs and the GGRP under Action BE-1.3.a. Measure BE-1.3 incorporates **education and equity** under Action BE-1.3.d by continuing collaboration between BWP and Burbank Unified School District to continue providing students with "Resource Action Kits," to engage all students in the importance of water and energy conservation in their own homes.

Background

The City of Burbank has achieved great success in reducing energy consumption on a per-service population basis through BWP's incentive programs and adoption of increasingly stringent Building Energy Efficiency Standards, also known as Title 24. While overall electricity consumption has generally increased over time with growth, the amount of energy consumed per person who lives and works in the City has decreased. In the years between the 2010 and 2019 Community GHG Inventories, electricity consumption on a per-service population basis (total City population plus jobs) has decreased by approximately 28 percent.[40] Measure BE-1.3 aims to continue and expand the currently available BWP rebates and incentives for energy efficiency to continue attaining increase in efficiency that result in GHG reductions in the community.

Methodology and Assumptions

The emissions reductions for Measure BE-1.3 result from the reduction in energy consumption achieved by BWP's efficiency and incentive programs and the collective impact of each Action under the Measure. The target of 63 gigawatt-hours (GWh) was developed through BWP's analysis of future returns from energy efficiency programs, in the California Municipal Utilities Association (CMUA) Energy Efficiency (EE) Potential Forecasting Study conducted in 2020 by GDS Associates, Inc.[41] This target was developed from a year-by-year analysis of the energy demand impact of BWP's current and future potential energy efficiency programs, which would result in an effective savings of 63 GWh/year by 2030. GHG emissions reductions were calculated by multiplying the total energy savings by projected electricty emission factors. GHG emission reductions for 2045 were not quantified for this measure as there is risk of double counting GHG emissions reductions assumed with accounting for increased RPS requirements in the GHG emissions forecast. The calculations and assumptions used to estimate emissions reduction from Measure BE-1.3 are provided in Table 11.

[40] 2019 Community GHG Emissions Inventory. See Appendix C of the GGRP Update.

[41] The California Municipal Utilities Association (CMUA) Energy Efficiency (EE) Potential Forecasting Study conducted in 2020 by GDS Associates, Inc. is not yet publicly available. A public version of the results will be submitted to the California Public Utilities Commission and will be publicly available at a later point.

Table 11 Measure BE-1.3 GHG Emissions Reduction Calculations

Calculation Factor	2030
Energy Reduction Target (kWh)	63,000,000
Electricity Emission Factor Adjusted for SB 100 (MT CO_2e/kWh) [1]	0.000279
Total GHG Emissions Reductions (MT CO_2e)	**17,549**

Notes: MT CO_2e = metric tons of carbon dioxide; kWh =-kilowatt-hour

1. Legislative Adjusted GHG Emissions Forecast. See Appendix C of the GGRP Update.

*Values may not add up due to rounding

Results

Measure BE-1.3 would result in a reduction of 17,549 MT CO_2e in 2030, as shown in Table 12. The GHG emissions reduction are attributed to the collective efforts of each Action.

Table 12 GHG Emissions Reduction Associated with Measure BE-1.3

		Emission Reductions (MT CO_2e)	
Action ID	Action	2030	2045
BE-1.3.a	Implement a retrofit package tracking system for BWP's energy efficiency retrofit incentive program, which includes tracking of the number of pre-defined packages installed.	17,549	Not Quantified
BE-1.3.b	Continue to perform outreach for smart grid integration and promotion of smart grid-compatible technologies.		
BE-1.3.c	Maintain BWP's current rebate and incentive programs, ENERGY STAR appliance program, and Energy Conservation Programs, with continued public outreach and promotion.		
BE-1.3.d	Continue collaboration between BWP and Burbank Unified School District to provide 6th graders with a "Resource Action Kit," which contains energy and water saving devices for the student to install in their home, and information to complete a home audit report. Use this opportunity to teach students about the energy-water nexus as well.		
BE-1.3.e	Provide information to Community Development staff regarding annual energy savings from energy conservation programs for GGRP implementation tracking.		
BE-1.3.f	Update the BWP Home Upgrade Program to include electrification with a focus on heat pump hot water heaters and HVAC systems, which can be up to 400% efficient.		

2.3 Energy Generation

Measure EG-1.1 Goal to achieve 100% GHG-neutral electricity generation by 2040.

Connection to Cornerstone Pillars

Measure EG-1.1 aims to reduce the carbon intensity of electricity provided by BWP post 2030, by achieving GHG-neutral electricity generation by 2040, with the community benefiting from the indirect

GHG reductions associated with electricty generation.[42] The Measure connects to the cornerstone pillars by inducing **structural change** through investigating opportunities to increase local renewable energy generation and leveraging battery storage to provide GHG-neutral electricity at times when renewable energy generation is low (Actions EG-1.1.b, EG-1.1.c, and EG-1.1.f). Action EG-1.1.h provides an **economical** aspect to the Measure, be identifying grant funding to expand the existing renewable energy generation from landfill gas at the Burbank Site No.3 Landfill. This Measure also strives for **connectivity** with the community and **education** on the impacts of consumption habits, by implementing a program where customers can purchase renewable energy credits to offset the GHG emissions associated with their personal energy consumption (Action EG-1.1.a). Lastly, **equity** is included in the overarching goal of the Measure by providing access to all community members to use GHG-neutral energy in their homes and businesses by 2040.

Background

Measure EG-1.1 is carried over from the 2013 GGRP, as having access to 100% GHG-neutral electricity will be essential to meeting the long-term goal of reaching carbon neutrality by 2045. Meeting the Renewable Portfolio Standard requirements of SB 100 require strategic planning to increase renewable energy procurement without significantly increasing customer electricity rates. As such, BWP is challenged with the task of balancing the reduction of GHG emissions associated with the electricity supply, while not disproportionately impacting low-income households with higher energy costs. An equitable pathway towards exceeding the required 60 percent RPS in 2030 is not identified in this Measure; therefore, the Measure does not carry GHG emissions reductions for the 2030 target year addressed in this analysis. However, implementation of Measure EG-1.1 will carry GHG reductions beyond 2030 and leading up to 2045. Additionally, the Actions included under the Measure serve to increase the local renewable energy supply and explore option for battery storage. These Actions will increase community resilience to power outages during extreme weather events, improving the City's ability to adapt to future impacts of climate change.

Methodology and Assumptions

GHG reductions for Measure EG-1.1 are not quantified for the years 2030 and 2045 in this analysis as there is risk of double counting GHG emissions reductions assumed with accounting for increased RPS requirements in the GHG emissions forecast.

Results

While there are no calculated GHG reductions associated with Measure EG-1.1 in the 2030 and 2045 target years, the Actions provide increased resilience to the impacts of climate change and are expected to reduce GHG emission significantly before 2045, setting the City on a pathway towards carbon neutrality. These Actions are provided in Table 13.

[42] While Measure EG-1.1 is expected to provide GHG emissions reduction, these reductions are not quantified in this analysis due to risk of double counting GHG emissions reduction associated with the State's RPS requirements included in the GHG emissions forecast.

Table 13 GHG Emission Reductions Associated with Measure EG-1.1

Action ID	Action	Emission Reductions (MT CO_2e) 2030	2045
EG-1.1.a	Implement programs, similar to BWP's Green Choice Program, to facilitate access for customers to adopt more renewable energy.		
EG-1.1.b	Conduct a feasibility study to understand potential for installation of renewable energy generation at BWP water facilities.		
EG-1.1.c	Conduct analysis on risks and benefits associated with relying on battery storage to achieve carbon neutral electricity and grid resiliency goals and set a MW capacity goal for installed battery storage by 2030 and 2040 consistent with BWP rules and regulations.		
EG-1.1.d	Conduct a feasibility study to identify locations in the City for installation of local renewable energy generation and energy storage projects.		
EG-1.1.e	Direct BWP to continue to work with businesses (especially the studios) on partnerships designed to maximize the use of renewable energy including solar/ storage, appropriate tariff changes and microgrid opportunities	Not Quantified	Not Quantified
EG-1.1.f	Develop a battery storage program in which BWP provides battery storage incentives in return for a commitment to operate (CTO) distributed battery storage projects for a set amount of time (i.e. 5-10 years), consistent with BWP rules and regulations.		
EG-1.1.g	Identify grant funding opportunities to increase landfill gas capture rate at Burbank Landfill Site No. 3 to the maximum extent practicable.		
EG-1.1.h	Install 5 MW of local solar capacity, utilizing parking structure roofs and buildings around City as means to increase load capacity, including in areas where high loads from electric vehicle charging is likely.		
EG-1.1.i	Expand renewable energy generation at BWP facilities, with a goal of installing renewable energy generation at all feasible locations by 2040.		

2.4 Reduce Passenger Car Vehicle Miles Traveled

Measure T-1.1 Implement the Complete Our Streets Plan, increasing active transportation mode share 2% by 2030 and 3% by 2045.

Connection to Cornerstone Pillars

Measure T-1.1 works to complete the integration of City defined complete street design features and active transportation infrastructure into new development projects and key areas of the City. This Measure embodies **Structural Change** by implementing the 2020 City of Burbank Complete Our Streets Plan (Action T-1.1.a), by improving the accessibility of City districts with active transportation (Actions T-1.1.a and T-1.1c), and ensuring development projects are consistent with the design guidelines (Action T-1.1.b). The Measures is intended to be **economical** by working to identify grant funding opportunities to identify active transportation projects in the Plan (Action T-1.1.c). This includes identifying funding to implement the Citywide Safe Routes to School Plan, which invokes **equity** by promoting active transportation as a means for all children in the City to travel to school, including children who live in low-income and disadvantaged neighborhoods (Action T-1.1.d). Additionally, Measure T-1.1 seeks to improve **connectivity** with resources by integrating bicycling safety **education** as part of the implementation of the Citywide Safe Routes to School Program (Action T-1.1.e). Lastly,

the full implementation of Measure T-1.1 is expected to effectively increase active transportation for short trips in the City, reducing vehicle miles traveled (VMT) and effectively reducing the **associated GHG emissions**.

Background

In 2020, the City adopted a Complete Our Streets Plan, which integrates active transportation infrastructure and amenities into the public right-of-way in key areas to make City streets safer and more accessible to all community members. The purpose of the 2020 Complete Our Street Plan is to:

- Analyze and catalog existing street conditions
- Establish new policies, guidelines, and performance measures for street improvements Citywide
- Identify priority projects in within the Plan's "Focus Areas"
- Build better neighborhoods
- Create an ongoing mechanism for evaluating street improvements

The Complete Our Streets Plan directly aligns with the intent of the GGRP Update, providing equitable solutions that reduce GHG emissions and improve the quality of life in the City. Implementation of the Complete Our Streets Plan would reduce the need for residents and visiors in the City to use single occupancy vehciles to make short trips for work, enteterainment, and recreation, effectively removing vehicles from the road and reducing GHG emissions.

Measure T-1.1 aims to integrate the Complete Our Streets Plan with the GGRP Update, as well as providing additional means for active transportation in the City. This includes facilitate the use of bicycles by ensuring bicycle parking areas are available (Action T-1.1.f) and working to cause children to use walking and biking as a means of getting to school from implementation of the Citywide Safe Routes to School Plan (Actions T-1.1.d and T-1.1.e). These collective actions are expected to make more people in the City to utilize active transportation as it the City works to make walking and biking safer and more accessible.

Methodology and Assumptions

The analysis of VMT and subsequent GHG reductions from Measure T-1.1 are based on the assumptions and guidance of the SCAG for implementation of active transportation and complete streets projects. The SCAG 2020 RTP/SCS analyzes future regional transportation scenarios that include assessment of the implementation of local level projects and plans to improve mobility for short trips. As part of this assessment, SCAG analyzed active transportation modeshare with and without implementation of strategies to improve short trips mobility options and support active transportation.[43] The results of this analysis are used to estimate the modeshare shift that the City would experience.

The SCAG analysis estimates that the baseline modeshare for active transportation (including bicycling and walking) for the SCAG region was 9.2 percent. Without implementation of the SCAG 2020 RTP/SCS, which includes complete street, active transportation and micromobility projects, this is expected to increase to 9.4 percent by 2045. However, with implementation of the SCAG 2020 RTP/SCS, this modeshare is expected to increase to 12.5 percent. With Measures T-1.1, the City intends to implement programs and policies that are consistent with the SCAG 2020 RTP/SCS; therefore, it is

[43] Southern California Association of Governments. 2020. Connect SoCal Technical Report: Active Transportation. pp.59. https://scag.ca.gov/sites/main/files/file-attachments/0903fconnectsocal_active-transportation.pdf?1606001530. Accessed March 8, 2021.

expected that the City will achieve a similar shift in mode towards active transportation of about 3 percent by 2045. Interpolating this increase in mode shift to 2030 equates to an approximately 2 percent shift to active transportation modes in 2030.

GHG reduction calculations are based on the expected 2 percent and 3 percent mode shift by 2030 and 2045, respectively, and the resulting reduction in passenger vehicle VMT. Based on the VMT analysis performed for the 2019 Community GHG Inventory and GHG Emissions Forecast, it is expected that there will be approximately 127,890,000 and 157,645,000 annual passenger vehicle trips in the City in 2030 and 2045, respectively.[44] With the assumption that active transportation will primarily be used for short trips, with an average trip length of 1.5 miles, it is expected that the resulting reduction of annual passenger vehicle VMT will be 3,836,700 and 7,330,500 for 2030 and 2045 respectively.[45] The GHG emission reductions are calculated from VMT using the average projected passenger vehicle emission factors of 245 grams of CO_2e per mile (g CO_2e/mile) for 2030 and 214 g CO_2e/mile for 2045, as obtained from CARB's vehicle emissions factor database, EMFAC2017.[46] The calculations and assumptions used to estimate emission reductions from Measure T-1.1 are provided in Table 14.

Table 14 Measure T-1.1 GHG Emission Reduction Calculations

Calculation Factor	2030	2045
Total Number of Passenger Vehicle Trips [1]	127,890,207	157,645,435
Active Transportation Average Trip Length (miles) [2]	1.5	1.5
Target Increase in Active Transportation Modeshare	2.0%	3%
Annual Reduction in Passenger VMT	3,836,706	7,330,513
Forecasted Passenger Vehicle Emission Factor (MT CO_2e/VMT) [3]	245	214
Total GHG Emissions Reductions (MT CO_2e)	**941**	**1,566**

Notes: MT CO_2e = metric tons of carbon dioxide; VMT = vehicle miles traveled

1. GHG Emissions Forecast. See Appendix C of the GGRP Update.

2. California Department of Transportation (Caltrans). 2013. 2010-2012 California Household Travel Survey Final Report. https://cal.streetsblog.org/wp-content/uploads/sites/13/2015/04/FinalReport.pdf. Accessed March 8, 2021

3. Emission factors for the *Legislative Adjusted* GHG Emissions Forecast were obtained from the California Air Resources Board (CARB) EMFAC2017 vehicle emissions model. The model was run for 2030 and 2045 for Los Angeles County. https://arb.ca.gov/emfac/2017/

*Values may not add up due to rounding

Results

The collective actions associated with Measure T-1.1 would result in a reduction of 941 MT CO_2e in 2030 and 1,566 MT CO_2e in 2045, as shown in Table 15.

[44] GHG Emissions Forecast. See Appendix C of the GGRP Update.

[45] California Department of Transportation (Caltrans). 2013. 2010-2012 California Household Travel Survey Final Report. https://cal.streetsblog.org/wp-content/uploads/sites/13/2015/04/FinalReport.pdf. Accessed March 8, 2021.

[46] Emission factors for the *Legislative Adjusted* GHG Emissions Forecast were obtained from the California Air Resources Board (CARB) EMFAC2017 vehicle emissions model. The model was run for 2030 and 2045 for Los Angeles County. https://arb.ca.gov/emfac/2017/

Table 15 GHG Emission Reductions Associated with Measure T-1.1

Action ID	Action	Emission Reductions (MT CO_2e) 2030	2045
T-1.1.a	Implement all policy recommendations included in the Complete Our Streets Plan to improve pedestrian and bicycle networks and increase transit ridership based on the established timeframes.	941	1,566
T-1.1.b	Integrate the Complete Our Streets "Checklist for New Projects" into the City's Development Review process and Capital Improvement Program to ensure new projects include Complete Our Streets measures.		
T-1.1.c	Continually work to identify grant funding opportunities to implement Complete Our Streets projects included in the Complete Our Streets Plan.		
T-1.1.d	Complete and implement the Citywide Safe Routes to School Plan consistent with the Complete Our Streets Plan upon identification of funding.		
T-1.1.e	Develop and implement a bicycle safety program as part of the Citywide Safe Routes to School Plan focused on educating bicycle riders of all ages and skill levels to increase ridership by offering bicycle safety resources and classes.		
T-1.1.f	Evaluate and update the City's existing Zoning Code, Transportation Demand Management Ordinance, and California Green Building Code to ensure the City requires installation of bicycle parking areas in instances where off-street parking is required. Also, providing technical assistance to developers seeking to comply with the ordinance		
T-1.1.g	Utilize performance measures included in the Complete Our Streets Plan to monitor and track realized mode shift from plan implementation.	Supportive	

Measure T-1.2 Provide clean, abundant, affordable, and accessible public transit, with a zero-emissions bus fleet by 2040.

Connection to Cornerstone Pillars

Measure T-1.2 strives in promote **connectivity and equity**, by increasing the accessibility of public transit for low-income households through the expansion of low-income transit pass subsidies for use on the BurbankBus fixed-route service (Action T-1.2.a). The **educational** aspect of this Measure is to better understand the impacts of COVID-19 on transportation habits, which will better inform future programs and investments in public transit (Action T-1.2.c). Measure T-1.2 also strives for **GHG reductions** by electrifying the BurbankBus fleet by 2040, further reducing the City's reliance on fossil fuels (Action T-1.2.e).[47] This transition to an all-electric bus fleet would be **economical** through application for State and federal grants to fund the purchase of new buses, and the generation of revenue through California's Low Carbon Fuel Standards Program (Actions T-1.2.c and T-1.2.d). Lastly, Measure T-1.2 aims to induce **structural change**, by implementing policies that allow the City to manage shared-use mobility devices that can help community members have better access to public transit (Action T-1.2.b).

[47] While Measure T-1.2 is expected to provide GHG emissions reduction, these reductions are not quantified in this analysis due to risk of double counting GHG emissions reduction associated with the State's Innovative Clean Transit requirements included in the GHG emissions forecast.

Background

The City operates its own small transit fleet, BurbankBus, which provides three fixed-line routes and paratransit options to connect to employment hubs and help fill gaps in LA Metro transit service in the City. The service is operated by the City, which includes a fare subsidy for eligible senior and disabled riders through the Burbank Pass Program. Measure T-1.2 aims to expand access to the BurbankBus service by accepting transit subsidies provided by LA Metro's LIFE low-income EZ Pass and expand the Burbank Pass Program to fill gaps in LA Metro's low-income subsidy programs, through Action T-1.2.a. The Measures also strives to improve first-last mile connectivity by adopting an ordinance that allows and manages shared-use mobility devices in the City, through Acton T-1.2.b.

In addition to improving transit connection in the City, Measure T-1.2 strives to reduce the GHG emissions associated with the BurbankBus fleet, by converting the entire bus fleet to electric-fueled vehicles by 2040. The conversion of the fleet to all-electric can be facilitated through currently available grant programs, such as the California Transit and Intercity Rail Capital Program (TIRCP). Additionally, the use of electricity to fuel buses creates the potential for generating credits through California's Low Carbon Fuel Standards Program, which can be used to generate increased revenue that can be set aside for future improvements to the transit system.

Methodology and Assumptions

The impact of Measure T-1.2 on transit ridership and the potential for reducing VMT in the City is not currently quantifiable in the scope of this analysis. While it is likely that expanding accessibility to BurbankBus will result in increased ridership, with more people choosing to use the bus system instead of driving alone, projections for this shift in the year 2030 are difficult to quantify without a thorough analysis of current ridership, commute patterns for low-income communities, and the current accessibility to transit for these low-income communities. As such, GHG emission reductions related to reduction in VMT are not quantified for 2030 and 2045.

The electrification of the BurbankBus fleet is also expected to result in future GHG reductions; however, there is risk of double counting GHG emissions reduction associated with the Innovative Clean Transit Rule included in the GHG emissions forecast. Therefore, GHG reduction impacts in 2030 and 2045 are not quantifiable.[48]

Results

While there are no quantified GHG reductions associated with Measure T-1.2 in the 2030 and 2045 target years due to lack of data to make an accurate assessment of VMT reduction and risk of double counting reduction from fleet electrification, the Actions are likely to provide future VMT and GHG reductions. These Actions are provided in Table 16.

[48] The Innovative Clean Transit Rule, adopted by the State in 2018, requires all transit providers to convert their bus fleet to zero-emission vehicles. The forecasting of GHG Emissions conducted as part of this GGRP Update already accounts for implementation of Innovative Clean Transit prior to 2045, so it is assumed that the BurbankBus will have already been concerted to zero-emission vehicles prior to 2045.

Table 16 GHG Emission Reductions Associated with Measure T-1.2

Action ID	Action	Emission Reductions (MT CO_2e) 2030	2045
T-1.2.a	Work with Metro to expand use of Metro's LIFE low-income EZ Pass transit subsidy by Burbank low-income households who ride BurbankBus and expand Burbank Pass program transit subsidy program to BurbankBus fixed-route service to cover gaps in the Metro LIFE program.	Not Quantified	Not Quantified
T-1.2.b	Adopt an ordinance to allow and manage shared-use mobility devices, including but not limited to e-scooters and bikes.		
T-1.2.c	Work with transportation partners to conduct research into the impacts of COVID-19 on transportation habits, impacts on transit, and potential hurdles and opportunities connected to these changes.		
T-1.2.d	Electrify the Burbank Bus fleet in accordance with California Air Resources Board mandates and the City's Transit Fleet Electrification Study.		
T-1.2.e	Apply for California Transit and Intercity Rail Capital Program (TIRCP), Low Carbon Transit Operations Program, or other Greenhouse Gas Reduction Fund grants, to facilitate electrification of bus fleet.		
T-1.2.f	Use electric bus fleet to generate revenue through California's Low Carbon Fuel Standards to pay for increased bus service frequencies with an established fund.		

2.5 Transportation Demand Management

Measure T-2.1 Continue Transportation Management Organization (TMO) Expansion, reaching 60% of employers by 2030 and 90% by 2045.

Connection to Cornerstone Pillars

Measures T-2.1 aims to build the reach and effectiveness of the current Burbank Transportation Management Organization (BTMO), providing **connectivity** to Transportation Demand Management (TDM) resources and reducing commute vehicle trips in the City. As part of Measure T-2.1, the City will work with the BTMO to provide **education** on the TDM program, with regular updates to the BTMO website and targeted outreach to increase membership and active participation (Actions T-2.1.a and T-2.1.b). The primary mechanisms for **structural change** associated with this measure include updates to the requirements of the TMO for specific plan areas to reflect best practices in TDM (Action T-2.1.c). This will include an evaluation of the various aspects of the TMO, including but not limited to, businesses subject to TMO requirements.

Background

The City currently has a TDM ordinance which requires employers with over 25 employees to become members of the BTMO, which implements TDM programs and provides information on trip reduction. The intent of Measure T-2.1 is to amend the TDM ordinance and City specific plans to increase membership to approximately 60 percent of employers citywide by 2030 and 90 percent of employers by 2045. Measure T-2.1 does not provide direct GHG reductions, but instead is supportive to the GHG reductions that would be achieved with Measure T-2.2 by increasing the reach of the TMO so that future TDM strategies are further reaching and result in more trip reductions citywide.

Methodology and Assumptions

Measure T-2.1 is intended to be supportive to the overall goals of the GGRP Update and to the GHG emissions reduction associated with Measure T-2.2. The expansion of the BTMO does not require that trip reductions occur; however, expansion of the BTMO will increase the impact of the trip reduction requirements included in Measure T-2.2. As such, Measure T-2.1 does not have any direct GHG emissions reduction that can be quantified and is considered supportive to GHG emissions reduction elsewhere.

Results

While there are no calculated GHG emissions reduction associated with Measure T-2.1 in the 2030 and 2045 target years, the Actions are supportive to the GHG emissions reduction under Measure T-2.2. These Actions are provided in Table 17.

Table 17 GHG Emission Reductions Associated with Measure T-2.1

Action ID	Action	Emission Reductions (MT CO_2e) 2030	2045
T-2.1.a	Work with the Burbank TMO to update the TMO website annually to provide program information to current and potential members.		
T-2.1.b	Work with the Burbank TMO to continue to implement TMO outreach strategy to increase membership and active participation in TMO programs		
T-2.1.c	Update the Burbank Center Plan and the Media District Specific Plan, adopt the proposed Golden State Specific Plan, and update the Plan Transportation Management Organization requirements to reflect TDM best practices. Collectively, these updates should evaluate which businesses are subject to TMO requirements, membership requirements and fees, TDM strategies offered by the TMO, reporting requirements and performance measures, and funding requirements. Utilize lessons learned from COVID-19 on transportation habits, impacts on transit, and potential hurdles and opportunities connected to these changes.	Supportive	Supportive
T-2.1.d	Expand geographic boundary of TMO to Golden State /Airport areas by 2025 as part of the Golden State Specific Plan, and citywide by 2035.		

Measure T-2.2 Update the TMO program and ordinance to increase compliance with the City's 1.61 Average Vehicle Ridership (AVR) Goal to reduce employees commuting to Burbank via single occupancy vehicle. Require that 30% of TMO businesses achieve the 1.61 AVR target by 2030, and 60% by 2045.

Connection to Cornerstone Pillars

Measure T-2.2 aims to achieve **GHG reductions** by reducing commute vehicle trips in the City from single occupancy vehicles through strengthening of the City's current TDM ordinance. The **structural change** achieved through this measure is a restructuring of the TMO fees, which would reward businesses that comply with the City's trip reduction requirements and increase fees for businesses that do not (Action T-2.2.c). Measure T-2.2 would also change the TDM ordinance so that the City can

collect fees, generating an **economical** means for the investment in expanded transit service, employee rideshare subsidies, and active transportation infrastructure (Action T-2.2.d). To improve the ability for businesses to achieve the required trip reduction requirements, the City would look to expand access of broadband internet to provide for **equitable** opportunity for telecommuting is distributed throughout the City (Actions T-2.2.a and T-2.2.b). Measure T-2.2 would be closely coupled with Measure T-2.1, with an **educational** and **connectivity** component coming from the regular outreach and updates to the TMO website.

Background

The City currently has a TDM ordinance which requires employers with over 25 employees to become members of the BTMO, which implements TDM programs and provides information on trip reduction. Approximately 36 percent of employers in the City are currently members of the BTMO, which helps employers to facilitate a trip reduction rate that is equivalent to reducing commute trips by 38 percent, compared to if every employee were to drive a single occupancy vehicle to work. This 38 percent reduction in trips is equivalent to a 1.61 average vehicle Ridership (AVR) metric, which is the set target for trip reduction for businesses subject to the TDM ordinance. The intent of Measure T-2.2 is to amend the TDM ordinance so that the City can develop a fee structure that results in 30 percent of businesses subject to the TDM ordinance reaching the 1.61 AVR target. This would allow the City to increase fees when the AVR target is not being met, as well as reduce fees if AVR targets are being exceeded. The fees collected would be used to fund TMO programs, increase transit service, and fund active transportation projects, which would supplement employers' abilities to reduce vehicle trips. Additionally, Measure T-2.2 would work to increase access to broadband internet throughout the City, furthering the opportunities for employers to have employees telecommute and reduce commute vehicle trips.

Methodology and Assumptions

The GHG reductions associated with Measure T-2.1 are associated with the combined efforts of all Actions to improve compliance with the 1.61 AVR target, as well as TMO expansion under Measure T-2.2. The GHG reductions are calculated from estimates of VMT reductions from 60 percent of employers in the City participating in the BTMO, and 30 percent of these employers meeting the trips reduction target of an equivalent 62 vehicle trips per 100 employees.

With 60 percent of employers participating in the BTMO, it is estimated that 81,765 employees of the projected total 136,275 employees in 2030 will be subject to the trip reduction targets. Similarly, in 2045, 90 percent of employers participating the in the BTMO would result in 127,895 of the projected 142,106 total employees will be subject to the trip reduction targets. Based on the VMT analysis performed as part of the 2019 Community GHG Emissions Inventory and Emissions Forecast, it is estimated that the average vehicle trip length in Burbank in 2030 will be 9.2 miles, and in 2045 will be 7.7 miles.[49] The GHG emission reductions are calculated from VMT using the average projected passenger vehicle emission factors of 245 grams of CO_2e per mile (g CO_2e/mile) for 2030 and 214 g CO_2e/mile for 2045, as obtained from CARB's vehicle emissions factor database, EMFAC2017.[50] The calculations and assumptions used to estimate emission reductions from Measure T-2.2 are provided in Table 18.

[49] 2019 Community GHG Emissions Inventory. See Appendix C of the GGRP Update.

[50] Emission factors for the *Legislative Adjusted* GHG Emissions Forecast were obtained from the California Air Resources Board (CARB) EMFAC2017 vehicle emissions model. The model was run for 2030 and 2045 for Los Angeles County. https://arb.ca.gov/emfac/2017/

Table 18 Measure T-2.2 GHG Emission Reduction Calculations

Calculation Factor	2030	2045
City Employment (total jobs)[1]	136,275	142,106
TMO Reach (percentage of employers)	60%	90%
TMO Reach (number of employees)	81,765	127,895
Daily Employee Trips[2]	163,531	7,330,513
2019 Actual AVR for all TMO Members[3]	1.22	1.22
AVR Target[4]	1.61	1.61
Daily Single Occupancy Vehicle Trip Reduction to Reach AVR Target (trips per 100 employees)	20	20
Trip Reduction Compliance Target	30%	30%
Vehicle Trips Reduced Citywide by Reaching Target (trips)[5]	9,812	15,347
Average Trip Length (miles)[6]	9.2	7.7
Daily VMT Reduced (VMT)	90,269	118,175
Annual VMT Reduced (VMT)[7]	31,323,294	41,006,735
Forecasted Passenger Vehicle Emission Factor (MT CO_2e/VMT)[8]	245	214
Total GHG Emissions Reductions (MT CO_2e)	**7,682**	**8,759**

Notes: MT CO_2e = metric tons of carbon dioxide; VMT = vehicle miles traveled

1. GHG Emissions Forecast. See Appendix C of the GGRP Update.

2. Daily Employee Trips is the TMO Reach number of employees multiplied by two to account for to and from work trips. Does not represent the actual trip but is used as an intermittent step in calculations.

3. A 1.22 AVR is equivalent to an 82 single occupancy vehicle trips per 100 employees. Data source: BTMO. 2020. Annual Report – Citywide Performance in 2019. Provided by the City of Burbank on March 1, 2021.

4. A 1.61 AVR is equivalent to a 62 single occupancy vehicle trips per 100 employees.

5. Vehicle Trips Reduced Citywide by Reaching Target is calculated by multiplying the Daily Employee Trips by Trips Reduction Compliance Target and Daily Single Occupancy Vehicle Trip Reduction to Reach AVR Target.

6. 2019 Community GHG Emissions Inventory. See Appendix C of the GGRP Update.

7. 347 days per year used, consistent with VMT modeling best practices.

8. Emission factors for the *Legislative Adjusted* GHG Emissions Forecast were obtained from the California Air Resources Board (CARB) EMFAC2017 vehicle emissions model. The model was run for 2030 and 2045 for Los Angeles County. https://arb.ca.gov/emfac/2017/

*Values may not add up due to rounding

Results

There is no single Action under Measure T-2.2 that will reduce GHG emission on its own. Instead, all of the Actions are collectively supportive towards reducing single occupancy vehicle trips from commuting in the City. Measure T-2.2 would result in a reduction of 7,682 MT CO_2e in 2030 and 8,759 MT CO_2e in 2045, as shown in Table 19.

Table 19 GHG Emission Reductions Associated with Measure T-2.2

Action ID	Action	Emission Reductions (MT CO_2e) 2030	2045
T-2.2.a	To enhance the Burbank community's ability to telecommute, partner with telecom companies to perform a Broadband Access Study to identify areas of the City have limited access to broadband service due to infrastructure and financial limitations.	7,682	8,759
T-2.2.b	Identify grant funding opportunities to help bridge the broadband access gap in the City by helping to fund installation of infrastructure or subsidize broadband service for low-income households.		
T-2.2.c	Update the Burbank Municipal Code to require that the City set TMO fees through its fee schedule rather than impose fees established by the TMO. Impose a tiered fee that decreases fees for businesses who achieve 1.61 AVR and increases fees for businesses who do not achieve 1.61 AVR. Raise and lower TMO fees based on the number of employers who achieve 1.61 AVR.		
T-2.2.d	Direct TMO fees towards expanded BurbankBus transit services, employee rideshare subsidies, and active transportation infrastructure.		

2.6 Zero-Emission Vehicles

Measure T-3.1 Increase zero-emission vehicle adoption to 23% of all passenger vehicles by 2030 and 100% by 2045.

Connection to Cornerstone Pillars

Measure T-3.1 aims to significantly **reduce GHG emissions** through the increased adoption of zero-emission and electric vehicles. The Measure strives to provide **equitable** access to electric vehicle charging infrastructure by increasing the number of charge ports available at multi-family buildings by demonstrating **structural change** through local amendments to the building code (Actions T-3.1.a and T-3.1.h). Measure T-3.1 also strives for **connectivity** by providing resources to community members and businesses to install electric vehicle charge ports through the implementation of the BWP Transportation Electrification Plan (Action T-3.1.e). Installation of new EV infrastructure is **economical** because rebates and incentives are available. **Education** is a key component to successful implementation of the Measure, which will be achieved through the promotion of zero emission vehicle adoption through City events, social media, and the City website (Action T-3.1.b).

Background

The State of California has adopted ambitious goals for ZEV adoption, with the most recent EO N-79-20 striving to achieve 100 percent ZEV vehicle sales by 2035. To align with these aggressive State goals, Burbank seeks to increase ZEV adoption to 23 percent by 2030, while striving to set in place the framework to reach a long-term goal of 100 percent ZEV adoption by 2045. Reaching these targets will require significant investment in electric vehicle charging infrastructure to facilitate the transition to electric vehicles. Measure T-3.1 aims to increase the availability of EV charging infrastructure in areas identified to be of high priority to improve EV and ZEV adoption.

The BWP 2020 Transportation Electrification Plan provides a strategy for increasing the availability of EV charge port throughout the City.[51] The plan aims to achieve the infrastructure needed to facilitate 5,000 more EV's to be registered in the City between 2020 and 2025, aligning with the State's previous goal of bringing 1.5 million ZEVs to the road by 2025 and 5 million by 2030.[52] This goal has since been pushed even further by the State through EO N-79-20, with a goal of reaching 8 million light-duty ZEVs on the roads by 2030, requiring approximately 1.5 million chargers. This would be an adoption of nearly 21,600 ZEVs and EVs, or 23 percent of total vehicles registered in the City, and approximately 4,000 EV chargers.[53] [54] With an EV adoption rate in the City of about 2 percent as of 2020, this increase in EV adoption will require a significant ramp-up in the adoption and deployment of local charging infrastructure.[55]

Measure T-3.1 strives to place this increase in EV and ZEV adoption into action, by requiring the implementation of the current BWP 2020 Transportation Electrification Plan through Action T-3.1.e, and suggests an update to the plan in the next eight years to account for the increased adoption called for through EO N-79-20, through Action T-3.1.i. Measure T-3.1 will also work to improve the availability of EV charging at multi-family and commercial buildings, with the adoption of local amendments to the building code that require installation of EV charging infrastructure at new developments and during large retrofits and remodels of existing buildings, through Actions T-3.1.a and T-3.1.h. These actions will collectively work towards installing EV charge ports at locations that are most needed for EV adoption; specifically, at multifamily residences, places of work, and at City street parking.[56]

Measure T-3.1 also includes the replacement of light-duty vehicles in the City fleet with electric and alternative fueled options, by enacting a purchasing policy for fleet vehicles for all City departments, through Action T-3.1.g.

Methodology and Assumptions

GHG emission reductions for the increased adoption of EV's are based on replacing fossil fueled vehicles with electric versions in both the community and municipal operations. Increased electricity consumption from EV adoption is accounted for, offsetting some of the emissions reduction from replacing fossil fueled vehicles.

GHG emission reductions from the adoption of ZEVs assumes that the collective impact of Actions T-3.1.a through T-3.1.i will influence a 23 percent adoption of ZEVs and EVs by 2030. Since vehicles that are included in the City vehicle fleet are also registered to an address in the City, there is risk for double counting emission reductions from Action T-3.1.g and are therefore not separately quantified. The emission reductions are calculated by reducing 23 percent of VMT powered by fossil fuels, and emissions associated with these miles traveled would instead be accounted for in additional electricity use. The GHG emissions forecast performed as part of the 2019 Community GHG Inventory and GHG Emissions Forecast assume that approximately 3 percent of total Burbank passenger vehicle VMT in

[51] The City of Burbank Water and Power. 2019. Transportation Electrification 2020-2025 Strategic Plan and Roadmap.

[52] Executive Order B-48-18 provides a target of 5 million ZEVs to be in California's vehicle fleet in 2030, with an interim target of 1.5 million ZEVs on the road by 2025.

[53] It is assumed, based on the state population and projected 2030 population of the City, that the City would make up about 0.27% of the state's vehicle share.

[54] As of 2020 the City approximately 91,100 vehicles registered to addressed in the City, which is expected to reach approximately 94,300 when scaled with population growth.

[55] 1/1/2020 Vehicle Fuel Type Count by Zip Code. https://data.ca.gov/dataset/vehicle-fuel-type-count-by-zip-code/resource/4254a06d-9937-4083-9441-65597dd267e8?inner_span=True. Accessed March 8, 2021.

[56] Massachusetts Institute of Technology. 2021. How to get more electric cars on the road. https://news.mit.edu/2021/electric-cars-charging-0121. Accessed March 8, 2021.

2030 would be by ZEVs, and 4 percent in 2045.[57] Increasing ZEV adoption to 23 percent by 2030 and 100 percent by 2045 would reduce GHG emissions from fossil fuel combustion by 20 percent in 2030 and by 96 percent in 2045. The GHG emission reductions of Measure T-3.1 are applied after the VMT reductions attained by Measure T-1.1 and T-2.1 and through increased public and shared transit and active transportation, and reduction from TDM measures. This GHG reduction would be offset by electricity consumption which would generate GHG emissions in 2030. The calculations and assumptions used to estimate emission reductions from Measure T-3.1 are provided in Table 20.

Table 20 Measure T-3.1 GHG Emission Reduction Calculations

Calculation Factor	2030	2045
EV adoption target	23%	100%
Projected EV adoption[1]	3%	4%
Effective Increase in EV Adoption Above Projected	20%	96%
Forecasted Passenger Vehicle VMT [2]	1,141,429,903	1,165,532,601
Reduction in Fossil Fuel Passenger Vehicle VMT	228,285,981	1,118,911,297
Forecasted Passenger Vehicle Emission Factor (MT CO_2e/VMT) [3]	38,358	31,567
Measure T-3.1 Reduction in GHG Emissions from Fossil Fuel Combustion (MT CO_2e)	55,984	238,989
Estimated 2019 Model Year Average Electricity Consumption (kwh/100 miles)[4]	28	28
Estimated Increase in Electricity Consumption Resulting from Increased EV Adoption (kWh)	63,920,075	326,349,128
Electricity Emission Factor Adjusted for SB 100 (MT CO2e/kWh) [5]	0.000279	0
Additional GHG Emissions from Increased Electricity Consumption (MT CO_2e)	17,805	0
Total GHG Emissions Reductions (MT CO_2e)	38,179	**238,989**

Notes: MT CO_2e = metric tons of carbon dioxide; kWh =-kilowatt-hour; VMT = vehicle miles traveled; EV = electric vehicle

1. Projected EV adoption rates were obtained from the California Air Resources Board (CARB) EMFAC2017 vehicle emissions model. The model was run for 2030 and 2045 for Los Angeles County. https://arb.ca.gov/emfac/2017/.

2. Forecasted Passenger VMT and Total Forecasted Passenger Vehicle GHG Emissions account for the reductions in VMT and GHG emissions that would be realized upon full implementation of Measures T-1.1 and T-2.2. See Table 14 and Table 18 for derivation of these values.

3. Emission factors for the *Legislative Adjusted* GHG Emissions Forecast were obtained from the California Air Resources Board (CARB) EMFAC2017 vehicle emissions model. The model was run for 2030 and 2045 for Los Angeles County. https://arb.ca.gov/emfac/2017/

4. The Estimated 2019 Model Year Average Electricity Consumption is used to convert the reduction of VMT from fossil fuel combustion to consumption by the increased adoption of electric vehicles. This was derived from the sales by model for all-electric vehicles in 2019, using the top 96% of EV models sold in 2019 and the reported energy efficiency of the respective model to obtain a weighted average energy consumption per 100 miles based on sales. It is assumed that by 2030, EVs sold prior to 2019 may no longer be in use. Models representing 96% of EV sales included: Audi e-tron, BMW i3, Chevy Bolt, Nissan Leaf, VW e-Golf, and Tesla Models 3, S, and X..
EV sales data source: https://afdc.energy.gov/data/10567.
EV fuel efficiency data source: https://www.fueleconomy.gov/feg/powerSearch.jsp. Search Criteria: 2020 model year, All Electric vehicle type.

5. Legislative Adjusted GHG Emissions Forecast. See Appendix C of the GGRP Update.

*Values may not add up due to rounding

Results

There is no single Action under Measure T-3.1 that will reduce GHG emission on its own. Instead, all of the Actions are collectively supportive towards increasing ZEV adoption to a level consistent with State

[57] Projected EV adoption rates were obtained from the California Air Resources Board (CARB) EMFAC2017 vehicle emissions model. The model was run for 2030 and 2045 for Los Angeles County. https://arb.ca.gov/emfac/2017/.

goals. Measure T-3.1 would result in a reduction of 38,179 MT CO_2e in 2030 and 238,989 MT CO_2e in 2045, as shown in Table 21.

Table 21 GHG Emission Reductions Associated with Measure T-3.1

Action ID	Action	Emission Reductions (MT CO_2e) 2030	2045
T-3.1.a	Adopt an EV Charging Retrofits in Existing Commercial and Multifamily Buildings Reach Code requiring major retrofits, with either a building permit with square footage larger than 10,000 square feet or including modification of electric service panels, to meet CalGreen requirements for "EV Ready" charging spaces and infrastructure.	38,179	238,989
T-3.1.b	Coordinate with BWP to enhance promotion of public and private conversion to zero-emission vehicles; including use of City events, social media, and the City website to educate on benefits of zero-emission vehicles and available incentives.		
T-3.1.c	Conduct a City Fleet Optimization Study to understand the potential to replace fossil-fuel powered vehicles with alternative fuel-powered vehicles as they are replaced with a goal of replacing 25% of light-duty fleet vehicles by 2030.		
T-3.1.d	Evaluate alternative options to gas powered landscape and forestry maintenance equipment when replacing city-owned equipment.		
T-3.1.e	Implement the BWP Transportation Electrification Plan to facilitate installation of EV charge ports through customer rebates and direct installation of charging stations.		
T-3.1.f	Investigate opportunities to help fund additional EV charging infrastructure by leveraging public/private partnerships and ensuring the City is charging for EV infrastructure use at City-owned facilities.		
T-3.1.g	Adopt an electric and alternative fueled vehicles and equipment purchasing policy for light-duty vehicles for all City departments, including BWP, allowing for exceptions for heavy-duty and emergency response vehicles.		
T-3.1.h	Adopt an EV Reach Code requiring new commercial and multifamily construction to install the minimum number of EV charge ports based on Tier 2 CalGreen requirements (20% of total).		
T-3.1.i	Update the BWP Transportation Electrification Plan by 2026 to reflect changes in State goals, consumer behavior, technology and lessons learned.		

2.7 Parking

Measure T-4.1 Implement Parking Management as identified in the Burbank2035 General Plan Mobility Element and the City Council's Six Parking Management Principles

Connection to Cornerstone Pillars

The primary focus of Measure T-4.1 is to create **structural change** through the implementation of paid parking throughout the City, starting with Specific Plan areas and parking near transit stations. Additionally, the Measure strives to reduce VMT and **reduce associated GHG emissions** by incentivizing alternative modes of transportation and reducing cruising for parking in congested areas. Measure T-

4.1 is also **economical** for the City because it provides additional revenue from parking pricing to be reinvest in parking enforcement, maintain City parking assets, and improving local neighborhoods subject to parking pricing. The additional cornerstone pillars are not addressed by this as the primary goal is to implement existing policies adopted by the City.

Background

In 2019 the City of Burbank adopted Six Parking Management Principles, which include:

- Protect Single Family Parking
- Increase Parking Availability
- Leverage Underused Private Parking
- Regulate Street Parking and Public Parking Lots with Pricing
- Reinvest Parking Revenue
- Tailor Implementation to Neighborhoods

These principles aim to streamline the ability for visitors and residents to find parking in certain areas of the City and to incentives the use of alternative modes of transit and carpooling. The pricing of parking serves as the primary way to reduce the use of vehicles to reach their destination, reducing vehicle trips and reducing the need for cruising to find parking in congested areas. Measure T-4.1 strives to implement parking management throughout the City in a stepwise fashion between 2025 and 2040, starting with areas near transit stations and specific plan areas.

Methodology and Assumptions

The GHG emissions reduction associated with Measure T-4.1 are dependent on VMT reductions that result from "park once" behavior and mode shifts towards active transportation and public transit resulting from implementation of parking pricing in specific plan areas of the City. The California Air Pollution Control Officers Association (CAPCOA) published VMT reduction potentials for the implementation of parking pricing at the specific plan and general plan level.[58] Since the implementation of parking pricing as part of Measure T-4.1 would occur in a phased manner by specific plan areas, it is appropriate to use the GHG reduction potential from the CAPCOA guidance for the GHG reductions calculated here. Additionally, in 2019 Fehr and Peers published an assessment of new research addressing the GHG reductions included in the CAPCOA guidance which confirms the adequacy of using these GHG reductions for the purpose of Measure T-4.1.[59] The range of GHG reductions that can be achieve through parking pricing is 2.8 to 14 percent, depending on the price of parking and the vehicle travel characteristics of the area of implementation. Since Burbank does not currently have parking pricing in the areas of the City addressed as part of the actions of Measure T-4.1, it is conservatively assumed that the VMT and GHG reductions would be 2.8 percent in the specific plan areas where parking pricing is implemented.

The VMT and GHG reductions for Measure T-4.1 for the year 2045 were calculated for specific plan areas of the City where VMT data was available from the VMT analysis provided by Iteris, Inc. for the 2019 GHG Emissions Inventory and GHG Emissions Forecast.[60] The analysis provided VMT estimates for

[58] California Air Pollution Control Officers Association. 2010. Quantifying Greenhouse Gas Mitigation Measures. http://www.capcoa.org/wp-content/uploads/downloads/2010/09/CAPCOA-Quantification-Report-9-14-Final.pdf. Accessed July 7, 2021.

[59] Fehr and Peers. 2019. SB 734 Implementation TDM Strategy Assessment. https://www.fehrandpeers.com/wp-content/uploads/2019/12/TDM-Strategies-Evaluation.pdf. Accessed July 7, 2021.

[60] 2019 Community GHG Emissions Inventory. See Appendix C of the GGRP Update.

specific traffic analysis zones (TAZs) in the City. The TAZs and specific plan areas affected by Measure T-4.1 were reviewed to identify TAZs that were nearly completely contained within specific plan areas. It was identified that the Burbank Center Plan area and the Media District Specific Plan area aligned with individual TAZs for which VMT data was available. These TAZs primarily consist of, and are surrounded by, the specific plan areas that will be affected by Measure T-4.1; therefore, it would not be expected that the reductions in VMT in these TAZs would be shifted to surrounding areas since the surrounding areas would also have implemented parking pricing. The VMT and GHG reductions for the year 2045 are based on implementation of parking pricing throughout the entire City, and as such the GHG reductions are based on total passenger vehicle VMT in the City.

It is expected that the VMT and GHG emission reductions would only affect passenger VMT. The total proportion of passenger VMT to total VMT in the City was used to estimate the passenger VMT that would be reduced in each of the affected specific plan areas on 2030. The VMT reductions for the areas affected by Measure T-4.1 were calculated as 2.8 percent of the passenger VMT in the affected areas. The GHG emissions reduction were calculated from VMT using the average projected passenger vehicle emission factors of 245 grams of CO_2e per mile (g CO_2e/mile) for 2030 and 214 g CO_2e/mile for 2045, as obtained from CARB's vehicle emissions factor database, EMFAC2017.[61] GHG emissions reduction are calculated separately for Actions T-1.4.b, T-1.4.c and T-1.4.d in Table 22,

[61] Emission factors for the *Legislative Adjusted* GHG Emissions Forecast were obtained from the California Air Resources Board (CARB) EMFAC2017 vehicle emissions model. The model was run for 2030 and 2045 for Los Angeles County. https://arb.ca.gov/emfac/2017/

Table 23, and Table 24, respectively.

Table 22 Action T-4.1.b GHG Emission Reduction Calculations

Calculation Factor	2030	2045
Burbank Center Plan Area Daily VMT[1]	142,751	138,086
Burbank Center Plan Area Annual VMT[2]	49,534,597	47,915,842
Percentage of Citywide VMT from Passenger Vehicles[1]	95%	94%
Burbank Center Plan Area Passenger VMT	46,897,126	45,159,667
Forecasted Passenger Vehicle Emission Factor (MT CO_2e/VMT)[3]	245	214
Burbank Center Plan Area Forecasted Passenger Vehicle GHG Emissions (MT CO_2e)	11,501	9,646
GHG Reductions from Implementation of Parking Pricing[4]	2.8%	2.8%
Total GHG Emissions Reductions (MT CO_2e)	**322**	**270**

Notes: MT CO_2e = metric tons of carbon dioxide; VMT = vehicle miles traveled

1. 2019 Community GHG Emissions Inventory. See Appendix C of the GGRP Update.

2. 347 days per year used, consistent with VMT modeling best practices.

3. California Air Pollution Control Officers Association. 2010. Quantifying Greenhouse Gas Mitigation Measures. http://www.capcoa.org/wp-content/uploads/downloads/2010/09/CAPCOA-Quantification-Report-9-14-Final.pdf. Accessed July 7, 2021.

4. Emission factors for the *Legislative Adjusted* GHG Emissions Forecast were obtained from the California Air Resources Board (CARB) EMFAC2017 vehicle emissions model. The model was run for 2030 and 2045 for Los Angeles County. https://arb.ca.gov/emfac/2017/

*Values may not add up due to rounding

Table 23 Action T-4.1.c GHG Emission Reduction Calculations

Calculation Factor	2030	2045
Media District Specific Plan Area Daily VMT[1]	162,493	132,653
Media District Specific Plan Area Annual VMT[2]	56,385,071	46,030,591
Percentage of Citywide VMT from Passenger Vehicles[1]	95%	94%
Media District Specific Plan Area Passenger VMT	53,382,847	43,382,858
Forecasted Passenger Vehicle Emission Factor (MT CO_2e/VMT)[3]	245	214
Media District Specific Plan Area Forecasted Passenger Vehicle GHG Emissions (MT CO_2e)	13,092	9,266
GHG Reductions from Implementation of Parking Pricing[4]	2.8%	2.8%
Total GHG Emissions Reductions (MT CO_2e)	**367**	**259**

Notes: MT CO_2e = metric tons of carbon dioxide; VMT = vehicle miles traveled

1. 2019 Community GHG Emissions Inventory. See Appendix C of the GGRP Update.

2. 347 days per year used, consistent with VMT modeling best practices.

3. California Air Pollution Control Officers Association. 2010. Quantifying Greenhouse Gas Mitigation Measures. http://www.capcoa.org/wp-content/uploads/downloads/2010/09/CAPCOA-Quantification-Report-9-14-Final.pdf. Accessed July 7, 2021.

4. Emission factors for the *Legislative Adjusted* GHG Emissions Forecast were obtained from the California Air Resources Board (CARB) EMFAC2017 vehicle emissions model. The model was run for 2030 and 2045 for Los Angeles County. https://arb.ca.gov/emfac/2017/

*Values may not add up due to rounding

Table 24 Action T-4.1.d GHG Emission Reduction Calculations

Calculation Factor	2030	2045
Citywide Annual Passenger VMT[1]	NA	1,301,139,307
Forecasted Passenger Vehicle Emission Factor (MT CO_2e/VMT)[2]	NA	214
Citywide Forecasted Passenger Vehicle GHG Emissions (MT CO_2e)	NA	243,014
GHG Reductions from Implementation of Parking Pricing[3]	NA	2.80%
GHG Emission Reductions Accounted for in Actions T-4.1.b and T-4.1.c (MT CO_2e)	NA	530
Total GHG Emissions Reductions (MT CO_2e)	**NA**	**6,804**

Notes: MT CO_2e = metric tons of carbon dioxide; VMT = vehicle miles traveled; NA = Not Applicable

1. 2019 Community GHG Emissions Inventory. See Appendix C of the GGRP Update.

2. California Air Pollution Control Officers Association. 2010. Quantifying Greenhouse Gas Mitigation Measures. http://www.capcoa.org/wp-content/uploads/downloads/2010/09/CAPCOA-Quantification-Report-9-14-Final.pdf. Accessed July 7, 2021.

3. Emission factors for the *Legislative Adjusted* GHG Emissions Forecast were obtained from the California Air Resources Board (CARB) EMFAC2017 vehicle emissions model. The model was run for 2030 and 2045 for Los Angeles County. https://arb.ca.gov/emfac/2017/

*Values may not add up due to rounding

Results

Actions T-4.1.b, T-4.1.c, and T-4.1.d would contribute to GHG emission reductions for Measure T-4.1, resulting in a reduction of 689 MT CO_2e in 2030 and 7,334 MT CO_2e in 2045, as shown in Table 25.

Table 25 GHG Emission Reductions Associated with Measure T-2.1

Action ID	Action	Emission Reductions (MT CO_2e) 2030	2045
T-4.1.a	Implement managed parking at the Downtown Burbank Metrolink Station, the Burbank Airport North Metrolink Station, and the Burbank Airport South Metrolink Station through parking pricing so that at least 20 percent of station parking supply is available for transit users at any time of the day.	Not Quantified	
T-4.1.b	By 2025, implement the City's 6 Parking Management Principles in the Burbank Center Plan area. This would include: 1) Pricing all public parking (streets and structures) so that at least 20 percent of parking supply (one or two spaces per block) is available at any time of day. 2) Updating BMC Zoning rules to improve flexibility of off-street parking requirements for new development.	322	270
T-4.1.c	By 2030, implement the City's 6 Parking Management Principles in the Golden State Specific Plan area and Media District Specific Plan area. This would include: 1) Pricing all public parking (streets and structures) so that at least 20 percent of parking supply (one or two spaces per block) is available at any time of day. 2) Updating BMC Zoning rules to improve flexibility of off-street parking requirements for new development.	367	259
T-4.1.d	By 2040, implement the City's 6 Parking Management Principles citywide. This would include: 1) Pricing all public parking (streets and structures) so that at least 20 percent of parking supply (one or two spaces per block) is available at any time of day. 2) Updating BMC Zoning rules to improve flexibility of off-street parking requirements for new development.	0	6,804

2.8 Water-Energy Nexus

Measure W-1.1 Reduce per capita water consumption from current levels of 132 GPCD (gallons per capita per day) to 124 GPCD by 2030 (a 6.1% reduction) and to 120.5 GPCD by 2045 (an 8.7% reduction).

Connection to Cornerstone Pillars

Measure W-1.1 aims to achieve **GHG reductions** through reducing the gallons per capita per day consumed by the Burbank community. Action W-1.1.d promotes **equity, education, and connectivity** by implementing a public education campaign that highlights water conservation practices and promotes and provides demonstrations of graywater and rainwater systems, with focus on low-income households with high utility bill burdens. Burbank has had great success with decreasing water consumption by providing recycled water for irrigation and land uses with high water consumption. To expand this **structural change**, an update to BWP's 2010 Recycled Water Master Plan will be performed to identify successes since 2010 and feasible opportunities for expanding recycled water infrastructure, as part of Action W-1.1.f. Lastly, Measure W-1.1 is **economical** by continuing to implement water conservation programs identified in the 2020 Urban Water Management Plan as part of Action W.1.1.a,

modernizing City irrigation controllers as part of Action W.1.1.g to reduce the costs associated with water City parks and medians, and installing new Advanced Metering Infrastructure (AMI) in the next four years as apart of Action W-3.1.e that will allow customers to track and monitor their water use.

Background

The City and its water provider, BWP, have been successful in reducing potable water consumption through implementation of programs and policies in the Urban Water Management Plan, enforcing the Model water Efficient Landscape Ordinance, increasing the available supply in infrastructure for use of recycled water, and providing water efficient devices and appliance incentives. As a result, the City reduced water consumption by 8.2 percent on a per-capita basis between 2010 and 2019.[62] The primary focus of Measure W-1.1 is to continue these same programs and efforts, while also focusing efforts on several new actions, including the use of new Advanced Metering Infrastructure (AMI) to allow customers to track and monitor their water usage AMI is expected to save, at a minimum, 2.2% more water than those households that do not use them. If customer engagement is effectively increased, consumption could even be reduced by as much as 5 GPCD by 2030 and 7 GPCD by 2045.[63] Furthermore, in accordance with the forthcoming Burbank 6th Cycle Housing Element Update, new residential construction will likely be 80% multi-family, which will have the effect of reducing irrigation requirements for landscaping. This can reduce per capita usage by 4 GPCD by 2030 and 5.5 GPCD by 2045.[64] The 6.1 percent and 8.7 percent reduction targets below a 2019 baseline, for 2030 and 2045, respectively, were developed based upon these expected reductions in consumption with implementation of the aforementioned actions.

Additional efforts the City will be undertaking can further enhance the potential for reduced reliance on imported water from Metropolitan Water District. Reducing this reliance would improve the City's adaptive capacity to climate change by enhancing the capacity of local sources water and reduce the GHG emissions associated with the high energy-intensity of imported water. These actions include exchanging recycled water for groundwater credits, increasing the recycled water supply through partnership with Los Angeles Department of Water and Power, and working with developers to expand recycled water infrastructure. While the GHG emission reductions from these efficiencies are not quantified due to the complexity of interactions with various agencies, they provide more evidence that Burbank will be able to achieve the established water reduction targets as part of Measures W-1.1.

Methodology and Assumptions

The GHG emission reductions associated with Measure W-1.1 are a result of the decreased energy consumption required to convey, pump, treat, and distribute potable water to end users. It is expected that the collective efforts of all Actions under Measure W-1.1 will result in a per-capita reduction of water consumption of 6.8 percent by 2030 and 9.4 percent by 2045, below the 2019 baseline.

In 2019, approximately 132 gallons per-capita per day (gpcd) of water was consumed in the City, or 15,599 total acre-feet (AF). A 6.1 percent reduction would equate to a water consumption rate of 124 gpcd in 2030, and a 8.6 percent reduction would equate to 120.5 gpcd in 2045. With the projected population of the City being 109,686 in 2030 and 115,400 in 2045, the projected total consumption of water in the City is 13,601,100 gallons per day (gpd) and 13,905,739 gpd in 2030 and 2045, respectively. This equates to 15,235 AF per year and 15,576 AF per year in 2030 and 2045, respectively.

[62] 2010 and 2019 Community GHG Inventories. See Appendix C of the GGRP Update.

[63] Personal Communication with Assistant General Manager of Water Systems at Burbank Water and Power. Email. August 4, 2021.

[64] Personal Communication with Assistant General Manager of Water Systems at Burbank Water and Power. Email. August 4, 2021.

In the GHG Emission Forecast for the GGRP Update, it was estimated that water consumption in the City would increase to 16,201 AF per year and 16,961 AF per year in 2030 and 2045 respectively, based on service population growth.[65] As such, achieving the reduction targets would result in a reduction of 965 AF and 1,385 AF in 2030 and 2045, respectively. Using the weighted average energy intensity for the water supply of 1,507 kWh/AF, this would result in a 1,455,180 kWh and 2,086,953 kWh reduction in energy use in 2030 and 2045, respectively. This would reduce GHG emissions in 2030 at a rate equivalent to the estimated 2030 electricity GHG emission factor of 0.000279 MT CO_2e/kWh. GHG emission reductions for 2045 were not quantified for this measure as there is risk of double counting GHG emissions reductions assumed with accounting for increased RPS requirements in the GHG emissions forecast. The calculations and assumptions used to estimate emission reductions from Measure W-1.1 are provided in Table 26.

Table 26 Measure W-1.1 GHG Emission Reduction Calculations

Calculation Factor	2030
2019 Baseline Water Efficiency (gpcd)	132.0
Target Reduction in Per-Service Population Water Consumption	6.1%
Target Water Efficiency	124.0
Forecasted Population [2]	245,962
Target Total Water Consumption (AF)	15,235
Forecasted Water Consumption without Measure W-1.1 (AF) [1]	16,201
Reduction in Water Consumption after Measure W-1.1	965
Average Energy Intensity of Water Supply (kWh/AF) [2]	1,507
Resulting Reduction in Water Related Energy Consumption (kWh)	1,455,180
Electricity Emission Factor Adjusted for SB 100 (MT CO2e/kWh) [2]	0.000279
Total GHG Emissions Reductions (MT CO_2e)	**405**

Notes: MT CO_2e = metric tons of carbon dioxide; kWh =-kilowatt-hour; AF = acre foot

1. GHG Emissions Forecast. See Appendix C of the GGRP Update.

2. 2019 Community GHG Emissions Inventory. See Appendix C of the GGRP Update.

*Values may not add up due to rounding

Results

The collective actions associated with Measure W-1.1 would result in a reduction of 405 MT CO_2e in 2030, as shown in Table 27. GHG emission reductions for 2045 were not quantified for this measure as there is risk of double counting GHG emissions reductions assumed with accounting for increased RPS requirements in the GHG emissions forecast. All Actions under this Measure are considered supportive towards reaching the overall GHG reductions of Measure W-1.1.

[65] GHG Emissions Forecast. See Appendix C of the GGRP Update.

Table 27 GHG Emission Reductions Associated with Measure W-1.1

Action ID	Action	Emission Reductions (MT CO_2e) 2030	2045
W-1.1.a	Continue to implement the UWMP water conservation programs.	405	Not Quantified
W-1.1.b	Continue to enforce MWELO requirements.		
W-1.1.c	Continue enforcement of large irrigation customers required to use recycled water.		
W-1.1.d	Coordinate with BWP to implement a public education campaign that highlights water conservation practices and promotes and provides demonstrations of graywater and rainwater systems, with focus on low-income households with high utility bill burdens.		
W-1.1.e	Install a new Advanced Metering Infrastructure (AMI) system in the next four years that will include easy-to-use web-based tools that allow customers to track and monitor water use. Promote the availability of Home Water Reports and provide materials on how to utilize the available information.		
W-1.1.f	Update BWP's 2010 Recycled Water Master Plan to identify success since 2010 and feasible opportunities for expanding recycled water use. Work with developers to expand recycled water system and develop a recycled water expansion program.		
W-1.1.g	Modernize at least three irrigation controllers city-wide each year, as needed, to reduce water usage and maximize watering efficiencies, upgrading systems throughout the entire City by 2030.		

2.9 Organic Waste Diversion

Measure SW-1.1 Meet SB 1383 organics and recycling requirements, reducing organic waste disposal 75% by 2025.

Connection to Cornerstone Pillars

The primary impetus of Measure SW-1.1 is to achieve **structural change** by increasing the diversion of organic waste to meet SB 1383 requirements. Diverting organic waste from landfills has **associated GHG reductions**, by reducing the amount of organic waste that has potential for generating long-term methane emissions from decomposition. **Education** is a key component to the success of Measures SW-1.1, which stives to establish an education and outreach program for school children and adults around food waste prevention, nutrition education, and the importance of edible food recovery (Action SW-1.1.g). Measure SW-1.1 also includes **connectivity** by engaging with waste haulers that operate in the City to facilitate an understanding of the requirements of SB 1383 (Actions SW-1.1.a and SW-1.1.j). Furthermore, the Measure includes an edible food recovery aspect which strives for **equity**, by ensuring there is adequate capacity and infrastructure to recover 20 percent of edible food disposed and distribute back to the community (Actions SW-1.1.f and SW-1.1.h).

Background

Organic materials are the focus of the recent landmark legislation SB 1383 (Short-Lived Climate Pollutants: Organic Waste Reductions). Now in the final rulemaking stage, this new State law has the immediate goal of reducing organic waste sent to landfill and the ultimate objective of reaching

statewide methane emissions reduction goals. Specifically, it sets a statewide goal for the reduction in organic waste to landfills – 50 percent by 2020 and 75 percent by 2025 – in addition to the recovery of 20 percent of edible food waste for human consumption. SB 1383 will require local governments to provide organics collection to all generators and require all generators to subscribe. It also has specific mandates for container systems, education, and outreach programs, monitoring and contamination reporting, and enforcement of regulations. Full SB 1383 implementation will begin in 2022.[66]

Methodology and Assumptions

The requirements associated with SB 1383 have been developed to produce a 75 percent reduction in organics by the State of California, below a 2014 baseline.[67] The State recognizes that individual jurisdictions cannot achieve the goals of SB 1383 alone and therefore SB 1383 stipulates how waste generators and local governments must operate to achieve SB 1383 goals. Therefore, by taking the actions required, the City can expect to achieve an equivalent reduction level. The emission reductions associated with a 75 percent reduction in organics was calculated using the 2014 Disposal-Facility-Based Characterization of Solid Waste in California pursuant to the SB 1383 guidelines.[68]

In 2014, the City disposed 77,359 tons of waste in landfills, which was assumed to be composed of 18.1 percent food waste, 17.4 percent mixed paper, and 9.2 percent yard waste.[69] [70] This equates to 45 percent of the total disposed waste stream being composed of organics, or 34,595 tons of organic waste. The GHG emission reductions are calculated from the emissions that would be avoided by diverting organic waste in 2030 and 2045 to meet 75 percent of this 2014 organic waste total, which equates to reducing landfilled organic waste to about 8,650 tons. Assuming the waste stream continues to contain about 45 percent organic waste in the future without implementation of SB 1383 requirements, and the total waste landfilled by the City is scaled by service population, the estimated 94,256 tons of waste landfilled in 2030 and 98,680 tons of waste landfilled in 2045 would contain approximately 42,135 and 44,110 tons of organic waste in 2030 and 2045, respectively. Meeting the SB 1383 targets of a 75 percent reduction of organic waste below 2014 levels would result in a diversion of 33,484 tons of organic waste in 2030 and 35,461 tons of organic waste in 2045.

The diversion of these volumes of organic waste would reduce GHG emissions by diverting this waste from landfills where methane would be emitted. Emission factors for each of these waste types when landfilled were obtained from the CARB 2017 Method for Estimating Greenhouse Gas Emission Reductions from Diversion of Organic Waste from Landfills to Compost Facilities.[71] A weighted average of the GHG emission factors for food waste, mixed paper, and yard waste was developed based on the percentages of the waste stream for each organic waste type, resulting in an average organic waste

[66] California Air Resources Board. 2017. Short-Lived Climate Pollution Reduction Strategy. https://ww2.arb.ca.gov/resources/documents/slcp-strategy-final#:~:text=The%20Short%2DLived%20Climate%20Pollutant,)%2C%20and%20anthropogenic%20black%20carbon. Accessed March 8, 2021.

[67] Senate Bill No. 1383. https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=201520160SB1383. Accessed March 8, 2021.

[68] California Department of Resources Recycling and Recovery. 2015. 2014 Disposal-Facility-Based Characterization of Solid Waste in California. https://www2.calrecycle.ca.gov/Publications/Download/1301. Accessed March 8, 2021.

[69] California Department of Resources Recycling and Recovery. Local Government Central. Jurisdiction Disposal and Alternative Daily Cover (ACD) Tons by Facility. "Los Angeles County- City of Burbank", "2014". https://www2.calrecycle.ca.gov/LGCentral/DisposalReporting/Destination/DisposalByFacility. Accessed March 8, 2021.

[70] California Department of Resources Recycling and Recovery. 2015. https://www2.calrecycle.ca.gov/Publications/Download/1301. Accessed March 8, 2021.

[71] California Air Resources Board. 2017. Method for Estimating Greenhouse Gas Emission Reductions from Diversion of Organic Waste from Landfills to Compost Facilities. http://nrcne.org/wp-content/uploads/2019/12/Method-estimating-GHG-emissions-reductions.pdf. Accessed March 8, 2021.

reduction GHG emission factor of 0.330 MT CO_2e per tons of organic waste diverted. The calculations and assumptions used to estimate emission reductions from Measure SW-1.1 are provided in Table 28.

Table 28 Measure SW-1.1 GHG Emission Reduction Calculations

Calculation Factor	2030	2045
Portion of Waste Landfilled that is Organic [1]	45%	45%
2014 Total Waste sent to Landfill (tons) [2]	77,395	77,395
2014 Total Organic Waste sent to landfill (tons)	34,596	34,596
75% Organic Waste Reduction Target Below 2014 Baseline	8,649	8,649
Forecasted Total Waste send to Landfill [3]	94,256	98,680
Forecasted Organic Waste sent to landfill (tons)	42,133	44,110
Reduction in Forecasted Organic Waste to Meet Targets (tons)	33,484	35,461
Organic Waste Diversion GHG Emission Factor for Avoided Emissions (MT CO_2e/ton) [4]	0.330	0.330
Total GHG Emissions Reductions (MT CO_2e)	**11,040**	**11,692**

Notes: MT CO_2e = metric tons of carbon dioxide

1. California Department of Resources Recycling and Recovery. 2015. 2014 Disposal-Facility-Based Characterization of Solid Waste in California. https://www2.calrecycle.ca.gov/Publications/Download/1301. Accessed March 8, 2021.

2. California Department of Resources Recycling and Recovery. Local Government Central. Jurisdiction Disposal and Alternative Daily Cover (ACD) Tons by Facility. "Los Angeles County- City of Burbank", "2014". https://www2.calrecycle.ca.gov/LGCentral/DisposalReporting/Destination/DisposalByFacility. Accessed March 8, 2021.

3. GHG Emissions Forecast. See Appendix C of the GGRP Update.

4. The emission factor for organics waste is the weighted average of emission factors for all paper, food and yard trimmings materials listed in the California Air Resources Board Method for Estimating Greenhouse Gas Emission Reductions from Diversion of Organic Waste from Landfills to Compost Facilities. http://nrcne.org/wp-content/uploads/2019/12/Method-estimating-GHG-emissions-reductions.pdf.

*Values may not add up due to rounding

Results

The Actions associated with Measure SW-1.1 would result in a reduction of 11,040 MT CO_2e in 2030 and 11,629 MT CO_2e in 2045, as shown in Table 29.

Table 29 GHG Emission Reductions Associated with Measure SW-1.1

Action ID	Action	Emission Reductions (MT CO_2e) 2030	2045
SW-1.1.a	Engage with all waste haulers operating within the City to discuss SB 1383 requirements for waste haulers (i.e. organics receptacles and labeling requirements).	11,040	11,692
SW-1.1.b	Adopt procurement policies to comply with SB 1383 requirements for jurisdictions to purchase recovered organic waste products.		
SW-1.1.c	Adopt an Edible Food Recovery Ordinance for edible food generators, food recovery services, or organization that are required to comply with SB 1383.		
SW-1.1.d	Partner with all City waste haulers, to provide organic waste collection and recycling services to all commercial and residential generators of organic waste.		
SW-1.1.e	Adopt an ordinance requiring all residential and commercial customers to subscribe to an organic waste collection program and/or report self-hauling or backhauling of organics.		
SW-1.1.f	Conduct a Feasibility Study and prepare an action plan to provide for edible food reuse infrastructure is sufficient to accept capacity needed to recover 20% of edible food disposed or identify proposed new or expanded food recovery capacity.		
SW-1.1.g	Establish an education and outreach program for school children and adults around food waste prevention, nutrition education, and the importance of edible food recovery.		
SW-1.1.h	Establish an edible food recovery program to minimize food waste.		
SW-1.1.i	Adopt an ordinance or enforceable mechanism to regulate haulers collecting organic waste, including collection program requirements and identification of organic waste receiving facilities.		
SW-1.1.j	Partner with all waste haulers within the City to: ▪ Provide for organic waste collection from mixed waste containers are transported to a high diversion organic waste processing facility ▪ Provide quarterly route reviews to identify prohibited contaminants potentially found in containers that are collected along route. ▪ Clearly label all new containers indicating which materials are accepted in each container, and by January 1, 2025 place or replace labels on all containers.		

2.10 Carbon Sequestration

Measure CS-1.1 Plant 2,000 net new trees by 2030 and 5,000 net new trees by 2045 to sequestrator carbon and create urban shade to reduce the urban heat island effect.

Connection to Cornerstone Pillars

Measure CS-1.1 aims to increase tree cover to reduce the urban heat island effect and increase the City's carbon sequestration potential, effectively **reducing GHG emissions**. This provides **connectivity** and is **economical** because it includes working to expand BWP's Shade Tree Program to include

targeted outreach to multi-family and low-income housing (Action CS-1.1.b). Furthering the **equitability** of the Measure, efforts will be made to place vegetative barriers between roadways and developments to reduce exposure to air pollutants from traffic (Action CS-1.1.e), and conducting an urban canopy study and identify low income and/or disadvantaged communities with lower than average tree canopy coverage in order to prioritize planting (Action CS-1.1.f). **Structural change** will be achieved with this Measure by adopting a Greenscaping Ordinance that has a street tree requirement for all zoning districts, has a shade tree requirement for new development, requires greening of parking lots, and increases permeable surfaces in new development (Action CS-1.1.c).

Background

The City of Burbank is generally considered a built-out City where a majority of new development or growth will involve the redevelopment of underutilized parcels or renovation of existing structures. Although built-out, the City has the opportunity to engage in carbon sequestration activities through enhancing open space, urban greening, and protecting and increasing the City's urban forest or tree stock. At this time only the carbon benefits of urban forestry can be assessed as additional research is needed to assess the benefits of vegetation and soil management. Nonetheless, over time as emissions are removed from more and more sectors, carbon sequestration will play an increasingly important role in California's ability to achieve carbon neutrality.

The City of Burbank currently has approximately 33,000 trees within its borders. Due to the size constraints of planting areas which limit the growth of older trees in the City, the City replaces about up to 500 trees per year.[72] This effort works to preserve the urban forest canopy and continue to provide carbon sequestration value as the replaced trees mature. Another challenge of maintaining the urban tree canopy is tree removal from private property. Measure CS-1.1 strives to enhance the City's ability to plant more trees in the public right of way and preserve or replace trees that are intended to be removed from private property. In order to reach the target of planting 2,000 net new trees by 2030, the City will need to maintain the current tree stock and plant about 250 net new trees each year. A number of new developments are expected to be completed in this timeframe, which would be subject to the Greenscaping Ordinance of Action CS-1.1.c. Additional potential for planting new trees to meet the targets would be identified through an Urban Forest Plan developed as part of Action CS-1.1.d.

Methodology and Assumptions

GHG emission reductions were estimated based on the number of trees to be added to the inventory and the average CO_2e accumulation factor per tree (0.0354 MT CO_2e/tree/year).[73] The calculations and assumptions used to estimate emission reductions from Measure CS.1 are provided in Table 30.

Although not quantified herein, urban greening can further reduce building carbon emissions by reducing the heat island effect in cities which reduces the need to rely on air conditioning in homes.[74] Additionally, the application of suitable composted organic material to existing opens spaces can be used to enhance the sequestration of CO_2e. The application of compost allows for carbon to be stored in the soil and, over time, to be captured in the stems, leaves, and roots of grasses, woody plants, and trees.

[72] Information on the number of trees and tree replacement was obtained from conversation with the City of Burbank Parks and Recreation Department.

[73] CAPCOA. 2011. Quantifying Greenhouse Gas Mitigation Measures. http://www.capcoa.org/wp-content/uploads/2010/11/CAPCOA-Quantification-Report-9-14-Final.pdf

[74] The Trust for Public Land (TPL). Quantifying the greenhouse gas benefits of urban parks. August 2008.

Table 30 Measure CS-1.1 GHG Emission Reduction Calculations

Calculation Factor	2030	2045
Newly Planted Trees	2,000	5,000
Tree Sequestration Factor (MT CO_2e/tree/year)[1]	0.0354	0.0354
Total GHG Emissions Reductions (MT CO_2e)	**71**	**177**

Notes: MT CO_2e = metric tons of carbon dioxide; kWh =-kilowatt-hour

1. Default annual CO_2e sequestration per tree per year with a maximum lifespan of 20 years per tree is 0.0354 MT CO_2e/tree/year was obtained from CAPCOA. 2010. Quantifying Greenhouse Gas Mitigation Measures.

*Values may not add up due to rounding

Results

There is no single Action under Measure CS-1.1 that will reduce GHG emission on its own. Instead, all of the Actions are collectively supportive towards increasing carbon sequestration. The Actions associated with Measure CS-1.1 would result in a reduction of 71 MT CO_2e in 2030 and 177 MT CO_2e in 2045, as shown in Table 31.

Table 31 GHG Emission Reductions Associated with Measure CS-1.1

		Emission Reductions (MT CO_2e)	
Action ID	Action	2030	2045
CS-1.1.a	Implement a tree removal permit fee, which provides funding for the City to plant a new tree equivalent to every tree removed from private property.	71	177
CS-1.1.b	Identify funding to expand BWP's Shade Tree Program to include targeted outreach to multi-family and low-income housing.		
CS-1.1.c	Adopt a Greenscaping Ordinance that has a street tree requirement for all zoning districts; has a shade tree requirement for new development; requires greening of parking lots; and increases permeable surfaces in new development.		
CS-1.1.d	Develop an Urban Forest Plan to identify City's potential capacity for new tree planting, identify a timeframe for implementation and provide a management plan for existing trees.		
CS-1.1.e	Adopt a standard policy and set of practices for expanding the urban tree canopy and placing vegetative barriers between busy roadways and developments to reduce exposure to air pollutants from traffic.		
CS-1.1.f	Conduct an urban canopy study and identify low income and/or disadvantaged communities with lower than average tree canopy coverage in order to prioritize planting in these areas to provide equitable access to the health and resiliency benefits of trees.		

2.11 City Government Action

The City Government Action Strategy consists of Measure that the City would implement as part of its own operations. As such, these Measure do not directly affect the community in a manner equivalent to the other Strategies and are therefore not considered for their connections to the Cornerstone Pillars.

Measure CG-1.1 Complete annual progress reporting and a triennial GGRP review and update.

Background

Measure CG-1.1 sets in place a number of mechanisms for tracking the progress of GHG reduction measures included in the GGRP Update and to facilitate regular updates to the GHG inventory and the GGRP itself. There are no GHG emission reductions associated with Measure CG-1.1; therefore, it is not further discussed in this analysis.

Measure CG-1.2 Retrofit all City Streetlights and Outdoor Lighting at City facilities to Light-Emitting Diode (LED) by 2030.

Background

In 2014, the City adopted a Street Lighting Master Plan, which provided street lighting guidelines and a plan for converting High Pressure Sodium (HSP) lamps with Light-Emitting Diodes (LED) throughout the City. This plan was updated in 2019, which included a detailed assessment of the cost and energy savings associated with converting all streetlights to LED by 2024. As of 2019, approximately 50 percent of the streetlights in the City has already been converted to LEDs. Compared to HSP lamps, LEDs are 58 percent to 75 percent more efficient. Measure CG-1.2 aims to continue this effort and allow the City to claim the associated GHG reductions with energy efficiency gained from LED conversions.[75]

Measure CG-1.2 also aims to convert all other City-owned outdoor lighting to LED by 2030 through Actions CG-1.2.c and CG-1.2.d, including outdoor lighting at City facilities, parking areas, and parks. While this will increase the energy efficiency of City lighting, data was not available to understand the resulting energy savings that would occur from this effort. As such, the GHG emission reductions associated with the conversion of all City outdoor lighting, besides streetlights, is not calculated in this analysis. These energy efficiency savings will likely be available upon completion of a plan for the conversion to LED, at which time the GHG emission reduction savings can be included as part of the GGRP.

Methodology and Assumptions

Implementation of Action CG-1.2.a will result in GHG emission reductions resulting from energy savings from the conversion of all City streetlights to LED. As mentioned, as of 2019, the City had replaced about 50 percent of its total streetlight stock to LED. The emission reductions for 2030 are calculated from an estimate of energy that would be saved upon conversion of 100 percent of the City's streetlights to LED.

The 2019 Streetlighting Master Plan provides monthly energy consumption summaries for streetlighting, disaggregated by bulb type. Non-LED type bulbs, which make up approximately 50percent of the streetlight stock in the City, consume approximately 81 percent of the total energy used for streetlighting.[76] As such, it is estimated that 81 percent of the total energy consumed for streetlighting in the City, was consumed by non-LED bulbs, which equates to approximately 5,108,730

[75] City of Burbank Water and Power. 2019. Streetlighting Master Plan. https://burbank.granicus.com/MetaViewer.php?view_id=2&clip_id=8743&meta_id=356281. Accessed March 8, 2021.

[76] City of Burbank Water and Power. 2019. Streetlighting Master Plan. https://burbank.granicus.com/MetaViewer.php?view_id=2&clip_id=8743&meta_id=356281. Accessed March 8, 2021.

kWh.[77] Assuming the average efficiency gain from converting HSP and other bulb type to LED is about 67 percent (average of 58 percent and 75 percent, as provided above), the conversion to all LED bulbs would result in an annual energy savings of approximately 3,422,850 kWh. This would reduce GHG emissions in 2030 at a rate equivalent to the estimated 2030 electricity GHG emission factor of 0.000279 MT CO_2e/kWh. GHG emission reductions for 2045 were not quantified for this measure as there is risk of double counting GHG emissions reductions assumed with accounting for increased RPS requirements in the GHG emissions forecast. GHG emission reduction calculations for Action M-1.2.a are provided in Table 32.

Table 32 Measure CG-1.2 GHG Emission Reduction Calculations (Action CG-1.2.a)

Calculation Factor	2030
Baseline Streetlight Consumption from 2019 Inventory (kWh) [1]	6,317,800
Non-LED Streetlight Energy Consumption Mix [2]	0.80863
Non-LED Streetlight Energy Consumption (kWh)	5,108,734
Efficiency improvements from LED retrofits [2]	67%
Reduction in energy consumption from LED retrofits (kWh)	3,422,852
Electricity Emission Factor Adjusted for SB 100 (MT CO_2e/kWh) [3]	0.000279
Total GHG Emissions Reductions (MT CO_2e)	**953**

Notes: MT CO_2e = metric tons of carbon dioxide

1. 2019 Community GHG Emissions Inventory. See Appendix C of the GGRP Update.

2. City of Burbank Water and Power. 2019. Streetlighting Master Plan. https://burbank.granicus.com/MetaViewer.php?view_id=2&clip_id=8743&meta_id=356281. Accessed March 8, 2021

3. 2019 Community GHG Emissions Inventory. See Appendix C of the GGRP Update.

*Values may not add up due to rounding

Results

Action CG-1.2.a would result in a reduction of 953 MT CO_2e in 2030, as shown in Table 33. GHG emission reductions for 2045 were not quantified for this measure as there is risk of double counting GHG emissions reductions assumed with accounting for increased RPS requirements in the GHG emissions forecast. Action CG-1.2.d is also not quantified due to a lack of fine-grained data to understand the contribution of outdoor lighting to the City's overall operation energy consumption.

[77] In 2019, streetlighting consumed approximately 6,317,800 kWh. See 2019 Municipal Operations GHG Inventory, Appendix C of the GGRP Update.

Table 33 GHG Emission Reductions Associated with Measure CG-1.2

Action ID	Action	Emission Reductions (MT CO_2e) 2030	2045
CG-1.2.a	Continue to implement the 2019 Streetlighting Master Plan for conversion of existing High-Pressure Sodium streetlights to Light-emitting Diode (LED).	953	Not Quantified
CG-1.2.b	Continue with annual reporting of BWP's streetlight replacements, with the number of replacements and estimated annual energy savings associated with replacements.	Supportive	
CG-1.2.c	Establish a plan for converting outdoor lighting at City facilities, City parking areas, and parks to LED.	Supportive	
CG-1.2.d	Implement plan for converting all outdoor lighting at City facilities, City parking areas, and parks to LED by 2030.	Not Quantified	

Measure CG-1.3 Electrify 25% of existing City facilities by 2030 and 100% of existing City facilities, where electrification is practical and feasible, by 2045, as well as all newly constructed City buildings.

Background

In the baseline year of 2019, City of Burbank municipal operations generated approximately 790 MT CO_2e from the combustion of natural gas at buildings and facilities. Under Measure CG-1.3, the City will aim to retrofit 25 percent of existing City facilities to all-electric by 2030 and retrofit 100 percent of City facilities by 2045. Considering City's operations are similar to that of the commercial sector, with facilities and offices that need to be heated and cooled, Public Works operations garages, as well as operation and maintenance yards, it is assumed that 100 percent of City operations can be similarly electrified. The actions under Measure CG-1.3 aim to initiate this effort and set in place collaborations between City departments that will allow the City to achieve this electrification goal.

The first step of this effort will be to establish an electrification-first policy in which natural gas fueled equipment at City facilities is replaced with electric equipment at time of replacement, and newly constructed City facilities and buildings are designed to be all-electric, under Action CG-1.3.b. With currently available technology, it is possible to electrify nearly 100 percent of commercial and residential buildings. Looking at the general lifespan of a commercial natural gas boiler of 25 years, which is likely the longest lifespan of general commercial equipment, if an electrification first policy is adopted by 2023, it is estimated that about 25 percent of existing buildings would require replacement of a natural gas boiler.[78] While it is possible that the City could reach the 2030 target of electrifying 25 percent of existing municipal facilities solely on a time of replacement strategy, an electrification opportunities assessment will also be conducted, under Action CG-1.3.a, which would establish a replacement plan for replacing natural gas fueled equipment with electric. This would set in place a mechanism for the City to increase the electrification of facilities in order to meet the 2030 target.

Additional Actions under Measure CG-1.3 provide support for the electrification of facilities by increasing the capacity for thermal and battery energy storage and increasing the amount of solar PV energy generation at municipal buildings and facilities. Specifically, Action CG-1.3.c aims to install PV at all feasible buildings and facilities in order to offset at least 80 percent of energy consumption. While

[78] EIA. 2018. Updated Buildings Sector Appliance and Equipment Cost and Efficiencies. Appendix C. pp. 9, 51, 75, 90, 98, 120 https://www.eia.gov/analysis/studies/buildings/equipcosts/pdf/full.pdf. Accessed May 25, 2020.

this Action is likely to contribute significant GHG reductions, the scope of buildings that would have PV installed is not currently known, and therefore the reductions are not quantified as part of this analysis.

Methodology and Assumptions

In 2019, the City's municipal buildings and facilities consumed 135,935 therms of pipeline natural gas.[79] This total excludes natural gas consumed at the Burbank Water Reclamation Plant. With electrification of 25 percent of buildings and facilities by 2030 and 100 percent by 2045, the City would reduce its natural gas consumption by 33,984 therms and 135,935 therms, respectively. Using the emission factor for pipeline natural gas of 0.00531 MT CO_2e/therm, the City would reduce its emissions from natural gas consumption by 181 MT CO_2e in 2030 and 722 MT CO_2e in 2045.[80] These emissions would be offset by the additional consumption of electricity needed to fuel replaced equipment. GHG emission reduction calculations for Measure CG-1.3 are provided in Table 34.

Table 34 Measure CG-1.3 GHG Emission Reduction Calculations (Actions CG-1.1.a and CG-1.1.b)

Calculation Factor	2030	2045
Baseline Natural Gas Consumption from 2019 Inventory (therms) [1]	135,935	135,935
Natural Gas Emission Factor (MT CO_2e/therm) [2]	0.00531	0.00531
Electrification Target (percent of total City facilities and buildings)	25%	100%
Natural Gas GHG Emissions Avoided (MT CO_2e)	181	722
Resulting Increase in Electricity Consumption (kWh) [3,4]	331,908	1,327,632
Electricity Emission Factor Adjusted for SB 100 (MT CO_2e/kWh) [5]	0.000279	0
Additional GHG Emissions from Increased Electricity Consumption (MT CO_2e)	92	0
Total GHG Emissions Reductions (MT CO_2e)	**88**	**722**

Notes: MT CO_2e = metric tons of carbon dioxide; kWh =-kilowatt-hour

1. 2019 Community GHG Emissions Inventory. See Appendix C of the GGRP Update.

2. United States Environmental Protections Agency. 2020. Emission Factors for Greenhouse Gas Inventories. Table 1. https://www.epa.gov/sites/production/files/2020-04/documents/ghg-emission-factors-hub.pdf. Accessed March 8, 2021.

3. 29.3 kWh = 1 therm. Source: https://www.metric-conversions.org/energy-and-power/therms-us-to-kilowatt-hours.htm. Accessed March 8, 2021.

4. Dennis, Keith. 2015. Environmentally Beneficial Electrification: Electricity as the End-Use Option. The Electricity Journal. 28(9). pp. 100-112. https://doi.org/10.1016/j.tej.2015.09.019. Accessed March 8, 2021.

5. Legislative Adjusted GHG Emissions Forecast. See Appendix C of the GGRP Update.

*Values may not add up due to rounding

Results

Actions CG-1.3.a and CG-1.3.b associated with Measure CG-1.3 would result in a reduction of 88 MT CO_2e in 2030, and 722 MT CO_2e in 2045, as provided in Table 35.

[79] City building and facility natural gas consumption was obtained from Southern California Gas billing records for the year 2019.

[80] United States Environmental Protections Agency. 2020. Emission Factors for Greenhouse Gas Inventories. Table 1. https://www.epa.gov/sites/production/files/2020-04/documents/ghg-emission-factors-hub.pdf. Accessed March 8, 2021.

Table 35 GHG Emission Reductions Associated with Measure CG-1.3

Action ID	Action	Emission Reductions (MT CO_2e) 2030	2045
CG-1.3.a	Partner with Building and Safety to conduct an electrification opportunity assessment for all City buildings and facilities and establish a replacement plan for replacing natural gas fueled equipment with electric where practical and technologically feasible.	88	722
CG-1.3.b	Establish a City-owned building equipment policy to replace natural gas fueled equipment at the end of useful life with electric or other alternative equipment when practical and technology is feasible and the same consideration for all newly constructed City facilities and buildings.		
CG-1.3.c	In partnership with BWP, install photovoltaic at all City buildings where feasible to offset at least 80% of energy consumption and use excess generation to contribute to City-wide renewable energy sources.	Supportive	
CG-1.3.d	Identify and install battery energy storage systems at appropriate City facilities, and leverage projects to further promote benefits of distributed energy storage, which are directly connected to a renewable resource.	Supportive	

Measure CG-1.4 Implement a flexible employee commute program, with a target of having 25% of applicable City employee staff time utilizing telecommuting by 2030.

Background

In 2019, it was estimated that City employees commuting in passenger vehicles generated approximately 5,113 MT CO_2e.[81] Through Measure CG-1.4, the City aims to provide expanded commute options, other than driving to work alone, as well as setting a policy that has 25 percent of eligible City employee staff time performed remotely, or telecommuting, by 2030.

Methodology and Assumptions

While all Actions under Measure CG-1.4 aim to reduce GHG emissions from City employee commuting, only Action CG-1.4.c has quantifiable GHG emission reductions. The 25 percent target for City employee staff time to telecommute was developed based on an estimate by the City's Transportation Division, which considers the need for many employees to be on site at City facilities for essential operations. Due to the Covid-19 pandemic, a number of City employees have already been telecommuting, showing the potential for the efficacy of telecommute options. Not only does employee telecommuting provide GHG reductions, it also provides flexibility for employees with longer commute times. Actions CG-1.4.a and CG-1.4.b may also have associated GHG emissions reduction, but substantial evidence was not available to accurately estimate these reductions.

Of the approximately 1,375 City employees, 375 have positions that do not require in person duties 100 percent of the time.[82] In 2019, it was estimated that employee commuting by carpool or drive alone generated 15,422,970 VMT.[83] With the 375 positions eligible for telecommute, approximately 27 percent of this VMT would have the potential for reduction under Measure CG-1.4. To avoid double

[81] Municipal Operations GHG Emissions Inventory. See Appendix C of the GGRP Update.

[82] Personal Communication. City of Burbank. Email. June 17, 2021.

[83] Municipal Operations GHG Emissions Inventory. See Appendix C of the GGRP Update.

counting of GHG emission reductions associated with TMO reductions from Measure T-2.2, GHG emission reduction calculations reduce the VMT reduction potential by 30%, consistent with the City's AVR targets. By having 25 percent of eligible staff time telecommute, it is estimated that this would result in an effective 25 percent reduction in eligible employee commute VMT each year, equivalent to 736,096 VMT. GHG emission reductions can be calculated using the passenger vehicle GHG emission factors from CARB's EMFAC2017 vehicle emission factors database, which provides passenger vehicle emission factors of 245 g CO_2e/mile and 214 g CO_2e/mile for 2030 and 2045, respectively. GHG emission reduction calculations for Measure CG-1.4 are provided in Table 36.

Table 36 Measure CG-1.4 GHG Emission Reduction Calculations (Action CG-1.4.c)

Calculation Factor	2030	2045
Baseline Employee Commute VMT (2019) [1]	15,422,970	15,422,970
Percentage of Employees Eligible for Telecommute	27%	27%
Telecommute Target	25%	25%
VMT Reductions from Measure T-2.2	30%	30%
VMT Reduced	736,096	736,096
Vehicle Emissions Factor (g CO_2e/mile) [2]	245	214
Total GHG Emissions Reductions (MT CO_2e)	**181**	**157**

Notes: MT CO_2e = metric tons of carbon dioxide; VMT = vehicle miles traveled

1. Municipal Operations GHG Emissions Inventory. See Appendix C of the GGRP Update.

2. Emission factors for the *Legislative Adjusted* GHG Emissions Forecast were obtained from the California Air Resources Board (CARB) EMFAC2017 vehicle emissions model. The model was run for 2030 and 2045 for Los Angeles County. https://arb.ca.gov/emfac/2017/

*Values may not add up due to rounding

Results

Action CG-1.4.c associated with Measure CG-1.4 would result in a reduction of 946 MT CO_2e in 2030, and 824 MT CO_2e in 2045, as provided in Table 37. Actions CG-1.4.a and CG-1.4.b may also have associated GHG emissions reduction, but substantial evidence was not available to accurately estimate these reductions.

Table 37 GHG Emission Reductions Associated with Measure CG-1.4

		Emission Reductions (MT CO_2e)	
Action ID	Action	2030	2045
CG-1.4.a	Establish a subsidized transit commute program and expand the employee carpool program to reduce employee commute miles in single occupancy vehicles.	Not Quantified	
CG-1.4.b	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.	Not Quantified	
CG-1.4.c	Allow 25% of employees located at the City of Burbank to telecommute or utilize flexible schedules through 2030 to reduce travel time, vehicle miles traveled (VMT), and GHG emissions.	181	157

3 Conclusion

The implementation of the Measures and Actions identified in this GGRP Update will lead to a significant reduction in GHG emissions and provide a foundation for achieving net-carbon neutrality. However, achieving carbon neutrality will require additional changes to the technology and systems currently in place and will require further policies and programs that build on this plan including full electrification of building and transportation systems, an increased shift to shared and active mobility, and increased waste reduction and diversion. The Actions and Measures developed to meet the 2030 goals established in SB 32 provide the foundation and establishes the trajectory for this long-term transformation. However, the 2045 GHG emissions reductions quantified in this GGRP Update are not yet enough to meet the long-term 2045 goal of carbon neutrality. As the current Actions and Measures are implemented, the City will gain more information, new technologies will emerge, and current pilot projects and programs are anticipated to scale to the size needed to reach carbon neutrality. Furthermore, the State is expected to continue providing updated regulations and support once the 2030 target is achieved. To monitor the progress overtime, the City will conduct annual implementation monitoring of the GHG emission reduction measures and report out on this progress to City Council every year beginning in 2022. The process for monitoring and quantifying measure implementation status relies on key target metrics identified for each of the Measures and Actions. By committing to annual monitoring of GGRP Update implementation progress and adjusting where necessary, the City of Burbank will be able to incorporate changes to Measures or add Measures to adjust their pathway towards meeting their GHG reduction targets during quinquennial updates to the GGRP. This will allow the City to rise to meet the local and global imperative of reducing GHG emissions.

Appendix E: Funding Strategy

Funding and Financing Approaches for Key Actions in the Burbank Greenhouse Gas Reduction Plan

Introduction

This analysis identifies existing funding and financing mechanisms that can support action implementation for four actions critical to meeting the established emission reduction targets in the Burbank Greenhouse Gas Reduction Plan (GGRP) Update.

Because cities around the world already face challenges in meeting their constituents' needs for investment in many types of critical infrastructure and programs, this analysis examines approaches that go beyond the use of General Fund monies to pay for climate-related infrastructure; as funding and financing from beyond municipal sources is central to unlocking investments that generate benefits for a wide group of constituencies in Burbank and beyond its borders.

Funding and financing strategies that go beyond publicly-led approaches may also reduce the burden on low-income residents to fund investments that broadly support all residents and businesses in Burbank and beyond. This analysis identifies a range of approaches and relevant case studies for funding and financing investments in buildings, transportation and energy generation that result in emissions reductions.

Defining Funding and Financing

Although the terms funding and financing are often used interchangeably in policy contexts, for the purposes of this analysis, funding is defined distinctly from financing. Funding refers to the money used for a specific purpose or project, raised at one time or over time through methods like grants or taxes, while financing refers to the process of receiving money that must eventually be paid back to financial institutions lending it, such as banks. As a result of this payback requirement, financing presupposes an underlying revenue source available for repayment over time.

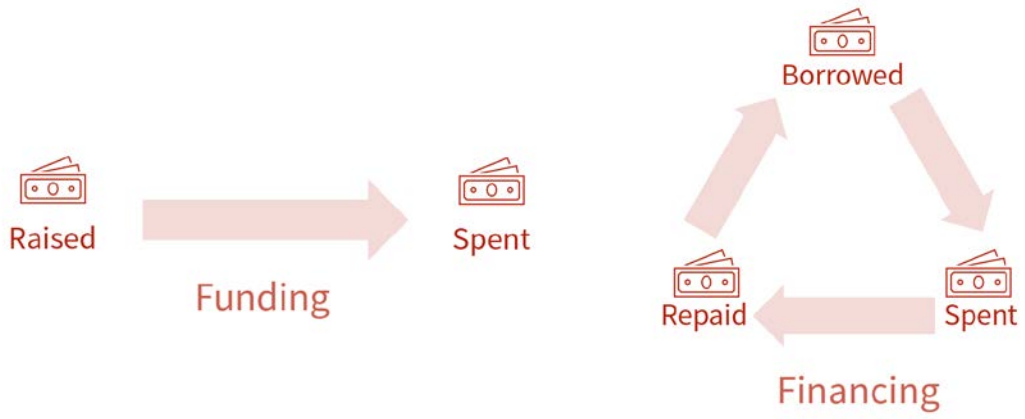

Figure 1: Funding and Financing Dynamics

Paying for Climate Investments in California

In California, many laws and policies restrict local governments' ability to levy taxes and fees while concerns around funding for transportation, water and social infrastructure needs and equity impacts

from increased tax burdens contribute to the need for creative solutions to paying for climate investments.

While there are many available options for financing investment, projects must be able to demonstrate revenue streams or payback potential to access financing for these investments. Additionally, most major projects—even non-climate investments—require multiple sources of funding. Given the latter, it is paramount to identify beneficiaries from investments who may be able to invest in or advocate for public funding for the a given project.

To hone the GGRP Update's actions into implementation, this memo seeks to refine funding and financing approaches for 4 key action groups in the Burbank GGRP and to identify key stakeholders that could be willing to provide monetary, political or other support for implementation. See Table 1 for information on the four key action groups addressed in this memorandum.

Table 1: Actions for Funding and Financing Analysis

Action Group Number	Measure(s)	Description
1	C-1 and BE-1.2	Lead by example by focusing on equity constraints associated with existing building electrification by leveraging BWP's operations and efficiency programs to develop an Affordable Housing Electrification Program to lead Burbank's electrification targets through retrofitting low-income and affordable housing units in Burbank to all electric, retrofitting 100 affordable housing units by 2030 and all 320 affordable housing units owned by Burbank Housing Corporation in the City by 2045. Leverage BWPs marketing programs to convert 3,000 residential and 170 commercial natural gas-fueled HVAC and water heating units in existing private buildings to electric heat pumps by 2030, and 10,000 residential and 560 commercial units by 2045.
2	EG-1.1	Goal to achieve 100% GHG-neutral electricity generation by 2040.
3	T-3.1	Increase zero-emission vehicle adoption to 23% of all passenger vehicles by 2030 and 100% by 2045.
4	CG-1.3	Electrify 25% of existing City facilities by 2030 and 100% of existing City facilities by 2045, as well as all newly constructed City buildings.

Funding + Financing Approaches for Key Actions in the Greenhouse Gas Reduction Plan

Action Group 1: Housing Electrification

Building electrification has been commonly approached at the individual homeowner level, but new community-level approaches have emerged in recent years. To undertake electrification at scale, a new approach will be needed since, historically, electrification and other building resilience infrastructure has been funded through FEMA Emergency Funds following damages from a natural disaster. However, this approach is not equitable or economically sensible, so proactive measures to make infrastructure more resilient will require other, and possibly multiple, funding and financing sources.

Building electrification in Burbank will likely require a coordinated approach between public and private entities to scale up impact over time. The initial structure for building electrification could be piloted, then expanded to private entities and further to a district scale. In the future, district-scale building electrification may be comprised of buildings and/or units owned by one entity or by multiple owners. Approaching building electrification at the district scale will present major benefits, though accompanied by challenges. Benefits include opportunities for public-private partnership and a wider variety of options for funding and financing, while challenges include the coordination and agreement of property owners who may not be interested in electrification upgrades to their property.

The City of Burbank may consider implementing building electrification at a neighborhood or block level as a test case before scaling up the district scale. This approach can help to spread out costs over a longer period, as well as test out different approaches before determining the best practices for district-wide electrification.

The following sections present key tools for funding and financing, discuss case studies and approaches for housing electrification in Burbank, and identify key constituencies and potential opportunities for generating financial and/or political support for housing electrification. Although this information should provide insight into how Burbank could pay for housing electrification, further definition around implementation and feasibility will be required to define a final funding and financing plan.

Housing Electrification Actions
Implement a pilot project for retrofitting of an entire building of affordable housing units, as determined feasible with Action C-1.1.d
Identify and implement a pilot project for electrification of a complete neighborhood composed of low-income and affordable housing, including energy bill protections in case energy bills exceed costs to residents prior to project implementation and pursuing opportunities for natural gas infrastructure pruning.

Key Tools

The key tools for funding and financing housing electrification will be **bolded** as they are described in the context of each case study. Additional information on each can be found in the Glossary at the end of the memorandum.

Housing-specific Approaches

District Approach: Oakland EcoBlock

The Oakland EcoBlock Project in Oakland, California aims to retrofit homes with rooftop solar PV, electric appliances, water efficiency, and energy upgrades, as well as installing microgrids at the city block scale to create quicker and more cost-effective route to building electrification.[1] This approach combines a portfolio of technologies and allows homes to be connected to a microgrid as well as the existing Pacific Gas and Electric (PG&E) grid service. The project is funded primarily by the California Energy Commission to support various California legal mandates related to energy and resource efficiency and resiliency (SB 100, SB 606, AB 1668, and SB 1339).

While this project is a pilot program is paid for by the Energy Commission, a similar model could be paid for with an **assessment district** or with the establishment of a neighborhood **"Trust" organization**. An assessment district is a charge imposed on property owners in a specified geographic area or district to fund projects or services that provide direct benefits to properties in that district. A neighborhood trust would be a nonprofit community-based fund that would manage capital, operations, and maintenance related to the energy efficiency projects. Funds would be raised from the community members that receive benefits. These two options essentially function the same way, by raising funds from community members that receive benefits, with the key difference being that trusts can acquire other assets, such as land or buildings. In Burbank, a neighborhood-scale approach could use an assessment district or trust to fund and carry out electrification and other investments, though coupling such an approach with cost-saving investments, incentives, and grants is important to ensuring that low-income communities can benefit from electrification investments.

Household Approach: East Bay Community Energy

At the individual home level, East Bay Community Energy (EBCE), the community choice aggregator for Alameda County and the county's cities, is collaborating with Sunrun on a program named "Resilient Home." This program aims to install residential home solar battery backup systems that will operate as energy supply for the homes in the event of outages. This program was developed in response to the 2019 PG&E Public Safety Power Shutoffs, which left 30,000 EBCE customers in Alameda County without power.

This approach uses **state and market incentives** to advance solar and storage adoption in EBCE's territory and creates **a new value stream** resulting from distributed battery storage. Sunrun acts as the industry partner in charge of installation of solar and battery storage installation and provides an incentive of $1,250 to homeowners for agreeing to share their stored energy with EBCE when the power grid is operating normally.

Some homeowners may receive battery storage for free through the State's Self-Generation Incentive Program, while others can select from a variety of payment structures for solar and battery system, including a Power Purchase Agreement (PPA) structure. Examples of payment structures include fully purchasing the solar and battery system, prepaid solar with battery storage, using a loan to purchase the

[1] https://ecoblock.berkeley.edu/about/

solar system and battery, or a monthly energy purchase which requires no money down and provides energy at a pre-negotiated rate over time.[2]

In Burbank, adding solar and storage to residential sites could create funding for electrification by creating cost savings elsewhere across the City (e.g., avoided generation costs) that could be repurposed for electrification. Deploying solar and storage in concert with electrification could also create additional cost saving opportunities for residents and may provide additional reduction in customer bills, potentially increase the resilience of Burbank Water and Power (BWP) operations and customers through battery usage agreements.

Multi-benefit Approaches

Building electrification could be coupled with other infrastructure upgrades, such as fiber optic cable installation for high-speed internet or other on-site upgrades and maintenance. In these cases, multiple projects can share costs, such as walk-throughs or sitework, lowering total costs for all projects. For example, the LIFT Pilot Program from MCE Clean Energy has bundled grant and incentive funding from the federal Energy Savings Assistance Program (ESAP), the Green and Healthy Homes Initiative, and other energy efficiency incentives[3] to benefit multifamily properties that are left out of existing low-income programs. The program provides several services, including upgrading gas furnaces to electric heat pumps, weatherization services, and other home rehabilitation service to improve resident's health such as pest management and roof repairs.[4]

From a public funding perspective, bundling multiple services with electrification, such as road repair, the replacement or addition of other utility infrastructure, or street landscaping, may increase public support of funding and financing measures that require voter approval, reduce overall costs for the City, provide an opportunity for a variety of improvements that benefit residents, and create opportunities for Burbank to access a variety of grant funding sources. Additionally, though the returns from bundled investments are now proven, private entities may be enticed to undertake multi-benefit residential improvement projects once a baseline for performance has been established. From a private investment perspective, bundling multiple improvements together streamlines project execution and may support profitability; while from a private financing perspective, bundling multiple services together may improve the value proposition of electrification if it is packaged with a higher-margin service.

Supporting Grants

Two grants that may be complementary to a strategy for building electrification are described below. Although neither is specific to building electrification, these grants may form a component of a larger project and associated funding approach.

- The National Community Solar Partnership (NCSP): A coalition of community solar stakeholders, led by the US Department of Energy, working to expand access to affordable community solar to every American household by 2025. Partners leverage peer networks and

[2] https://ebce.org/news-and-events/east-bay-community-energy-sunrun-to-install-battery-backup-systems-for-bay-area-residents/

[3] https://www.energy.ca.gov/programs-and-topics/topics/energy-efficiency

[4] Equitable Building Electrification, A Framework for Powering Resilient Communities. Greenlining, Energy Efficiency for All.

technical assistance resources to set goals and work to overcome persistent barriers to expanding community solar access to underserved communities. This organization provides technical assistance and funding opportunities to municipal utilities and multifamily affordable housing developments, among others.

- Solar on Multifamily Affordable Housing (SOMAH): This program provides financial incentives to substantially offset the cost of a solar PV system affordable multifamily buildings. Property owners of affordable housing buildings may apply for this program. The program requires that the majority of the system directly powers tenant meters, but also provides incentives for common area loads. Eligible properties must have at least five units, be deed-restricted low-income residential housing, with either 80% of residents with incomes at or below 60% of area median income (AMI) or be located in a defined disadvantaged community (DAC) that scores in the top 25% of census tracts statewide in the CalEnviroScreen. The building must also be an existing building being retrofitted, have separately metered units, and be a utility or community choice aggregator (CCA) customer.

Key Constituencies + Opportunities

Key constituents include tenants, property owners, BWP and its ratepayers, energy developers, and adjacent businesses depending on the approach taken to achieve district-wide building electrification. Tenants, property owners, BWP and ratepayers are all entities who will likely be involved regardless of scale or funding and financing approach, while energy developers and adjacent businesses may only be involved to the extent that they can participate in retrofits/renewable energy installation or a district-scale approach to electrification, respectively.

If businesses and/or energy developers can be incorporated into electrification approaches, it may be possible to structure a project that can benefit from private financing. Additional detail related to implementation would be required to examine the feasibility of such an approach, but where cost savings or new benefits (like energy resilience) result, private entities may be willing to finance improvements in exchange for repayment over time.

Action 2: Complete Landfill Gas Capture

Methane emissions from landfills in the U.S. represent approximately 34% of total U.S. anthropogenic methane pollution.[5] Many local governments across the United States are utilizing technologies to capture methane from municipal solid waste (MSW) landfills. Typically, MSW landfills are owned by local governments or the private sector. Using a funding approach that combines grant funding or public resources with public-private partnership are the preferred methods for implementing landfill gas capture in other jurisdictions.

In addition to the generation of electricity, landfill gas capture provides additional benefits of improving local air quality, and economic benefits through the creation of specialized permanent jobs in the public and private sectors.

In Burbank, landfill gas capture is already underway, and potential approaches are identified below that may support the City in increasing its landfill gas capture rate though additional definition on the preferred approach for increasing the rate of landfill gas capture is required to determine a final funding and financing approach.

Complete Landfill Gas Capture Actions
Identify grant funding opportunities to increase landfill gas capture rate at Burbank Landfill Site No. 3 to the maximum extent practicable.

Key Tools

The key funding and financings tools for increasing landfill gas capture are grants. Public private partnerships are also commonly deployed and are discussed in a series of case studies.

Grants

The following grants are available to public and some private entities to assist with capital costs of installing a new landfill gas capture system. Eligibility requirements vary between grant programs and will require further review by the City of Burbank to determine the fit of any specific grant program, some of which may require additional private sector partnerships.

- USDA - Biorefinery, Renewable Chemical, and Biobased Product Manufacturing Assistance Program: This is a federal loan program that can be used to assist in the development, construction and retrofitting of new and emerging technologies, including municipal solid waste and landfill gas. Eligible applicants include federal or state-charted banks, cooperatives, and credit unions, which can request a guarantee for borrowers such as state and local governments and corporations. The grant amount cannot exceed 80% of total project costs, meaning the financed entity must provide at least 20% of financing and the borrower and other principals involved in the project must make a significant cash equity contribution.[6]
- Sales and Use Tax Exclusion for Advanced Transportation and Alternative Energy Manufacturing Program: This is a tax incentive program in the State of California for eligible

[5] https://palebluedot.llc/denton-methane-capture

[6] https://www.rd.usda.gov/programs-services/biorefinery-renewable-chemical-and-biobased-product-manufacturing-assistance

renewable energies, including manufacturers that promote landfill gas and municipal solid waste energy production. Applicants must be manufacturers, which would exclude the City of Burbank as an applicant. However, should Burbank elect to form a public-private partnership with a manufacturer to support this action, the private partner may be eligible to apply for this incentive, which would exclude their purchases of Qualified Property, that is used in an Advanced Manufacturing product that is used to manufacture Alternative Source products. Essentially, this means land and equipment purchased by a manufacturer for the construction of alternative energy generation plants and equipment (including landfill gas capture) may be exempt from sales and use tax. This excludes the purchase of finished equipment for power generation. Manufacturers must make 25% of purchases in the first year after approval, and all purchases must be made within three years following application approval.[7]

Public-Private Partnerships

Landfill gas capture has been successfully implemented across the country using a public-private partnership, or P3, approach. A few key examples are discussed below, and more examples of private partners that have achieved recognition from the EPA for innovative approaches can be found via the EPA's Landfill Methane Outreach Program (LMOP).[8] The City of Burbank, as the owner and operator of Burbank Landfill Site No. 3, could enter into an agreement with a private partner to construct and maintain landfill gas capture infrastructure.

In 2004 and 2005, Denton, Texas experienced poor air quality and higher than acceptable levels of ozone. In an effort to improve air quality and reduce vehicle pollution from its fleet, the city established a public private partnership with UT Arlington professors and DTE Biomass Energy to construct and operate a biodiesel fuel production facility powered by methane from the city's landfill. The plant uses the landfill methane as a fuel source for biodiesel production. As a result, the city reduced its emissions of criteria air pollutants and met federal air quality standards by using alternative fuels for a portion of its fleet.[9] The Denton-DTE P3 was structured so that the City would provide the site, allow DTE exclusive rights to the landfill gas, and pay for the capital costs of the collection system and extraction wells. DTE is responsible for providing the capital to build the generating station, monitor, manage and repair the gas collection system, as well pay the City a 12.5% royalty of gross power sales. The City of Burbank is the current owner/operator of Burbank Landfill Site No. 3 and could potentially adopt a similar agreement with a private energy company, including a performance provision for gas capture up to a given threshold, such as 99%. Burbank could also incentivize potential private partners by allowing a tax exclusion in exchange for the construction, operation, and maintenance of landfill gas collection.

Hancock County in Ohio owns and operates the Hancock County Sanitary Landfill serving the surrounding community. The County partnered with LMOP Partner Granger Energy Services, as well as Buckeye Power and Hancock Woods Cooperative, to deliver a 3.2-MW landfill gas electricity project. This partnership resulted in a new revenue stream from the sale of landfill gas for the County. This benefit,

[7] https://www.treasurer.ca.gov/caeatfa/ste/index.asp
[8] https://www.epa.gov/lmop/partners-recognized-landfill-gas-energy-achievements
[9] U.S. EPA 2006, U.S. Conference of Mayors 2007; https://www.epa.gov/sites/production/files/2016-05/documents/9lmopgarlandworkshopdenton.pdf

along with improved local air quality and reduced greenhouse gas emissions, demonstrates the efficacy of P3s in establishing landfill gas capture.[10]

In Orange County, California, the Olina Alpha Landfill Combined Cycle Project implemented one of the largest landfill gas-to-energy facilities in the nation. Annual county revenue for landfill gas sales is $2.75 million, and the project's combined cycle process is more efficient than a standard gas turbine project with a 45 percent gross electrical efficiency. In addition, the plant's wastewater is used to control dust at the landfill in place of potable water supplies. This project was made possible through a P3, with the private energy companies entering into a Power Purchase Agreement with the City of Anaheim/Anaheim Public Utilities. The project was financed using a long term off-take agreement fully wrapped,[11] fixed price, engineering, procurement, and construction (EPC) contract.[12]

Key Constituencies + Opportunities

Key constituencies include BWP and its ratepayers, and could potentially include private energy companies as well if a public-private partnership is pursued. Key considerations include analysis on how improving existing or installing additional landfill gas capture infrastructure in Burbank will impact utility rates as well as any associated outcomes from the use of captured gas, such as on surrounding air quality and other environmental benefits when displacing other fuels.

Associated benefits in terms of air quality and resulting public health impacts could present an opportunity to engage with these constituencies to generate public support for funding additional landfill gas capture through taxes and/or fees. In the instance that a P3 approach is selected, despite a more complex structure, this approach could allow BWP to ensure that private partners meet performance standards for capture of landfill gas as part of the agreement.

[10] https://www.epa.gov/lmop/partners-recognized-landfill-gas-energy-achievements

[12] http://www.asceoc.org/awards/nominee-details/project_award_nominee_submission23/2013

Action 3: Deploy EV Infrastructure

The City of Burbank is aiming to install EV charge port to support transportation electrification in the City. This action is already underway as BWP has installed and operates 16 EV charge port at Burbank Town Center. Burbank has previously used grant funding from the California Energy Commission for the installation of EV charge port throughout the city.

As the City seeks to continue roll out of EV charging across the city, a variety of funding and financing approaches are available. Final selection of a funding and financing approach will be informed by the City's interest in developing new programs and policies, grant pursuit and receipt, and ability to engage in public private partnerships.

Deploy EV Infrastructure
Implement the BWP Transportation Electrification Plan to facilitate installation of EV charge port through customer rebates and direct installation of charging stations.
Investigate opportunities to help fund additional EV charging infrastructure by leveraging public/private partnerships and ensuring the City is charging for EV infrastructure use at City-owned facilities.

Key Tools

The key funding and financings tools for deploying EV infrastructure include grants, local agency rebates, public-private partnerships and policy incentives or mandates. Each tool is presented in its respective section below.

Grants

Burbank has previously accessed grant funding to deploy EV infrastructure, including the California Energy Commission Clean Transportation Program, which is described in the Glossary section of this memorandum.

- The California Electric Vehicle Infrastructure Project (CALeVIP): This program, funded by the California Energy Commission and implemented by the Center for Sustainable Energy, provides incentives for EV charger installations and works with local partners on projects that support regional EV needs for Level 2 and direct current fast charging. The County of San Diego made use of this program to help fund $21.7 million in EV charging infrastructure rebates.

  The CEC provided $15.8 million in funds raised through vehicle and vessel registrations, license plates and smog abatement fees, and the remaining $5.9 million comes from the San Diego Association of Governments ($4.5 million from SANDAG's TransNet program, funded by a half-cent sales tax) and the San Diego County Air Pollution Control District ($1.4 million from motor vehicle fees). For each station, these funds are used to provide individual rebates are up to $6,000 for Level 2 chargers and can cover anywhere from 50 percent to nearly all the costs of the station.[13]

Local Agency Rebates

The City of Los Angeles has expanded EV charging infrastructure using a variety of approaches. A portion of charging stations were partially funded by the LADWP Commercial EV Charging Station Rebate Program. The program currently offers rebates to help offset the cost of equipment installation to businesses and residences. 60% of rebates have gone to multi-unit dwellings, while other city agencies, such as the Bureau of Street Lighting, have also installed charging stations through this program.

The City of Burbank and/or BWP could adopt a similar program structure and offer rebates to property and business owners for installing EV charging infrastructure. Funds could potentially be raised through bonds or other means.

Public-Private Partnerships

The City of Sacramento partnered with EVgo, a company that installs EV charging networks, to offer high-powered curbside charging in Sacramento through a public-private partnership. The agreement between EVgo and the City of Sacramento authorized EVgo to develop 6 fast chargers and 10 designated EV parking spaces in the public right-of-way. EVgo is responsible for the development of the chargers, including project design, electric services, ADA compliance, entitlements, permitting, construction, and operations and maintenance over the term period.

This agreement will be of no cost to the City of Sacramento. In fact, the City receives $2,000 annually in licensing fees for the use of public space over the 10-year agreement term, to help offset the cost of staff time and support the development of future EV projects.[14]

Policy

The installation of EV charging infrastructure can also be mandated or encouraged through policy changes. Local governments in California can include charging requirements or incentives in their zoning ordinances, development guidelines and standards, or accompanying parking codes.

The City of San Carlos has incentivized the development of EV charging by providing developers with a 10% density bonus for providing parking with EV charging among other environmental design features.[15] This would transfer much of the cost of installing infrastructure to private developers. It should be noted that policy changes could potentially hinder new development, depending on market conditions, and this topic should be further studied if under consideration.

Allowing benefits to developers, such as increased density or discounted permitting fees, in exchange for including EV charging infrastructure could help to offset a potential decline in new development from new restrictive policies.

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[14] http://www.cityofsacramento.org/-/media/Corporate/Files/Public-Works/Electric-Vehicles/EVgo-Charging-Southside-Park.pdf?la=en

[15] Plug-in Electric Vehicles and Infrastructure: A White Paper for the Cities Association of Santa Clara County; ICF, County of Santa Clara Office of Sustainability, March 2018.

Key Constituencies + Opportunities

Key constituencies include residents who own or would consider the purchase of electric vehicles, those who drive to Burbank with EVs and the destinations they visit, the City of Burbank, BWP, and potential private partners such as EV charging network companies and/or developers.

The use of rebates to residences or businesses could help incentivize the rapid deployment EV charging infrastructure while encouraging the participation of multi-family residences and the business community in achieving this goal. Businesses may also view EV charging stations as an amenity for workers and customers, which increases their attractiveness and means that there could be private willingness to pay for a share of charging installation costs.

Action 4: Solar + Storage for City Facilities

City buildings may require or benefit from additional investment when installing solar and storage, such as energy efficiency investments or retrofit to ensure that buildings hosting distributed energy resources are resilient to hazards, such as earthquakes, and continue provide critical services. Paying for these investments is an additional consideration, and to determine a preferred approach for funding and financing solar and storage, additional study will be required to define critical considerations such as generation potential, battery sizing, associated improvements, maintenance needs, and potential for public private partnership.

Deploy Solar + Storage on Buildings Actions
Direct BWP to continue to work with businesses (especially the studios) on partnerships designed to maximize the use of renewable energy including solar/ storage, appropriate tariff changes and microgrid opportunities
Expand renewable energy generation at BWP facilities, with a goal of installing renewable energy generation at all feasible locations by 2040.
Install 5 MW of local solar capacity, utilizing parking structure roofs and buildings around City as means to increase load capacity, including in areas where high loads from electric vehicle charging is likely.
Identify and install battery energy storage systems at appropriate City facilities, and leverage projects to further promote benefits of distributed energy storage, which are directly connected to a renewable resource.
In partnership with BWP, install photovoltaic at all City buildings where feasible to offset at least 80% of energy consumption and use excess generation to contribute to City-wide renewable energy sources.

Key Tools

The key funding and financings tools for installing solar and storage at City facilities described below include grants and public private partnerships.

Grants

Grants from state and federal sources have been used to examine how solar and storage can function in public sector contexts. Eligibility requirements vary between grant programs and will require further review by the City of Burbank to determine the fit of any specific grant program.

- Local Government Challenge: The City of Del Mar, California was awarded a grant to install photovoltaic (PV) panels and energy storage equipment in a new civic center complex. The city received a $389,000 grant for a 62.5-kilowatt PV system and a 100-kWh energy storage system from the California Energy Commission under the Local Government Challenge[16] to demonstrate the effectiveness of solar and energy storage systems in municipal and commercial buildings.

  Data on system performance will be made public, including return on investment, long-term energy costs and system efficiency in a coastal environment with overcast skies. This project also monitors, assesses, and disseminates information on the energy savings and performance metrics.[17]

[16] This program is now closed, as it was one-time awarded in 2017.

[17] https://energycenter.org/program/city-del-mar-solar-storage-demonstration; https://www.delmar.ca.us/758/The-Civic-Center-Energy-Enhancements-Pro

- Solar Market Pathways Program: The City of San Francisco's environment department (SFE), under a grant from the U.S. Department of Energy's Solar Market Pathways Program, created the Solar + Storage for Resiliency project. This project aims to integrate solar and energy storage into the City's emergency response plans, which in turn would expand the solar market and serve as a model for other municipalities.

  With grant funds, SFE was able to develop an approach to utilizing existing solar systems during an outage and create a Best Practices Manual for regional, state, and national networks. To fund implementation of projects identified as best practices during the Solar Resilient Project, San Francisco is working with their capital planning department, speaking with philanthropic donors, and exploring grant opportunities.[18]

Public Private Partnerships

Public private partnerships are a very common approach to solar as well as solar and storage installation on public buildings, with about 80 percent of schools with solar installations in the United States using this approach[19]. Typically, a third-party energy developer installs and maintains a solar and/or solar and storage system under a power purchase agreement with the public entity. Cost savings resulting from lowered energy bills have been used to pay for other mission-related needs, including teacher raises in the case of one school district in Arkansas.

The City of Fremont was also able to install solar and storage at several fire stations to create microgrids providing for resilient operations, while also saving the city $250,000 and 36 MTCO2e of carbon emissions[20] over the next decade using a hybrid grant and public private partnership approach. In addition to grant funding from the California Energy Commission, the project was financed via a power purchase agreement with Gridscape Solutions, the project developer.

Key Constituencies + Opportunities

Key constituencies include BWP, the City of Burbank, city residents and potential private partners. Ensuring that this action as helps to bolster resilience for critical services, such as emergency response, against power outages and natural disaster could expand grant eligibility and public support for this action, while including private partners can reduce the upfront funding required to install solar + storage. As a result, a public private approach may represent a rapid path to installing solar and storage across multiple City facilities at one time.

Over time, and with regulatory changes, it may also be possible to consider a district approach to solar and storage, or microgrid, which could provide additional opportunity to leverage private investment.

[18] https://sfenvironment.org/solar-energy-storage-for-resiliency
[19] Brighter Future Report 2020; Generation 180, September 2020.
[20] https://fremont.gov/2293/Solar-and-Microgrid-Projects

Recommendations

The findings presented here should serve as a starting point for developing a funding and financing plan to implement these actions. Funding and financing should be considered as an integrated component of the GGRP and doing so increases the number of paths to paying for these investments. This is a particularly relevant consideration given that fully funding GGRP Update actions will likely require multiple sources of funding and each could draw on several financing mechanisms.

Additional work to support these actions might include enacting policies to support the GGRP Update actions, such as changes to policies that define and enable the use of new technologies in buildings, transportation and energy generation. In addition, new or more flexible methods for procurement may be needed to pursue public private partnerships. Developing data that define the benefits and costs of the investments called for by the GGRP's actions could help in securing grant programs for funding, or in pursuing partnerships with private entities.

The scale of investment required to implement the GGRP Update may result in a phased implementation approach, though additional implementation capacity to resulting from public private partnerships could alleviate the upfront costs of investment. To develop priorities in a phased implementation approach, considerations related to changes in costs for technologies like battery storage over the next several years, resilience benefits—particularly for frontline communities, and potential changes in the ability to borrow/cost of borrowing for the City over the implementation timeframe should be used.

Glossary

This section details commonly used funding and financing approaches that could be implemented to raise funds for the actions above.

Assessment District: This is a charge imposed on property owners in a specified geographic area or district to fund projects or services that provide direct benefits to properties in that district. The funds raised can be used for capital expenses or for costs associated with operations and maintenance. Assessment Districts are not subject to Proposition 13 limitations, have lower public approval thresholds than taxes, can be regional in scale, and allows beneficiaries to directly pay for the project. To successfully implement an Assessment district, an assessment report to identify the benefit received by each property must be developed, the benefit cannot be general enhancement of property value, and cannot exclude any properties that receive the benefit. Assessment districts include Community Facility Districts, Business Improvement Districts, Green Benefits Districts, and many more.

Enhanced Infrastructure Financing District (EIFD): An EIFD allows a local agency to leverage and borrow money to finance the construction or rehabilitation of a range of infrastructure, based on the "tax increment" that is generated by increased property values in the district that result from the introduction of the new infrastructure. An EIFD can theoretically be used for all public projects that can demonstrate a communitywide benefit. The EIFD provides broad flexibility in what it can fund. No public vote is required to establish an authority, and though a 55 percent vote is required to issue bonds, other financing alternatives exist. This tool imposes no geographic limitations on where it can be used, and no blight findings are required. An EIFD can be used on a single street, in a neighborhood or throughout an entire city. It can also cross jurisdictional boundaries and involve multiple cities and a county. While an individual city can form an EIFD without participation from other local governments, the flexibility of this tool and the enhanced financial capacity created by partnerships will likely generate creative discussions between local agencies on how the tool can be used to fund common priorities. This approach could be used to finance electrification at the block, neighborhood, or district-wide level.

Developer Impact Fees: This is a fee that can be imposed by local governments on developers to pay for infrastructure and public services expansion related to the development. This mechanism can be used for capital costs and does not require voter approval. These funds are tied to new developments and will increase the cost of development. The fee cannot exceed the reasonable cost of service or facility provision. As these are fees paid by a developer related to a specific project, the funds are dependent on the market conditions and developable land capacity. In addition, the scale of projects paid for using impact fees will be limited to areas with potential for new development.

Green Bonds: A type of bond that funds projects with environmental goals, including adaptation and resilience. Green bonds can be issued as municipal bonds, allowing for low-cost financing. Funds raised can be used to cover capital expenses and would be applicable to all actions discussed here.

General Obligation Bonds: Bonds are a commonly used financing tool where money is borrowed from investors or the public and paid back with interest. Implemented local bonds requires two-thirds voter approval for local GO Bond debt, and the amount is dependent on debt capacity. Funds raised can be used for capital expenses.

Utility User Tax: This approach increases taxes for existing utility services, including electricity. Funds raised can be used for capital or operations and maintenance expenses. This tax can be regional in scale and requires simple majority approval for cities and counties. Because of this, there could possibly be political pushback against this approach. It is uncommon to securitize this type of funding, and it is often used as a revenue source by jurisdictions with low-generating tax bases.

Mello-Roos Community Facility District: This is a special tax imposed on taxable property within the District to fund infrastructure and public services. The special tax can fund planning, design, construction, or improvement. These are commonly used for water/sewer infrastructure, fire and police services, road and bridge infrastructure, and flood protection. The funds raised can be used for capital expenses or for costs associated with operations and maintenance. This funding mechanism is particularly useful for new development, as approval thresholds are low and depend primarily on agreements with the developer. The geographic boundary of a Mello-Roos district does not need to be contiguous, and the rate of tax can be made flexible. This approach can be applied to electrifying new residential development.

Public-Private Partnership (P3): P3s are typically long-term cooperative arrangements between government agencies and private sectors to complete a project or deliver a service to the public. This approach may be particularly of interest for actions that have high potential for revenue generation, such as landfill gas and EV charging infrastructure.

Power Purchase Agreement (PPA): A PPA is a contract between two parties: an electricity producer or seller and a purchaser. Typically, a developer will arrange for the design, permitting, financing and installation of a solar energy system on a customer's property at little to no cost. The developer, who is responsible for system operation and maintenance, then sells the electricity generated to the host customer at fixed rate, that is typically lower than the local utility rates. Contracts will expire after a specified period (typically 10-15 years), upon which the customer can decide to extend the PPA, remove the system, or purchase the entire system from the developer. The types of agreements are typically between individual property owners and a developer, which could pose challenged for BWP, which currently acts as the primary energy "seller" in Burbank. These agreements are commonly used for solar PV installation and maintenance.

The California Energy Commission Clean Transportation Program (Grant): This program (also known as the Alternative and Renewable Fuel and Vehicle Technology Program) provides funding to support innovation and accelerate the development and deployment of advanced transportation and fuel technologies. Annual investments of up to $100 million promote accelerated development and deployment of advanced transportation and fuel technologies, including expedited development of fueling and charging infrastructure for low-and zero-emission medium- and heavy-duty vehicles. Available solicitations through this program vary throughout the year.

Appendix F: CEQA Documentation

City of Burbank GGRP Update and CEQA GHG Emissions Threshold

Public Review Initial Study – Negative Declaration

prepared for

City of Burbank
150 N. Third Street
Burbank, California 91502
Contact: Fred Ramirez, Assistant Community Development Director - Planning

prepared by

Rincon Consultants, Inc.
706 South Hill Street, Suite 1200
Los Angeles, California 90014

March 4, 2022

RINCON CONSULTANTS, INC.
Environmental Scientists | Planners | Engineers
rinconconsultants.com

City of Burbank GGRP Update and CEQA GHG Emissions Threshold

Draft Initial Study – Negative Declaration

prepared by

City of Burbank
150 N. Third Street
Burbank, California 91502
Contact: Fred Ramirez, Assistant Director Community Development

prepared with the assistance of

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2. Lead Agency/Plan Sponsor Contact

Lead Agency/Plan Sponsor

City of Burbank
150 N Third Street
Burbank, California 91502

Contact Person

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(818) 238-5250
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3. Plan Location and Physical Setting

The City of Burbank GGRP Update and CEQA Emissions Thresholds applies to all areas within the City of Burbank limits. Figure 1 shows the regional location, and Figure 2 shows the plan location. The plan location includes all of Burbank's incorporated lands.

Regional Location and Setting

The City of Burbank is located within Los Angeles County in the eastern part of the San Fernando Valley, 12 miles northwest of downtown Los Angeles. Burbank is part of the greater Los Angeles metropolitan area (see Figure 2) and occupies 17.16 square miles of central Los Angeles County (see Figure 2).[1] The City is bordered by the City of Los Angeles to the south, west, and north, and Glendale to the east.[2]

Principal regional transportation facilities serving Burbank are State Route (SR) 134, Interstate (I) 5, the Los Angeles County Metropolitan Authority (Metro), and the Hollywood Burbank Airport. The Los Angeles County Metropolitan Transportation Authority (LA Metro) and Burbank Bus provide bus services in Burbank via six bus lines, and rail service in Burbank via express and local routes. The

1 Burbank, City of. 2021. A Guide to Burbank. https://www.burbankca.gov/documents/211716/486324/Guide+to+Burbank.pdf/7a110575-f6e2-f5e5-5cc4-9d01ae604b9c?version=2.0&t=1613580393317&imagePreview=1 Accessed August 12, 2021.
2 County of Los Angeles. Revised December 2011. Unincorporated Areas. http://file.lacounty.gov/SDSInter/lac/1043452_BasicColorMap.pdf Accessed December 28, 2020.

Hollywood Burbank Airport is in the City of Burbank, increasing the amount of people coming in and out of the City.[3]

3 While the vehicle miles traveled to and from the airport are included in the GHG emission inventory, emissions generated directly by the Hollywood Burbank Airport are not included in the GGRP Update because the City does not have direct control over the airport's operations.

Figure 1 Regional Location

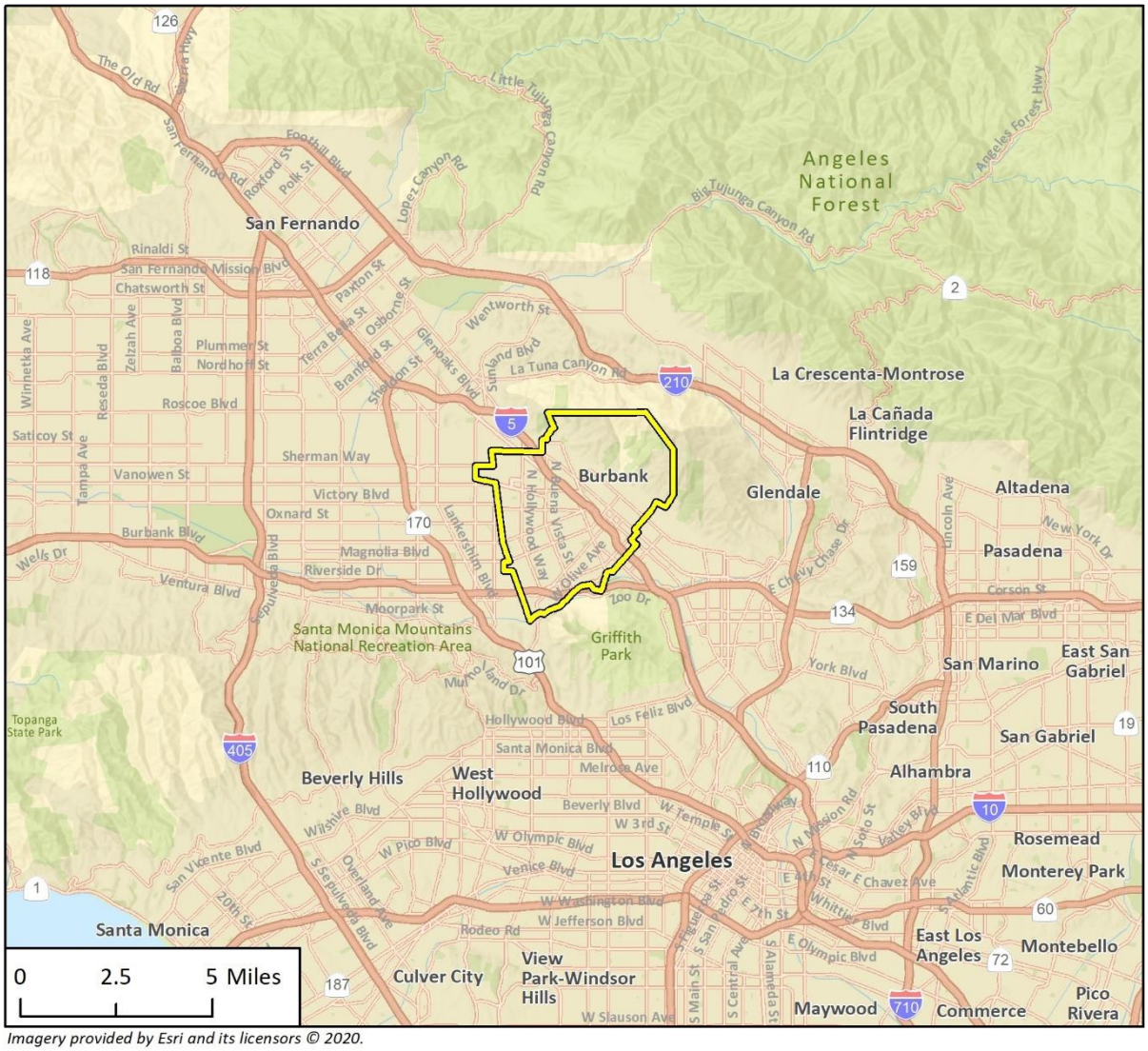
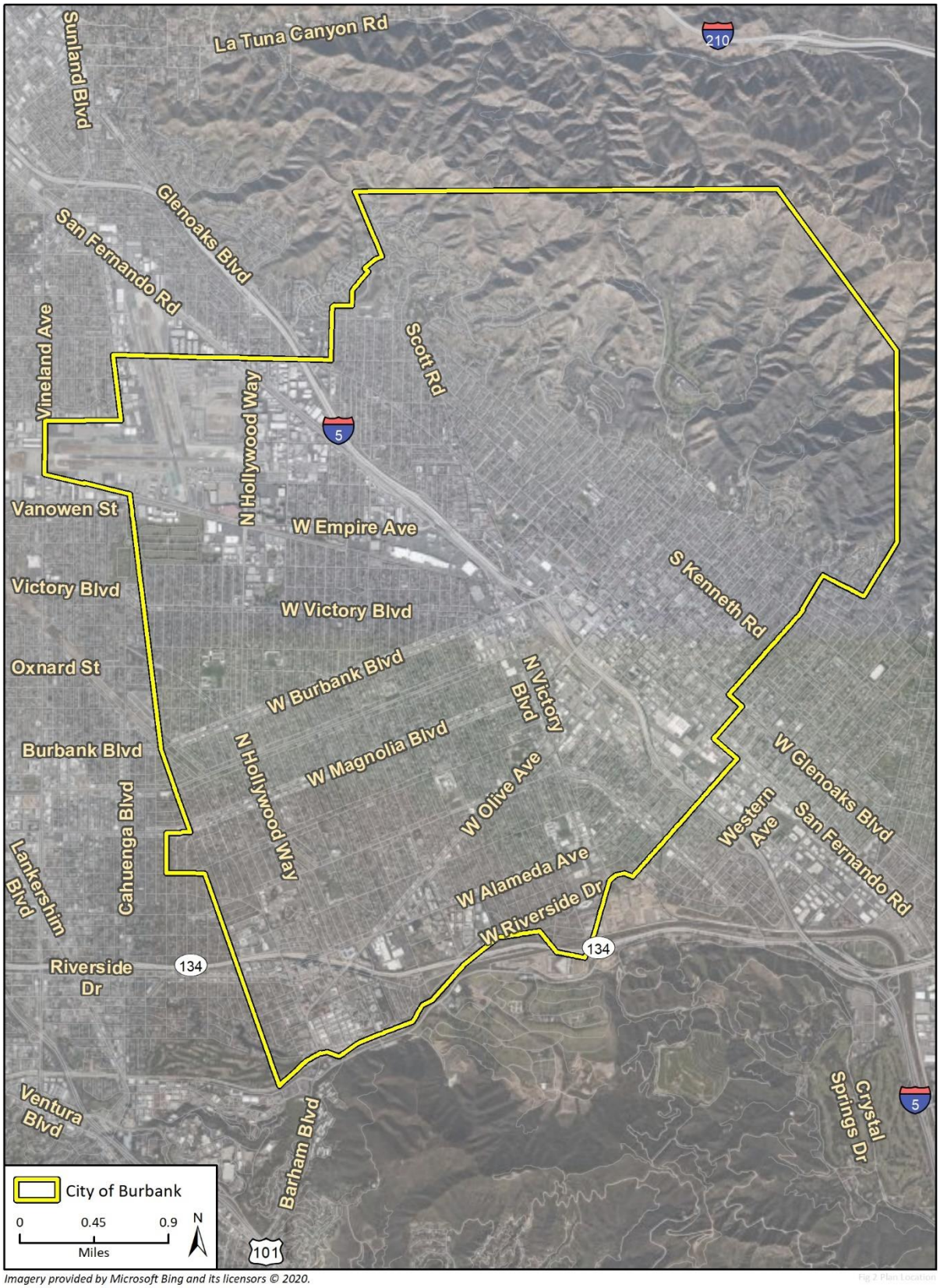


Figure 2 Plan Location



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Local Setting

Burbank has two general areas: the foothills along the Verdugo Mountains and the flatlands.[4] The City has a mix of uses with suburbs, a downtown area, many large media studios, and the airport. The downtown area is located along I-5, toward the eastern portion of the City. The Hollywood Burbank Airport is located in the northwestern portion of the City and brings many people to the City.

The City receives approximately 17 inches of rain annually, 286 sunny days per year, with a July high temperature of 86°F and a January low temperature of 45°F.[5] Similar to the rest of the Los Angeles Air Basin, a temperature inversion, where warm dry air overrides cool marine air and traps air pollutants close to the ground, often occurs during late summer and autumn.

4. Existing Setting

City of Burbank Sustainability and GHG Reduction Efforts

The City of Burbank has established actions related to increasing sustainability and reducing GHG emissions and the potential impacts of climate change. These actions are outlined in the City's various plans discussed below.

1997 Burbank Center Specific Plan

The Burbank Center Specific Plan was adopted in 1997 and is an economic revitalization plan addressing transportation planning and long-range use of the downtown area. It encourages mixed-use projects to minimize vehicular traffic and encourage compatible uses within close proximity of existing modes of transportation.[6] The plan encourages reduction of vehicle traffic which could lead to a decrease in GHG emissions.

City of Burbank Sustainability Action Plan and Zero Waste Policy

In January 2008, the City Council adopted the Sustainability Action Plan to support the United Nations Urban Environmental Accords. The Sustainability Action Plan addresses the City's efforts toward providing a clean, healthy, and safe environment. As part of the Sustainability Action Plan, the City adopted the Zero Waste Strategic Plan that includes a goal to achieve zero waste by 2040. The Zero Waste Plan includes four basic strategies, with a priority placed on "upstream" solutions to eliminate waste before it is created. The plan also includes actions to build on the City's traditional "downstream" recycling programs to fully utilize the existing waste diversion infrastructure.[7] The four basic strategies include:

a. Advocate for Manufacturer Responsibility for Product Waste and Support Elimination of Problem Materials
b. Adopt New Rules and Incentives to Reduce Waste

4 Burbank, City of. February 19, 2013. Burbank 2035: General Plan. < https://new.burbankca.gov/documents/173607/0/Burbank2035+General+Plan.pdf/139656b0-80e9-3b11-dc6d-751642c85b38?t=1612301807431> Accessed December 26, 2020.
5 Best Places. 2021. Climate in Burbank, California. Available at: https://www.bestplaces.net/climate/city/california/burbank Accessed December 28, 2020.
6 Burbank, City of. 1997. Burbank Center Plan. <https://www.burbankca.gov/home/showpublisheddocument?id=2627> Accessed December 28, 2020.
7 Burbank, City of. 2008. Zero Waste Policy. Available online at: http://burbank.granicus.com/MetaViewer.php?view_id=6&clip_id=181&meta_id=18226. Accessed December 28, 2020.

c. Expand and Improve Local and Regional Recycling and Composting
d. Educate, Promote, and Advocate a Zero Waste Sustainability Agenda

BICYCLE MASTER PLAN

The City of Burbank's Bicycle Master Plan[8] was adopted on December 15, 2009, and serves as a policy document to guide the development and maintenance of a bicycle network, support facilities, and other programs for the City. Policies in the Bicycle Master Plan address issues related to bikeways, such as planning, community involvement, utilization of existing resources, facility design, multi-modal integration, safety education, and support facilities, as well as specific programs, implementation, maintenance, and funding.

NORTH SAN FERNANDO BOULEVARD MASTER PLAN

The North San Fernando Boulevard Master Plan[9] is a policy document that provides a strategy to guide future development and streetscape improvements along the segment of North San Fernando Boulevard between Interstate 5 and Burbank Boulevard. Additionally, it includes recommendations to improve the surrounding residential and commercial streets. Specific policies included in the North San Fernando Boulevard Master Plan aim to enhance pedestrian and bicyclist comfort and safety, expand the tree canopy, and allow mixed-use developments. In general, these policies encourage people to actively commute instead of driving single-occupancy vehicles.

BURBANK 2035: GENERAL PLAN

The City's General Plan is focused on balanced development, community image and character, complete streets, economic vitality, environmental equality, housing variety, open space and conservation, proactive and responsive government, quality neighborhoods and schools, and safety for the City of Burbank's community. The Plan has set policies to address the goal of reducing greenhouse gas emissions and preparing for effects due to climate change. The implementation of the GGRP and Climate Change Adaption strategies are how the General Plan addresses the previously mentioned goals.[10]

2013 GREENHOUSE GAS REDUCTION PLAN

The City of Burbank adopted the Burbank 2035 Greenhouse Gas Reduction Plan (GGRP) in 2013. Guided by the framework set forth in the Burbank 2035 General Plan, the GGRP implements Goal 3 and associated Policies 3.1 and 3.2. Policy 3.1 establishes the target for Burbank to reduce communitywide greenhouse gas emissions by at least 15 percent from 2013 levels by 2020, and Policy 3.2 establishes the goal to reduce emissions by at least 30 percent from 2013 levels by 2035.

8 Burbank, City of. Bicycle Master Plan. December 15, 2009. https://www.burbankca.gov/documents/173607/240347/20210204-Bicycle-Master-Plan-001.pdf/53be8720-2d59-19ad-bd4a-168ac74d7d22?t=1612567201263 Accessed December 28, 2020.
9 Burbank, City of. North San Fernando Boulevard Master Plan. https://www.burbankca.gov/documents/173607/0/North+San+Fernando+Blvd+Master+Plan.pdf/4f76eeb0-670a-9a71-d92e-8ef380e23ad5?t=1612453877511 Accessed December 28, 2020.
10 Burbank, City of. Burbank 2035: General Plan. https://new.burbankca.gov/documents/173607/0/Burbank2035+General+Plan.pdf/139656b0-80e9-3b11-dc6d-751642c85b38?t=1612301807431 Accessed December 26, 2020.

This target and goal are consistent with statewide efforts established in the Scoping Plan to reduce statewide GHG emissions to 1990 levels by 2020 and 80 percent below 1990 levels by 2050.[11]

BURBANK WATER AND POWER INTEGRATED RESOURCE PLAN

The 2019 Integrated Resource Plan (IRP)[12] is a long-term planning document designed to provide policy guidance for Burbank Water and Power (BWP) electric supply to its customers over the next twenty years, from 2019 through 2038. The IRP, like all long-term planning, is directional rather than determinative. In other words, the IRP helps Burbank see the broad contours of its energy future and the general direction Burbank should head to reach that future; it is not a roadmap for decision-making beyond the near-term.

COMPLETE OUR STREETS PLAN

The Citywide Complete Our Streets Plan[13] aims to transform the Burbank 2035 General Plan's goals and policies into an actionable plan for implementation. As outlined in the Citywide Complete Our Streets Plan, it aims to:

- Analyze and catalog existing street conditions
- Establish new policies, guidelines, and performance measures for street improvements Citywide
- Identify priority projects within Focus Areas
- Build better neighborhoods
- Create an ongoing mechanism for evaluating street improvements

The plan is ultimately a guidebook for use by the City to ensure that improvements in the public right-of-way are consistent with good urban design, multi-modal mobility, and place making. The Citywide Complete Our Streets Plan is a 20-year long-range transportation plan that will need to be updated regularly between every five to ten years.

Regional Sustainability and GHG Reduction Efforts

In coordination with Los Angeles County, the Southern California Association of Governments (SCAG), the State of California, and the Federal government, the City of Burbank has committed to implementing regional and State policies related to GHG emissions reduction. As follows is a summary of the regional GHG emissions reduction efforts, which the City of Burbank GGRP Update is intended to be consistent with or exceed.

SCAG 2020-2045 REGIONAL TRANSPORTATION PLAN/SUSTAINABLE COMMUNITIES STRATEGY

SCAG adopted the 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS), which identifies how the southern California region would meet its GHG emission reduction targets.[14] The SCAG 2020 RTP/SCS is supported by a combination of transportation and

11 Burbank, City of. February 19, 2013. 2013 GGRP. https://www.burbankca.gov/documents/173607/240353/02192013_Burbank_Greenhouse_Gas_Reduction_Plan.pdf/39624e2e-ef46-b6a5-81fc-45b3f4c4c819?t=1616021724684 Accessed February 2, 2021.

12 Burbank Water and Power. 2019 Integrated Resource Plan. December 11, 2018. https://burbankwaterandpower.com/images/administrative/downloads/CityCouncilApproved_2019_Integrated_Resource_Plan_DIGITAL.pdf Accessed February 2, 2021.

13 Burbank, City of. June 16, 2020. Complete Our Streets Plan. https://www.burbankca.gov/web/community-development/complete-streets-plan Accessed February 2, 2021.

14 Southern California Association of Governments (SCAG). 2020. 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy. Available: < https://scag.ca.gov/read-plan-adopted-final-plan> Accessed February 2, 2021.

land use strategies that help the region achieve State greenhouse gas emission reduction goals and Federal Clean Air Act requirements, preserve open space areas, improve public health and roadway safety, support our vital goods movement industry and utilize resources more efficiently.[15]

OUR NEXT LA: DRAFT 2020 LONG RANGE TRANSPORTATION PLAN

The Los Angeles County Metropolitan Transportation Authority has prepared the Draft 2020 Long Range Transportation Plan to provide Los Angeles County (88 cities and unincorporated County) with a long-range, comprehensive transportation plan for identifying and resolving transportation issues.[16] Transportation planning objectives and policies include improving mobility options through an equitable and sustainable approach and reducing Los Angeles County roadway congestion.

State Sustainability and GHG Reduction Efforts

As follows is a summary of the State GHG emissions reduction efforts, which the City of Burbank GGRP Update is intended to be consistent with or exceed.

CALIFORNIA SENATE BILL 375

In 2008, Senate Bill 375 (SB 375) enhanced the State's ability to reach Assembly Bill (AB) 32 targets by directing CARB to develop regional GHG emissions reduction targets to be achieved from passenger vehicles for 2020 and 2035. In addition, SB 375 directs each of the State's 18 major Metropolitan Planning Organizations (MPO) to prepare a sustainable community's strategy (SCS) that contains a growth strategy to meet such regional GHG emissions reduction targets for inclusion in the respective regional transportation plan (RTP).

CALIFORNIA EXECUTIVE ORDER S-3-05

In 2005, the California governor issued Executive Order (EO) S-3-05, which identifies Statewide GHG emissions reduction targets to achieve long-term climate stabilization as follows:

- Reduce GHG emissions to 1990 levels by 2020
- Reduce GHG emissions to 80 percent below 1990 levels by 2050

CALIFORNIA ASSEMBLY BILL 32

In 2006, the California legislature signed AB 32 – the Global Warming Solutions Act – into law, requiring a reduction in Statewide GHG emissions to 1990 levels by 2020 and California Air Resources Board (CARB) preparation of a Scoping Plan that outlines the main State strategies for reducing GHGs to meet the 2020 deadline. In addition, AB 32 required CARB to adopt regulations to require reporting and verification of Statewide GHG emissions. Based on this guidance, CARB approved a 1990 Statewide GHG level and 2020 limit of 427 metric tons of carbon dioxide equivalent ($MTCO_2e$).

CALIFORNIA CLIMATE CHANGE SCOPING PLAN

In 2008, CARB approved the original California Climate Change Scoping Plan, which included measures to address GHG emission reduction strategies related to energy efficiency, water use, and

15 SCAG. 2016. 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy. What is the 2016 RTP/SCS? <http://scagrtpscs.net/Pages/2016RTPSCS.aspx>. Accessed February 2, 2021.
16 Los Angeles County Metropolitan Transportation Authority (LA Metro). 2020. Draft 2020 Long Range Transportation Plan. Available: <https://media.metro.net/2020/LRTP-Draft-Doc-Web.pdf>. Accessed February 2, 2021.

recycling and solid waste, among other measures. Many of the GHG reduction measures included in the Scoping Plan (e.g., Low Carbon Fuel Standard, Advanced Clean Car standards, and Cap-and-Trade) have been adopted and implemented since approval of the Scoping Plan.

CALIFORNIA CLIMATE CHANGE SCOPING PLAN UPDATE (2013)

In 2013, CARB approved the first update to the California Climate Change Scoping Plan. The 2013 Scoping Plan Update defined CARB climate change priorities for the next five years and set the groundwork to reach post-2020 Statewide GHG emissions reduction goals. The 2013 Scoping Plan Update highlighted California's progress toward meeting the "near-term" 2020 GHG emission reduction goals defined in the original Scoping Plan. It also evaluated how to align the State's longer-term GHG reduction strategies with other State policy priorities, including those for water, waste, natural resources, clean energy, transportation, and land use.

CALIFORNIA SENATE BILL 32

In 2016, the California legislature signed Senate Bill 32 (SB 32) into law, extending AB 32 by requiring further reduction in Statewide GHG emissions to 40 percent below 1990 levels by 2030 (the other provisions of AB 32 remain unchanged). On December 14, 2017, CARB adopted the 2017 Scoping Plan, which provides a framework for achieving the 2030 target. The 2017 Scoping Plan relies on the continuation and expansion of existing policies and regulations, such as the Cap-and-Trade Program, as well as implementation of recently adopted policies, such as SB 350 and SB 1383 (see below).

CALIFORNIA CLIMATE CHANGE SCOPING PLAN UPDATE (2017)

In 2017, CARB approved the second update to the California Climate Change Scoping Plan. The 2017 Scoping Plan put an increased emphasis on innovation, adoption of existing technology, and strategic investment to support its strategies. As with the 2013 Scoping Plan Update, the 2017 Scoping Plan Update does not provide project-level thresholds for land use development. Instead, it recommends that local governments adopt policies and locally appropriate quantitative thresholds consistent with Statewide per-capita goals of 6 MT CO_2e by 2030 and 2 MT CO_2e by 2050.[17] As stated in the 2017 Scoping Plan Update, these goals may be appropriate for plan-level analyses (city, county, subregional, or regional level), but not for specific individual projects, because they include all GHG emissions sectors in the State.

CALIFORNIA EXECUTIVE ORDER B-55-18

In 2018, the California governor issued Executive Order B-55-18, which established a new Statewide goal of achieving carbon neutrality by 2045 and maintaining net negative emissions thereafter. This goal is in addition to the existing Statewide GHG reduction targets established by SB 32.

For more information on the Senate and Assembly Bills, Executive Orders, and Scoping Plans discussed above, and to view reports and research referenced above, please refer to the following websites: www.climatechange.ca.gov and www.arb.ca.gov/cc/cc.htm.

ASSEMBLY BILL 197, STATE AIR RESOURCES BOARD GREENHOUSE GASES REGULATIONS

In 2016, the California legislature approved AB 197, a bill linked to SB 32, which increases legislature oversight over the California Air Resources Board and directs the California Air Resources Board to

17 California Air Resources Board (CARB). 2017. California's 2017 Climate Change Scoping Plan. Available: <https://ww3.arb.ca.gov/cc/scopingplan/scopingplan.htm>. Accessed February 2, 2021.

prioritize disadvantaged communities in its climate change regulations, and to evaluate the cost-effectiveness of measures it considers. AB 197 requires the CARB to "protect the State's most impacted and disadvantaged communities [and] consider the social costs of the emissions of greenhouse gases" when developing climate change programs. The bill also adds two new legislatively appointed non-voting members to the CARB, increasing the Legislature's role in the CARB's decisions.

SENATE BILL 350, CLEAN ENERGY AND POLLUTION REDUCTION ACT OF 2015

In October 2015, SB 350 was signed into law, establishing new clean energy, clean air, and GHG reduction goals for 2030 and beyond. SB 350 codifies Governor Jerry Brown's aggressive clean energy goals and establishes California's 2030 GHG reduction target of 40 percent below 1990 levels. To achieve this goal, SB 350 increases California's renewable electricity procurement goal from 33 percent by 2020 (legislation originally enacted in 2002) to 50 percent by 2030. Renewable resources include wind, solar, geothermal, wave, and small hydroelectric power. In addition, SB 350 requires the State to double Statewide energy efficiency savings in electricity and natural gas end-uses (i.e., residential and commercial) by 2030 from a base year of 2015.

SENATE BILL 100, THE 100% CLEAN ENERGY ACT OF 2018

In September 2018, Governor Brown signed SB 100, requiring that the State's load serving entities (including energy utilities and community choice energy programs) must procure energy generated 100 percent from Renewables Portfolio Standard (RPS) for eligible renewable resources by 2045.

CALIFORNIA ENERGY EFFICIENCY STRATEGIC PLAN OF 2008

In September 2008, the California Public Utilities Commission (CPUC) adopted California's first Long Term Energy Efficiency Strategic Plan, presenting a single roadmap to achieve maximum energy savings across all major groups and sectors in California. The Strategic Plan was subsequently updated in January 2011 to include a lighting chapter. The Strategic Plan sets goals of all new residential construction and all new commercial construction in California to be zero net energy (ZNE) by 2020 and 2030, respectively. In 2018, the California Energy Commission voted to adopt a policy requiring all new homes in California to incorporate rooftop solar. This change went into effect in January 2020 with the adoption of the 2021 Title 24 Code and is a step towards the State achieving its goal of all residential new construction being ZNE by 2020. Additionally, the Strategic Plan sets goals of 50 percent of existing commercial buildings to be retrofitted to ZNE by 2030 and all new State buildings and major renovations to be ZNE by 2025.

SENATE BILL 1275, CHARGE AHEAD INITIATIVE

In September 2014, Senate Bill 1275 was signed into law, establishing a State goal of one million zero-emissions and near-zero-emissions vehicles in service by 2020 and directing the Air Resources Board to develop a long-term funding plan to meet this goal. SB 1275 also established the Charge Ahead California Initiative requiring planning and reporting on vehicle incentive programs and increasing access to and benefits from zero-emissions vehicles for disadvantaged, low-income, and moderate-income communities and consumers.

ASSEMBLY BILL 1493, THE PAVLEY BILL

AB 1493 (2002), California's Advanced Clean Cars program (referred to as Pavley), requires CARB to develop and adopt regulations to achieve "the maximum feasible and cost-effective reduction of

GHG emissions from motor vehicles." On June 30, 2009, US EPA granted the waiver of the Clean Air Act preemption to California for its GHG emission standards for motor vehicles beginning with the 2009 model year. Pavley I regulates model years from 2009 to 2016, and Pavley II, which is now referred to as "Low Emission Vehicle (LEV) III GHG", regulates model years from 2017 to 2025. The Advanced Clean Cars program coordinates the goals of the LEV, Zero Emissions Vehicles (ZEV), and Clean Fuels Outlet programs, and would provide major reductions in GHG emissions. By 2025, when the rules will be fully implemented, new automobiles will emit 34 percent fewer GHGs and 75 percent fewer smog-forming emissions from their model year 2016 levels.

SENATE BILL 97, CEQA GUIDELINES FOR ADDRESSING GHG EMISSIONS

The California Environmental Quality Act (CEQA) requires public agencies to review the environmental impacts of proposed projects, including General Plans, Specific Plans, and specific kinds of development projects. In February 2010, the California Office of Administrative Law approved the recommended amendments to the State CEQA Guidelines for addressing GHG emissions. The amendments were developed to provide guidance to public agencies regarding the analysis, mitigation, and effects of GHG emissions in draft CEQA documents.

5. General Plan Designation and Zoning

The GGRP Update and GHG Threshold would be implemented throughout the City and would occur in all Burbank General Plan designations and zoning designations. The plan would not alter any existing designations.

6. Description of Plan

GGRP Update

The GGRP Update builds off of and incorporates the climate protection programs noted above that the City has in place and will continue to reduce GHG emissions. Specifically, the GGPR Update builds off of the 2013 GGRP, which was the City's first official qualified GHG reduction plan. The City has developed the GGRP Update in order to achieve a number of objectives, including a demonstration of environmental leadership, compliance with State environmental initiatives, promotion of green jobs, and increased sustainable development.

The GGRP Update addresses municipal and communitywide GHG emissions and includes a goal of reducing communitywide GHG emissions output to 771,484 metric tons of carbon dioxide equivalent (MT CO_2e) by 2030 (consistent with California Senate Bill 32 target for 2030). To maintain consistency with the 2013 GGRP, GHG emission reduction targets were set based on the 2010 community GHG inventory, which represents the City's baseline and was included in the 2013 GGRP.

The State of California uses 1990 as a reference year to remain consistent with Assembly Bill (AB) 32, which codified the State's 2020 GHG emissions target by directing CARB to reduce Statewide emissions to 1990 levels by 2020. However, cities and counties throughout California typically elect to use years later than 1990 as baseline years because of the increased reliability of recordkeeping from those years and the large amount of growth that has occurred since 1990. As mentioned, the 2013 GGRP included a baseline for 2010. The 2013 GGRP also established a 2020 emission reduction target of 15 percent below 2010 GHG emission levels and a 2035 target of 30 percent below 2010 GHG emission levels. As of 2019, the City of Burbank has reduced GHG emission by 28 percent,

exceeding the 2020 target and nearly meeting the 2035 target established in the original GGRP well in advance of the horizon year.[18] The majority of these GHG emission reductions occurred in the transportation and energy sectors through increased efficiency and increased renewable energy procurement by BWP, as well as increased fuel efficiency in the on-road vehicle fleet. The water sector also experienced relatively significant GHG emission reductions through increased renewable energy procurement statewide.

In 2019, approximately 1,084,854 MT CO_2e were emitted in Burbank from the energy, transportation, solid waste, water, and municipal sectors. The municipal sector is a subset of the community emission sectors, which consist of energy, transportation, solid waste, and water, and is developed to establish metrics that allow the City to lead by example and reduce emissions at the municipal level. The energy sector represents emissions that result from electricity and natural gas used in both private and public sector buildings and facilities. The transportation sector includes emissions from private, commercial, and fleet vehicles driven within the City as well as the emissions from transit vehicles, the City-owned fleet, and off-road equipment such as lawnmowers/ garden equipment and construction equipment. Emissions generated from water usage and wastewater generation are due to the indirect electricity use to distribute water and collect and treat wastewater. Burning fossil fuels associated with buildings/facility energy vehicle use and (transportation) use are the largest contributors of Burbank GHG emissions. Table 1 includes total Burbank (i.e., community and municipal) GHG emissions in 2019 by sector as well as percentage of total City emissions.

Project Design Features

The GGRP Update is a planning document and would not involve land use or zoning changes, but would rather promote infrastructure development and redevelopment. Projects implemented in support of the GGRP Update would be reviewed for consistency with the General Plan and other applicable regulatory land use actions. Additionally, future plans or projects would be subject to environmental review under CEQA, and individual impact analyses will identify required plan- or project-specific mitigation measures where applicable. Nonetheless, the City has also included Project Design Features (PDFs), which are specific design components proposed to avoid or reduce the project's potential environment effects. Specifically, the City proposes to include the following PDFs for development projects that require ground disturbance (grading, trenching, foundation work, and other excavations) beyond five feet below ground surface (bgs) where it was not previously excavated beyond five feet bgs:

CUL-1 Unanticipated Discovery of Archaeological Resources

- A qualified archaeologist shall be retained to conduct a Worker's Environmental Awareness Program (WEAP) training on archaeological sensitivity for all construction personnel prior to the commencement of any ground-disturbing activities. The training shall be conducted by an archaeologist who meets or exceeds the Secretary of Interior's Professional Qualification Standards for archaeology. Archaeological sensitivity training will include a description of the types of cultural material that may be encountered, cultural sensitivity issues, regulatory issues, and the proper protocol for treatment of the materials in the event of a find.
- If archaeological or Native American resources are inadvertently discovered during ground disturbing activities, work shall be halted in the immediate vicinity of the find (a 60-foot buffer

18 Burbank, City of. 2021. GGRP Update.

around the find) until the find can be evaluated by the Archaeological Monitor, as defined in Mitigation Measure CUL-1, and Native American Monitor. Work on areas outside of the buffered area may continue during the assessment period.

- If the resources are determined to be potential tribal cultural resources, the Applicant shall retain the services of a Native American Monitor to work in consultation with the Archaeological Monitor to delineate the resource. The Native American Monitor shall be a professional qualified in the identification and/or preservation of tribal cultural resources and agreed to by tribe(s) with ancestral ties to the region, in consultation with the Native American Heritage Commission. Native American monitoring shall be implemented in the event a cultural resource of Native American origin is identified at any stage of ground disturbance, including, but not limited to, site clearing (such as pavement removal, grubbing, tree removals) and/or excavation to depths greater than 1.5-feet (including boring, grading, excavation, drilling, potholing or auguring, and trenching).
- In the event Native American monitoring is required, the Native American Monitor shall complete monitoring logs on a daily basis, providing descriptions of the daily activities, including construction activities, locations, soil, and any cultural materials identified. The on-site monitoring shall end when grading and excavation activities of native soil (i.e., previously undisturbed) are completed.
- The Applicant shall, in good faith, consult with the tribe(s) with ancestral ties to the region on the disposition and treatment of any tribal cultural resource encountered during all ground disturbing activities. If the find is considered an “archeological resource,” the Archaeological Monitor, in cooperation with Native American Monitor, shall pursue either protection in place or recovery, salvage and treatment of the deposits. Recovery, salvage, and treatment protocols shall be developed in accordance with applicable provisions of Public Resource Code Section 21083.2 and State CEQA Guidelines 15064.5 and 15126.4. If a tribal cultural resource cannot be preserved in place or left in an undisturbed state, recovery, salvage, and treatment shall be required at the Project Applicant’s expense. All recovered and salvaged resources shall be prepared to the point of identification and permanent preservation in an established accredited professional repository. If the resources are determined to be non-Native in origin, the evaluation may require preparation of a treatment plan and archaeological testing for California Register of Historical Resources (CRHR) eligibility. If the discovery proves to be eligible for the CRHR and cannot be avoided by the Project, additional work such as data recovery, excavation, and archaeological mitigation may be warranted to mitigate any significant impacts.

Table 1 Burbank 2019 Communitywide GHG Emissions by Sector

Sector/Emission Source	GHG Emissions (MT CO_2e)	Percentage of Total
Energy	**573,376**	**53%**
Non-Residential Electricity	322,807	30%
Natural Gas	135,333	12%
Residential Electricity	109,688	10%
Electricity Transmission and Distribution Losses	5,547	1%
Transportation	**470,653**	**43%**
Passenger On-road Vehicles	388,157	36%
Commercial On-road Vehicles	71,042	7%
Off-road Equipment	9,880	1%
Public Transit	1,573	<1%
Solid Waste[2]	**35,890**	**%**
Waste Sent to Landfill	34,372	3%
Landfilling Process Emissions	1,491	<1%
Waste Sent to Combustion Facilities	26	<1%
Water	**4,936**	**<1%**
Imported Potable Water Supply	2,576	<1%
Wastewater Treatment Process and Fugitive Emissions	2,360	<1%
Local Potable Water Supply[1]	5,120	<1%
Wastewater Collection and Treatment Energy[1]	2,172	<1%
Cumulative Emissions	**1,084,854**	**100%**

Notes: MT CO_2e = Metric tons of carbon dioxide equivalent

1. GHG emissions generated by electricity consumption involved in producing local groundwater supplies and the collection and treatment of wastewater are not added to the GHG emissions total to avoid double counting. The electricity consumption involved in these processes is already encompassed in non-residential electricity consumption in the energy sector.

2. GHG emissions generated by the collection and transport of waste generated within the City are captured in the Commercial On-road Vehicle source in the Transportation sector.

As shown in Table 1, the largest sectors of GHG emissions are related to energy and transportation, followed by solid waste and water. The City is preparing the GGRP Update to include measures and actions addressing communitywide and municipal GHG emissions. Per the GGRP Update, Burbank is committed to an emissions reduction target of 49 percent below 2010 levels by 2030 (SB 32 target year) and reaching a longer-term goal of carbon neutrality by 2045. Table 2 summarizes the emission reduction targets included in the GGRP Update compared to the reductions proposed in the 2013 GGRP. This 2030 GHG emissions goal is selected to be consistent with SB 32 and CEQA Guidelines § 15183.5 for a qualified GHG emissions reduction strategy as well as to be achievable by City-supported measures identified in the GGRP Update. The GGRP Update includes a business-as-usual (BAU) and adjusted forecast of GHG emissions that will enable the City to estimate the amount of emissions reductions needed to meet its goal.

Table 2 GHG Emission Reduction Targets

Target Year	Reductions Compared to 1990 Levels	Reductions Compared to 2010 Baseline	Remaining Emissions Gap (MT CO_2e)
2020	Meet 1990 Levels	15%	Target Exceeded
2030	40%	49%	86,555
2045	100%	100%	531,203

The GGRP Update includes measures to educate the community regarding ways to electrify buildings, reduce energy use, actively commute, and divert organics from the waste stream. It also includes measures to increase use of zero-emission vehicles; increase use of public and shared transportation; reduce water consumption and waste generation; and increase tree planting and green space. Finally, it includes measures that would continue to allow the City to lead by example and reduce emissions at the municipal level. Table 3 includes a complete list of the measures and actions included in the GGRP Update by strategy.

Table 3 Burbank GGRP Update Measures and Actions by Strategy

ID #	Measures and Respective Supportive Actions
Cornerstone Sector	
Measure C-1	**Lead by example by focusing on equity constraints associated with existing building electrification by leveraging BWP's operations and efficiency programs to develop an Affordable Housing Electrification Program to lead Burbank's electrification targets through retrofitting low-income and affordable housing units in Burbank to all electric, retrofitting 100 affordable housing units by 2030 and all 320 affordable housing units owned by Burbank Housing Corporation in the City by 2045.**
Action C-1.1.a	Expand upon BWP's low-income Refrigerator Exchange Program by identifying funding to provide electric heat-pump water heaters and HVAC units to low-income households.
Action C-1.1.b	Explore a partnership with non-profit organizations, such as GRID Alternatives, to implement a low-income solar installation program, which includes a workforce installation training program for groups not typically represented in the solar workforce.
Action C-1.1.c	Establish a program with Burbank Housing Corporation to provide discounted electric appliances and equipment, as well as technical assistance with installation and electrical panel and circuit upgrades for retrofits and time of replacement upgrades of appliances and equipment in affordable housing units.
Action C-1.1.d	Partner with Burbank Housing Corporation to perform an electrification needs and existing building retrofit cost assessment for all affordable housing units owned and managed by the Burbank Housing Corporation to identify an electrification retrofit pilot project that includes retrofitting of an entire building of affordable housing units.
Action C-1.1.e	Conduct targeted outreach to low-income housing developments to engage building owners, building managers, landlords and residents to communicate benefits of electrification, discuss potential for retrofitting buildings, gain buy-in from community members, and providing education and trainings on incentives, technical requirements, and available resources.
Action C-1.1.f	Implement a pilot project for retrofitting of an entire building of affordable housing units, as determined feasible.
Action C-1.1.g	Perform an existing buildings analysis specifically targeted towards low-income neighborhoods to identify neighborhoods or building blocks for larger-scale electrification projects in partnership with BWP.
Action C-1.1.h	Identify and implement a pilot project for electrification of a complete neighborhood composed of low-income and affordable housing, including energy bill protections in case energy bills exceed costs to residents prior to project implementation and pursuing opportunities for natural gas infrastructure pruning.

ID #	Measures and Respective Supportive Actions
Action C-1.1.i	Develop a tariffed on-bill financing program or other incentive program to allow for equitable electrification of buildings within BWP service area.
Action C-1.1.j	Evaluate opportunities to provide technical and financial assistance to low-income property owners and low-income homeowners looking to electrify.
Strategy BE-1 Building Energy and Efficiency	
Measure BE-1.1	**Electrify 100% of new construction in the City by 2023.**
Action BE-1.1.a	Adopt an Electrification Reach Code for all new buildings which prohibits the piping of natural gas. In doing so the City will: ▪ Engage with stakeholders, both internal stakeholders, such as City staff and officials, and external stakeholders, such as local developers regarding the purpose and impact of the reach code ▪ Conduct a cost effectiveness study ▪ Develop and draft an ordinance ▪ Conduct public hearings, public notices, and formally adopt the ordinance ▪ Submit the adopted ordinance to the California Energy Commission (CEC) and California Building Standards Commission (CBSC)
Action BE-1.1.b	Provide education around cooking with electric appliances, including demonstrations from chefs and/or local restaurants.
Action BE-1.1.c	Provide technical resources, including hosting workforce development trainings for installers and building owners/operators to discuss benefits and technical requirements of electrification.
Action BE-1.1.d	Building and Safety Division and BWP will promote the cost and environmental benefits of electrification to builders, property owners, and contractors on the website and at the City permit counters.
Action BE-1.1.e	Establish a partnership with the Building Decarbonization Coalition, or a similar organization, to engage with local building industry stakeholders in development of an Electrification Reach Code.
BE-1.1.f	Conduct an electrification infrastructure and capacity feasibility study to identify expected increases in electricity demand due to building and vehicle electrification, ensure capacity to meet that demand, and identify any infrastructure improvements.
BE-1.1.g	Work with SoCal Gas to identify opportunities for natural gas infrastructure pruning to reduce the chance of stranded assets, provide potential funding, and establish an efficient transition to carbon neutral buildings.
Measure BE-1.2	**Leverage BWPs marketing programs to convert 3,000 residential and 170 commercial natural gas-fueled HVAC and water heating units in existing private buildings to electric heat pumps by 2030, and 10,000 residential and 560 commercial units by 2045.**
Action BE-1.2.a	Build upon the success of BWP's retrofit package and rebate and incentive programs with an All-Electric Building Initiative, or tariffed on-bill financing program that expands rebates and incentives to electric heat-pump water heating, HVAC units, and electrical panel upgrades and expands the business retrofit packages to include electric heat-pump water heaters and HVAC units.

ID #	Measures and Respective Supportive Actions
Action BE-1.2.b	Partner with BWP to develop an education campaign to promote the All-Electric Building Initiative that builds upon the success of other BWP programs. The program would include: ▪ Utility bill inserts to advertise the incentive programs and the cost and health benefits of electric appliances ▪ Targeted outreach to builders and property managers with an informational brochure describing the financial benefits of replacing natural gas appliances with all electric appliance when they apply for permits ▪ Targeted outreach to local property managers to address appliance energy use and benefits of all electric appliances in multi-family units ▪ Provide informational webinars and an updated website to advertise and promote All-Electric Building Initiative rebates and incentives
Action BE-1.2.c	Review incentives and rebates for procedural equity and ensure that existing and updated incentive programs are being equitably distributed to the community. Hurdles to equitable implementation could include credit checks, excessive procedural hurdles and lack of targeted outreach.
Action BE-1.2.d	Initiate separate application process for electric conversions in the building permit system to track the number of permitted natural gas fueled water heaters and HVAC equipment replaced with electric fueled equipment, as well as if this has resulted in a building becoming all-electric, with indication of whether or not BWPs incentive and rebate programs are being utilized to pay for new equipment.
Action BE-1.2.e	Partner with Building and Safety to perform an electrification feasibility study to identify costs, benefits, potential hurdles, and policy strategies for electrifying existing buildings in Burbank. Strategies could include time of replacement, time of sale, and building performance policies.
Action BE-1.2.f	Work with a non-profit organization, such as Building Decarbonization Coalition or Rocky Mountain Institute, to develop a best practices model based on the progress electrifying existing buildings to significantly increase electrification post-2030.
Measure BE-1.3	**Continue to increase building energy efficiency through BWP's rebate and incentive programs to reduce annual customer energy use by a collective 63 GWh by 2030.**
Action BE-1.3.a	Implement a retrofit package tracking system for BWP's energy efficiency retrofit incentive program, which includes tracking of the number of pre-defined packages installed.
Action BE-1.3.b	Continue to perform outreach for smart grid integration and promotion of smart grid-compatible technologies.
Action BE-1.3.c	Maintain BWP's current rebate and incentive programs, ENERGY STAR appliance program, and Energy Conservation Programs, with continued public outreach and promotion.
Action BE-1.3.d	Continue collaboration between BWP and Burbank Unified School District to provide 6th graders with a "Resource Action Kit," which contains energy and water saving devices for the student to install in their home, and information to complete a home audit report. Use this opportunity to teach students about the energy-water nexus as well.
Action BE-1.3.e	Provide information to Community Development staff regarding annual energy savings from energy conservation programs for GGRP implementation tracking.
Action BE-1.3.f	Update the BWP Home Upgrade Program to include electrification with a focus on heat pump hot water heaters and HVAC systems which can be up to 400% efficient.
Measure EG-1.1	**Goal to achieve 100% GHG-neutral electricity generation by 2040.**
Action BE-1.1.a	Implement programs, similar to BWP's Residential Green Rate Premium Program, to facilitate access for customers to adopt more renewable energy.
Action BE-1.1.b	Conduct a feasibility study to understand potential for installation of renewable energy generation at BWP water facilities.
Action BE-1.1.c	Conduct analysis on risks and benefits associated with relying on battery storage to achieve carbon neutral electricity and grid resiliency goals and set a MW capacity goal for installed battery storage by 2030 and 2040 consistent with BWP rules and regulations.

ID #	Measures and Respective Supportive Actions
Action BE-1.1.d	Conduct a feasibility study to identify locations in the City for installation of local renewable energy generation and energy storage projects.
Action BE-1.1.e	Direct BWP to continue to work with businesses (especially the studios) on partnerships designed to maximize the use of renewable energy including solar/ storage, appropriate tariff changes and microgrid opportunities
Action BE-1.1.f	Develop a battery storage program in which BWP provides battery storage incentives in return for a commitment to operate (CTO) distributed battery storage projects for a set amount of time (i.e., 5-10 years), consistent with BWP rules and regulations.
Action EG-1.1.g	Identify grant funding opportunities to increase landfill gas capture rate at Burbank Landfill Site No. 3 to the maximum extent practicable.
Action EG-1.1.h	Install 5 MW of local solar capacity, utilizing parking structure roofs and buildings around City as means to increase load capacity, including in areas where high loads from electric vehicle charging is likely.
Action EG-1.1.i	Expand renewable energy generation at BWP facilities, with a goal of installing renewable energy generation at all feasible locations by 2040.
Strategy T-1 Reduce Passenger Car Vehicle Miles Traveled	
Measure T-1.1	**Implement the Complete Our Streets Plan, increasing active transportation mode share 2% by 2030 and 3% by 2045.**
Action T-1.1.a	Implement all policy recommendations included in the Complete Our Streets Plan to improve pedestrian and bicycle networks and increase transit ridership based on the established timeframes.
Action T-1.1.b	Integrate the Complete Our Streets "Checklist for New Projects" into the City's Development Review process and Capital Improvement Program to ensure new projects include Complete Our Streets measures.
Action T-1.1.c	Continually work to identify grant funding opportunities to implement Complete Our Streets projects included in the Complete Our Streets Plan.
Action T-1.1.d	Complete and implement the Citywide Safe Routes to School Plan consistent with the Complete Our Streets Plan upon identification of funding.
Action T-1.1.e	Develop and implement a bicycle safety program as part of the Citywide Safe Routes to School Plan focused on educating bicycle riders of all ages and skill levels to encourage ridership by offering bicycle safety resources and classes.
Action T-1.1.f	Evaluate and update the City's existing Zoning Code, Transportation Demand Management Ordinance, and California Green Building Code to ensure the City requires installation of bicycle parking areas in instances where off-street parking is required. Also, providing technical assistance to developers seeking to comply with the ordinance
Action T-1.1.g	Utilize performance measures included in Complete Our Streets Plan to monitor and track realized mode shift from plan implementation.
Measure T-1.2	**Provide clean, abundant, affordable, and accessible public transit, with a zero-emissions bus fleet by 2040.**
Action T-1.2.a	Work with Metro to expand use of Metro's LIFE low-income EZ Pass transit subsidy by Burbank low-income households who ride BurbankBus and expand Burbank Pass program transit subsidy program to BurbankBus fixed-route service to cover gaps in the Metro LIFE program.
Action T-1.2.b	Adopt an ordinance to allow and manage shared-use mobility devices, including but not limited to e-scooters and bikes.
Action T-1.2.c	Apply for California Transit and Intercity Rail Capital Program (TIRCP), Low Carbon Transit Operations Program, or other Greenhouse Gas Reduction Fund grants, to facilitate electrification of bus fleet.
Action T-1.2.d	Use electric bus fleet to generate revenue through programs, such as the California's Low Carbon Fuel Standards, to pay for increased bus service frequencies and/or other supportive infrastructure.
Action T-1.2.e	Electrify the Burbank Bus fleet in accordance with California Air Resources Board mandates and the City's Transit Fleet Electrification Study.

ID #	Measures and Respective Supportive Actions
Strategy T-2 Transportation Demand Management	
Measure T.2-1	**Continue Transportation Management Organization (TMO) Expansion, reaching 60% of employers by 2030 and 90% by 2045.**
Action T-2.1.a	Work with the Burbank TMO to update the TMO website annually to provide program information to current and potential members.
Action T-2.1.b	Work with the Burbank TMO to continue to implement TMO outreach strategy to increase membership and active participation in TMO programs
Action T-2.1.c	Update the Burbank Center Plan and the Media District Specific Plan, adopt the Golden State Specific Plan, and update the Plan Transportation Management Organization requirements to reflect TDM best practices. Collectively, these updates should evaluate which businesses are subject to TMO requirements, membership requirements and fees, TDM strategies offered by the TMO, reporting requirements and performance measures, and funding requirements. Utilize lessons learned from COVID-19 on transportation habits, impacts on transit, and potential hurdles and opportunities connected to these changes.
Action T-2.1.d	Expand geographic boundary of TMO to Golden State /Airport areas by 2025 as part of the Golden State Specific Plan, and citywide by 2035.
Measure T-2.2	**Strengthen the TMO program and ordinance to increase compliance with the City's 1.61 Average Vehicle Ridership (AVR) Goal to reduce employees commuting to Burbank via single occupancy vehicle. Ensure that 30% of TMO businesses achieve the 1.61 AVR target by 2030, and 60% by 2045.**
Action T-2.2.a	To enhance the Burbank community's ability to telecommute, partner with telecom companies to perform a Broadband Access Study to identify areas of the City have limited access to broadband service due to infrastructure and financial limitations.
Action T-2.2.b	Identify grant funding opportunities to help bridge the broadband access gap in the City by helping to fund installation of infrastructure or subsidize broadband service for low-income households.
Action T-2.2.c	Update the Burbank Municipal Code to require businesses to pay TMO fees directly to the City rather than by the TMO. Impose a tiered fee that decreases fees for businesses who achieve 1.61 AVR and increases fees for businesses who do not achieve 1.61 AVR. Raise and lower TMO fees based on the number of employers who achieve 1.61 AVR.
Action T-2.2.d	Direct TMO fees towards expanded BurbankBus transit services, employee rideshare subsidies, and active transportation infrastructure.
Strategy T-3 Zero-Emission Vehicles	
Measure T-3.1	**Increase zero-emission vehicle adoption to 23% of all passenger vehicles by 2030 and 100% by 2045.**
Action T-3.1.a	Adopt an EV Charging Retrofits in Existing Commercial and Multifamily Buildings Reach Code requiring major retrofits, with either a building permit with square footage larger than 10,000 square feet or including modification of electric service panels, to meet CalGreen requirements for "EV Ready" charging spaces and infrastructure.
Action T-3.1b	Coordinate with BWP to enhance promotion of public and private conversion to zero-emission vehicles; including use of City events, social media, and the City website to educate on benefits of zero-emission vehicles and available incentives.
Action T-3.1.c	Conduct a City Municipal Fleet Optimization Study to understand the potential to replace fossil-fuel powered vehicles with zero-emission vehicles as they are replaced, with a goal of replacing 25% of light-duty fleet vehicles by 2030.
Action T-3.1.d	Evaluate alternative options to gas powered landscape and forestry maintenance equipment when replacing city-owned equipment.
Action T-3.1.e	Implement the BWP Transportation Electrification Plan to facilitate installation of EV chargers through customer rebates and direct installation of charging stations.

ID #	Measures and Respective Supportive Actions
Action T-3.1.f	Investigate opportunities to help fund additional EV charging infrastructure by leveraging public/private partnerships and ensuring the City is charging for EV infrastructure use at City owned facilities.
Action T-3.1.g	Adopt an electric and alternative fueled vehicles and equipment purchasing policy for light-duty vehicles for all City departments, including BWP, allowing for exceptions for heavy-duty and emergency response vehicles.
Action T-3.1.h	Adopt an EV Reach Code requiring new commercial and multifamily construction to install the minimum number of EV chargers based on Tier 2 CalGreen requirements (20% of total).
Action T-3.1.i	Update the BWP Transportation Electrification plan by 2026 to reflect changes in state goals, consumer behavior, technology and lessons learned.
Strategy T-4 Parking	
Measure T-4.1	**Implement Parking Management as identified in the Burbank2035 General Plan Mobility Element and the City Council's Six Parking Management Principles.**
Action T-4.1.a	Implement managed parking at the Downtown Burbank Metrolink Station, the Burbank Airport North Metrolink Station, and the Burbank Airport South Metrolink Station through parking pricing so that at least 20 percent of station parking supply is available for transit users at any time of the day.
Action T-4.1.b	By 2025, implement the City's 6 Parking Management Principles in the Burbank Center Plan area. This would include: 1) Pricing all public parking (streets and structures) so that at least 20 percent of parking supply (one or two spaces per block) is available at any time of day 2) Updating BMC Zoning rules to improve flexibility of off-street parking requirements for new development
Action T-4.1.c	By 2030, implement the City's 6 Parking Management Principles in the Golden State Specific Plan area and Media District Specific Plan area. This would include: 1) Pricing all public parking (streets and structures) so that at least 20 percent of parking supply (one or two spaces per block) is available at any time of day 2) Updating BMC Zoning rules to improve flexibility of off-street parking requirements for new development
Action T-4.1.d	By 2040, implement the City's 6 Parking Management Principles citywide. This would include: 1) Pricing all public parking (streets and structures) so that at least 20 percent of parking supply (one or two spaces per block) is available at any time of day 2) Updating BMC Zoning rules to improve flexibility of off-street parking requirements for new development
Strategy W-1 Water Energy Nexus	
Measure W-1.1	**Reduce per capita water consumption from current levels of 132 gpcd to 124 gpcd by 2030 (6.8 percent reduction) and to 120.5 gpcd by 2045 (9.4 percent reduction).**
Action W-1.1.a	Continue to implement UWMP water conservation programs.
Action W-1.1.b	Continue to enforce MWELO requirements.
Action W-1.1.c	Continue enforcement of large irrigation customers required to use recycled water.
Action W-1.1.d	Coordinate with BWP to implement a public education campaign that highlights water conservation practices and promotes and provides demonstrations of graywater and rainwater systems, with focus on low-income households with high utility bill burdens.
Action W-1.1.e	Install a new Advanced Metering Infrastructure (AMI) system in the next four years that will include easy-to-use web-based tools that allow customers to track and monitor water use. Promote the availability of Home Water Reports and provide materials on how to utilize the available information.

ID #	Measures and Respective Supportive Actions
Action W-1.1.f	Update BWP's 2010 Recycled Water Master Plan to identify success since 2010 and feasible opportunities for expanding recycled water use. Work with developers to expand recycled water system and develop a recycled water expansion program.
Action W-1.1.g	Modernize at least three irrigation controllers city-wide each year, as needed, to reduce water usage and maximize watering efficiencies, upgrading systems throughout the entire City by 2030.
Strategy SW-1 Organic Waste Diversion	
Measure SW.1-1	**Meet SB 1383 organics and recycling requirements, reducing organic waste disposal 75% by 2025**
Action SW-1.1.a	Engage with all waste haulers operating within the City to discuss SB 1383 requirements for waste haulers (i.e., organics receptacles and labeling requirements).
Action SW-1.1.b	Adopt procurement policies to comply with SB 1383 requirements for jurisdictions to purchase recovered organic waste products.
Action SW-1.1.c	Adopt an Edible Food Recovery Ordinance for edible food generators, food recovery services, or organization that are required to comply with SB 1383.
Action SW-1.1.d	Partner with all City waste haulers, to provide organic waste collection and recycling services to all commercial and residential generators of organic waste.
Action SW-1.1.e	Adopt an ordinance requiring all residential and commercial customers to subscribe to an organic waste collection program and/or report self-hauling or backhauling of organics.
Action SW-1.1.f	Conduct a Feasibility Study and prepare an action plan to provide for edible food reuse infrastructure is sufficient to accept capacity needed to recover 20% of edible food disposed or identify proposed new or expanded food recovery capacity.
Action SW-1.1.g	Establish an education and outreach program for school children and adults around food waste prevention, nutrition education, and the importance of edible food recovery.
Action SW-1.1.h	Establish an edible food recovery program to minimize food waste.
Action SW-1.1.i	Adopt an ordinance or enforceable mechanism to regulate haulers collecting organic waste, including collection program requirements and identification of organic waste receiving facilities.
Action SW-1.1.j	Partner with all waste haulers within the City to: ▪ Provide organic waste collection from mixed waste containers are transported to a high diversion organic waste processing facility ▪ Provide quarterly route reviews to identify prohibited contaminants potentially found in containers that are collected along route. ▪ Clearly label all new containers indicating which materials are accepted in each container, and by January 1, 2025, place or replace labels on all containers.
Strategy CS-1 Carbon Sequestration	
Measure CS-1.1	**Plant 2,000 net new trees by 2030 and 5,000 net new trees by 2045 to sequestrator carbon and create urban shade to reduce the urban heat island effect.**
Action CS-1.1.a	Implement a tree removal in-lieu fee which provides funding for the City to plant a new tree equivalent to every tree removed from private property.
Action CS-1.1.b	Identify funding to expand BWP's Free Shade Tree Program to include targeted outreach to multi-family and low-income housing.
Action CS-1.1.c	Adopt a Greenscaping Ordinance that has a street tree requirement for all zoning districts; has a shade tree requirement for new development; requires greening of parking lots; and increases permeable surfaces in new development.
Action CS-1.1.d	Develop an Urban Forest Plan to identify City's potential capacity for new tree planting, identify a timeframe for implementation and provide a management plan for existing trees.

ID #	Measures and Respective Supportive Actions
Action CS-1.1.e	Adopt a standard policy and set of practices for expanding the urban tree canopy and placing vegetative barriers between busy roadways and developments to reduce exposure to air pollutants from traffic.
Action CS-1.1.f	Conduct an urban canopy study and identify low income and/or disadvantaged communities with lower-than-average tree canopy coverage in order to prioritize planting in these areas to provide equitable access to the health and resiliency benefits of trees.
Strategy CG-1 City Government Actions	
CG-1.1	**Complete a triennial GGRP review and update.**
Action CG-1.1.a	Update community wide GHG emissions inventory annually in the monitoring tool.
Action CG-1.1.b	Obtain annual progress updates from BWP on energy efficiency program implementation and city-wide energy consumption.
Action CG-1.1.c	Establish reporting of annual volumes of landfill gas captured and methane fraction of landfill gas at Burbank Landfill Site No. 3 for better understanding of future landfill emissions.
Action CG-1.1.d	Update progress on GHG Reduction Measures annually in reporting tool.
Action CG-1.1.e	Regularly update the GGRP webpage to include updates on ordinances, programs, and policies implemented as part of the GGRP.
Action CG-1.1.f	Earmark funding for triennial GGRP updates.
CG-1.2	**Retrofit all City Streetlights and Outdoor Lighting at City facilities to Light-Emitting Diode (LED) by 2030.**
Action CG-1.2.a	Continue to implement the 2019 Streetlighting Master Plan for conversion of existing High-Pressure Sodium streetlights to Light-emitting Diode (LED).
Action CG-1.2.b	Continue with annual reporting of BWP's streetlight replacements, with the number of replacements and estimated annual energy savings associated with replacements.
Action CG-1.2.c	Establish a plan for converting outdoor lighting at City facilities, City parking areas, and parks to LED.
Action CG-1.2.d	Implement plan for converting all outdoor lighting at City facilities, City parking areas, and parks to LED by 2030.
CG-1.3	**Electrify 25% of existing City facilities by 2030 and 100% of existing City facilities by 2045, as well as all newly constructed City buildings.**
Action CG-1.3.a	Partner with Building and Safety to conduct an electrification opportunity assessment for all City buildings and facilities and establish a replacement plan for replacing natural gas fueled equipment with electric where practical and technologically feasible.
Action CG-1.3.b	Establish a City owned building equipment policy to replace natural gas fueled equipment at the end of useful life with electric or other alternative equipment when practical and technology is feasible and the same consideration for all newly constructed City facilities and buildings.
Action CG-1.3.c	In partnership with BWP, install photovoltaic at all City buildings where feasible to offset at least 80% of energy consumption and use excess generation to contribute to City-wide renewable energy sources.
Action CG-1.3.d	Identify and install battery energy storage systems at appropriate City facilities, and leverage projects to further promote benefits of distributed energy storage, which are directly connected to a renewable resource.
CG-1.4	**Implement a flexible employee commute program, with a target of having 25% of City employee staff time utilizing telecommuting by 2030.**
Action CG-1.4.a	Establish a subsidized transit commute program and expand the employee carpool program to reduce employee commute miles in single occupancy vehicles.

ID #	Measures and Respective Supportive Actions
Action CG-1.4.b	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.
Action CG-1.4.c	Allow 25% of employees located at the City of Burbank to telecommute or utilize flexible schedules through 2030 to reduce travel time, vehicle miles traveled (VMT), and GHG emissions.
Strategy A-1.1 Adaptation	
A-1.1	**Partner with Ready LA County to educate the community about the dangers of heat exposure and identify low-cost mechanisms to reduce impacts of extreme heat on the community.**
Action A-1.1.a	Review and update the City's Emergency Preparedness website to reflect ways to prepare for events that may be likely to increase due to climate change.
Action A-1.1.b	Work with Ready LA County to continue public education regarding the symptoms of extreme heat exposure in English, Spanish, and Armenian.
Action A-1.1.c	Identify low-cost mechanisms to reduce the impact of extreme heat on the community, especially on the most vulnerable members of society (i.e., children, the elderly, economically disadvantaged groups, and those with chronic health conditions made worse by heat exposure), and review grant opportunities to fund and implement.
Action A-1.1.d	Identify three new community locations that are either owned by the City or a trusted private entity that can serve as shelter, evacuation, and/or clean air centers for future climate emergency events in centralized areas throughout the City.
Action A-1.1.e	Investigate opportunities to integrate Internet of Things (IoT) monitoring of real time environmental data such as utility information, air composition, direct emissions or temperature tracking.
A-1.2	**Complete and implement a robust city-wide Vulnerability Assessment and Adaptation Plan.**
Action A-1.2.a	Work with the Burbank Fire Department to review and update the Local Hazard Mitigation Plan to confirm that it aligns with the Federal requirements, including identification of hazards and a climate risk assessment.
Action A-1.2.b	Identify grant funding opportunities and/or earmark additional funding opportunities to complete and implement a robust city-wide Vulnerability Assessment and Adaptation Plan.
Action A-1.2.c	Provide information on the City's website about updated climate vulnerability information and information on how the community can increase the City's adaptive capacity.
Action A-1.2.d	Upon acquisition of funding, complete a Vulnerability Assessment and Adaptation Plan that focuses on the City's most vulnerable communities and establishes specific goals to reduce the vulnerability of those most susceptible to the impacts of climate change.
A-1.3	**Develop a mechanism to evaluate biodiversity in the City as well as policies/programs to maintain or increase native species.**
Action A-1.3.a	Consider investigating a partnership with researchers and/or students at the University of California, Los Angeles (UCLA) to utilize the Biodiversity Atlas of Los Angeles to understand best practices on how to track, interpret, update, and maintain data associated with biodiversity throughout the City.
Action A-1.3.b	Provide a direct link on the City's website to the Biodiversity Atlas of Los Angeles in addition to any updated biodiversity inventories, which should be completed regularly. In addition, provide an avenue for citizen scientists to participate in reporting and tracking of species, when possible.
Action A-1.3.c	Work with Trails LA County and/or the Stough Canyon Nature Center to design and implement a program that invites all residents to visit the local natural ecosystems and utilize the local hiking trails, that also provides a multi-lingual educational component, with an emphasis on low-income and disadvantaged community members.
Action A-1.3.d	Review and identify funding opportunities to update and maintain a tracking mechanism to regularly evaluate biodiversity in the City.

Source: Burbank, City of. 2021. GGRP Update.

The measures included in the GGRP Update combined with statewide legislation and initiatives and regional transportation programs will enable the City to meet its emissions reduction target of 40

percent below 1990 levels by 2030. Table 4 shows the contribution of the statewide initiatives along with the measures included in the GGRP Update. The City needs to achieve a reduction of 382,451 MT CO_2e by 2030 to meet its goal. The estimated GHG reductions accounted for in the GGRP Update total 386,243 MT CO_2e by 2030.

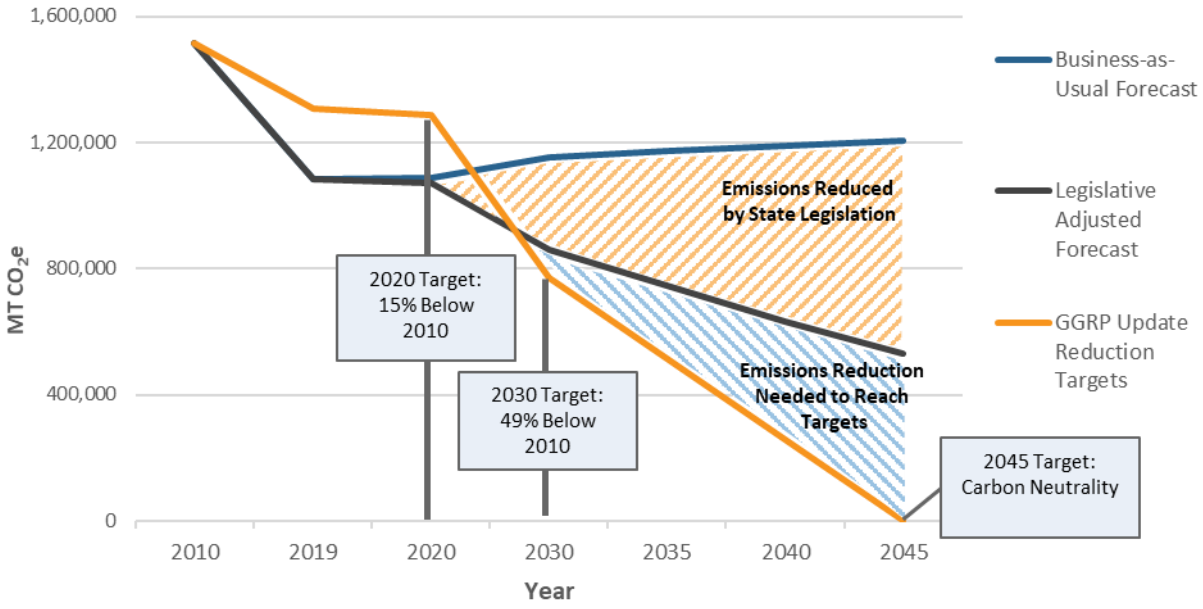
Table 4 Burbank 2030 GHG Reduction Target by Sector

State Initiative	Sector	2030 Reduction in City Emissions ($MTCO_2e$)
Advanced Clean Cars Program, Pavley Standards, Zero Emissions Vehicles Program, Clean Transit)	On-road Transportation	126,187
SB 100 and Renewable Portfolio Standard	Electricity	150,731
Title 24	Residential/Non-residential Electricity and Natural Gas	16,183
A. Total State Initiative Emissions Reductions		**295,896**
B. Total City GGRP Update Emissions Reductions		**90,347**
C. Total Expected Emissions Reductions (A+B)		**386,243**
D Burbank Emissions Reduction Requirement		**382,451**
E. Meets/exceeds State Goals? (C > D)		**Yes**

Source: Burbank, City of. 2021. GGRP Update.

Table 4 and Figure 3 illustrate how the BAU emissions are estimated to increase, thus widening the emissions reductions needed by 2030. Figure 3 also shows emissions reductions expected from State level actions as well as the reductions needed to reach the Burbank emissions target.

Figure 3 Burbank Future GHG Emissions Projection and Reduction Target



Source: Burbank, City of. 2021. Burbank GGRP.

Table 5 Burbank Future GHG Emissions Projection and Reduction Target

Description	Emissions ($MTCO_2e$)
2010 Baseline Year Emissions	1,512,713
2019 Emissions	1,084,854
2030 BAU Emissions	1,153,935
2030 Adjusted Forecast	858,039
2030 Target Emissions (49% below 1990 levels)	771,484
2030 Required Reduction from Measures	**86,555**

Source: Burbank, City of. 2020. Draft GGRP Update

Implementation of the measures (listed in Table 3) could result in physical changes to the environment that could potentially have a significant impact on the environment. While individual projects resulting from these measures have not been identified for the purposes of this document, the types of actions that could result from realization of the measures are taken into account in considering potential environmental impacts that could occur through implementation of the GGRP Update. For example, projects or actions requiring ministerial approval, such as installation of electric vehicle charging stations and supporting infrastructure, new bicycle or pedestrian facilities, and solar photovoltaic (PV), may introduce physical changes related to the temporary presence and operation of construction vehicles and equipment during installation of required facilities and the long-term presence of new facilities such as bike and pedestrian facilities, solar arrays, and electric vehicle charging stations, which could alter pedestrian and vehicular traffic patterns.

Additionally, electrification retrofits may change the physical environment through the need for upgraded service and electrical panels, branch circuit upgrades, and installation of condensate drains to facilitate the installation of electric heat pumps for water and space heating. The associated construction impacts and the physical changes these upgrades and additions would entail are dependent on the year of building construction and location of electrical and service panels and plumbing for connection of condensate drains, which in some cases may include modifications to the interior and/or exterior of buildings for wiring and panel replacement, and minor excavation for connection of drainage to sewer systems. Projects implemented in support of the GGRP Update would be reviewed for consistency with the General Plan, other applicable regulatory land use actions, and would be subject to any required environmental assessment that would be completed prior to approval of any project. Future plans or projects would be subject to environmental review under CEQA, and individual impact analyses will identify required plan- or project-specific mitigation measures where applicable. Cumulative Projects Scenario

CEQA GHG Emissions Thresholds

In 2007, SB 97 acknowledged that climate change is an environmental issue that requires analysis in CEQA documents, and in 2010 the California Natural Resources Agency adopted amendments to the State CEQA Guidelines for the feasible mitigation of GHG emissions or the effects of GHG emissions. The adopted guidelines gave lead agencies the discretion to set quantitative or qualitative thresholds for the assessment and mitigation of GHGs and climate change impacts. Specifically, Section 15183.5(b)(1)A-G of Title 14 of the California Code of Regulations was amended to state that a qualified GHG Reduction Plan may be used for tiering and streamlining the analysis of GHG emissions in subsequent CEQA project evaluation, provided that the GHG Reduction Plan does the following:

- Quantifies GHG emissions both existing and projected over a specific period of time, resulting from activities within a defined geographical area
- Establishes a level, based on substantial evidence, below which the contribution to greenhouse gas emissions from activities covered by the plan would not be cumulatively considerable
- Identifies and analyzes the GHG emissions resulting from specific actions or categories of actions anticipated within the geographic area
- Specifies measures or a group of measures, including performance standards, that substantial evidence demonstrates, if implemented on a project-by-project basis, would collectively achieve the specified emissions level
- Establishes a mechanism to monitor the plan's progress toward achieving the level and to require amendment if the plan is not achieving specified levels
- Be adopted in a public process following environmental review.

Therefore, the City proposes to also adopt a quantitative efficiency threshold for use in evaluating whether a plan or project's GHG emissions would result in a potentially significant environmental impact under CEQA for plans or projects with pre-2030 buildout or initial operation years. The CEQA GHG emissions threshold would be applied to plans or projects that cannot tier from the environmental analysis for the City's GGRP Update (as contained in this IS/ND) because the plan or project would not be consistent with the General Plan land use and zoning designations for the project site and would result in greater GHG emissions than existing on-site development, or the plan or project would not be consistent with the CEQA GHG Emissions Analysis Compliance Checklist.

The threshold is set at the level of GHG emissions that new development would need to achieve to be consistent with the GGRP Update's communitywide emissions reduction target of 49 percent below 1990 emissions levels by 2030. The efficiency threshold, listed below, is expressed in terms of MT CO_2e per service person[19] and is applicable to plans or projects with pre-2030 buildout or initial operational years:

- 3.12 per service person[20]

Efficiency thresholds for beyond 2030 would be established later in conjunction with subsequent GGRP Updates. Plans or projects that do not tier from the City GGRP Update IS/ND that would generate GHG emissions in excess of these thresholds would result in a potentially significant impact on the environment related to GHG emissions and climate change. Mitigation measures would be required to be identified to reduce potentially significant impacts resulting from such plans or projects. Plans or projects that are unable to reduce GHG emissions below these thresholds through implementation of identified mitigation measures would result in a significant and unavoidable environmental impact. The GHG Emissions Threshold provide guidance during CEQA review and do not propose development or changes to land use and zoning. Thus, implementation of the GHG Emissions Threshold would not have direct construction or operational impacts.

19 The service population is equal to the residential population plus the number of jobs.
20 Burbank, City of. 2021. GGRP Update.

7. Cumulative Projects Scenario

For purposes of CEQA cumulative impacts analysis of the Burbank GGRP Update and GHG Emissions Threshold, the cumulative projects scenario is the total projected population growth, and the anticipated cumulative development to accommodate that growth, for Burbank in 2030. Population and employment-based growth factors use the most recent SCAG *Connect SoCal* 2020 - Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) demographic forecasts.[21] Household based growth factors similarly use SCAG 2020 RTP/SCS forecast; however, these are adjusted to account for the 6th Cycle Regional Housing Needs Assessment (RHNA) allocation of housing needs for the City of Burbank between 2021 and 2030. As such, the number of households in Burbank is expected to grow by 8,752 units between 2020 and 2030, with steady growth after 2030 at a rate of 151 households per year, consistent with SCAG 2020 RTP/SCS projected growth rates for Burbank.[22] As outlined in the GGRP, the population included in the GGRP is different from the population included in the Housing Element Environmental Impact Report (EIR) because the Department of Housing and Community Development (HCD)[23] recommends that each jurisdiction create a buffer in the housing element inventory of at least 15 to 30 percent more capacity than required to ensure that sufficient capacity exists in the housing element to accommodate the Regional Housing Need Allocation throughout the planning period. Including a buffer in the GGRP could result in an overly conservative emissions reduction forecast and target because these scenarios are in part, calculated based on future population scenarios.

8. Required Approvals

City of Burbank

Required approvals include:

- Adoption of the GGRP Update and CEQA GHG Emissions Threshold Initial Study-Negative Declaration
- Adoption of the GGRP Update
- Adoption of the GHG Emissions Threshold

Although individual plans or projects may be implemented later under the umbrella of the GGRP Update, each individual plan or project would be subject to separate environmental review under CEQA.

Other Public Agencies

The City of Burbank has sole approval authority over the GGRP Update. There are no other public agencies whose approval is required.

21 Southern California Association of Governments. May 2020. Connect SoCal. Demographics and Growth Forecast. https://www.connectsocal.org/Documents/Draft/dConnectSoCal_Demographics-And-Growth-Forecast.pdf. Accessed September 22, 2020.

22 SCAG. 2020. SCAG 6th Cycle Draft RHNA Allocation Based on Final RHNA Methodology & Final Connect SoCal. https://scag.ca.gov/sites/main/files/file-attachments/rhna-draft-allocations-090320-updated.pdf?1602188695.

23 HCD. June 10, 2020. Housing Element Site Inventory Guidebook Government Code Section 65583.2. https://www.hcd.ca.gov/community-development/housing-element/docs/sites_inventory_memo_final06102020.pdf

Environmental Factors Potentially Affected

This project would potentially affect the environmental factors checked below, involving at least one impact that is "Potentially Significant" or "Less than Significant with Mitigation Incorporated" as indicated by the checklist on the following pages.

☐ Aesthetics	☐ Agriculture and Forestry Resources	☐ Air Quality
☐ Biological Resources	☐ Cultural Resources	☐ Energy
☐ Geology/Soils	☐ Greenhouse Gas Emissions	☐ Hazards & Hazardous Materials
☐ Hydrology/Water Quality	☐ Land Use/Planning	☐ Mineral Resources
☐ Noise	☐ Population/Housing	☐ Public Services
☐ Recreation	☐ Transportation	☐ Tribal Cultural Resources
☐ Utilities/Service Systems	☐ Wildfire	☐ Mandatory Findings of Significance

Determination

Based on this initial evaluation:

■ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

☐ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions to the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

☐ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

☐ I find that the proposed project MAY have a "potentially significant impact" or "less than significant with mitigation incorporated" impact on the environment, but at least one effect (1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and (2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

☐ I find that although the proposed project could have a significant effect on the environment, because all potential significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Signature	Date
Printed Name	Title

Environmental Checklist

1 Aesthetics

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Except as provided in Public Resources Code Section 21099, would the project:				
a. Have a substantial adverse effect on a scenic vista?	☐	☐	■	☐
b. Substantially damage scenic resources, including but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	■	☐
c. In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from a publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	☐	☐	■	☐
d. Create a new source of substantial light or glare that would adversely affect daytime or nighttime views in the area?	☐	☐	■	☐

a. Would the project have a substantial adverse effect on a scenic vista?

or

b. Would the project substantially damage scenic resources, including but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

According to the City of Burbank 2035 General Plan and California Scenic Highway System,[24] there are no scenic roadways or highways in the City of Burbank. However, the General Plan notes that the City has several important scenic vistas and scenic resources.[25] As stated in the General Plan Open Space and Conservation Element, scenic vistas within Burbank include views of the Verdugo Mountains to the northeast and views of the eastern Santa Monica Mountains to the south.

24 California Department of Transportation (CalTrans). https://dot.ca.gov/programs/design/lap-landscape-architecture-and-community-livability/lap-liv-i-scenic-highways Accessed February 1, 2021
25 Burbank, City of. 2013. Burbank 2035: General Plan.: https://new.burbankca.gov/documents/173607/0/Burbank2035+General+Plan.pdf/139656b0-80e9-3b11-dc6d-751642c85b38?t=1612301807431 Accessed: February 1, 2021

Downslope views from hillside development in the Verdugo Mountains toward the City and the Santa Monica Mountains beyond are also considered to be a valued resource. The Open Space and Conservation Element also defines scenic resources in Burbank as public parks and open space, such as Wildwood Canyon Park, Stough Park, Johnny Carson Park, and Brace Canyon Park. Likewise, the architecture of historic structures, such as Burbank City Hall and the Portal of the Folded Wings Shrine to Aviation in Valhalla Memorial Park, are also considered scenic resources that represent aspects of the City's history.

General Plan Open Space and Conservation Goal 7, Policies 7.1 – 7.4 and Land Use Element Goal 8, Policy 8.10, aim to protect prominent ridgelines and slopes as visual resources and consider and address the preservation of scenic views in the hillside area, respectively. Additionally, General Plan Open Space and Conservation Goal 6, Policy 6.4, promotes the acquisition, conservation, and preservation of land in the Verdugo Mountains. The Burbank Municipal Code Chapter 4 (Trees and Vegetation) as well as General Plan Open Space and Conservation Goals 4, 6, and 7 require preservation and protection of trees and other natural constraints, including ridgelines geologic features, and open space, from unnecessary encroachment or destruction.[26] Furthermore, General Plan Land Use Policy 3 as well as Open Space and Conservation Goals 1 and 6, require the preservation of the natural landscape and historic character of districts, neighborhoods, and landmarks. The GGRP Update would promote infrastructure development and redevelopment that is complimentary to existing development, natural features, and land uses.

The GHG Emissions Threshold provides guidance during environmental review and does not propose development or changes to land use and zoning. Thus, implementation of the GHG Emissions Threshold would not have construction or operational impacts related to scenic vistas or scenic highways. As a policy document, the GGRP Update would not result in impacts related to scenic vistas and scenic highways. However, implementation of the following measures may promote infrastructure development and redevelopment through policies and programs. Measure BE-1.1 and BE-1.2 promote electrification of newly constructed and existing buildings, while Measure C-1.1 and EG-1.1 promote installation of solar panels to facilitate the switching of building fuel and aim also to develop a battery storage program. Measure T-1.1 involves the implementation of the Complete Our Streets Plan, that would include the installation of new bicycle and pedestrian facilities/infrastructure and Measure T-3.1 encourages the installation of electric vehicle charging stations and supporting infrastructure. Furthermore, Measure CS-1.1, facilitates the preparation of an Urban Forest Master Plan and seeks to plant and maintain 2,000 net new trees by the year 2030. Planting new street trees and private trees may slightly change the visual character of the City. The physical changes these installations and enhancements would entail are dependent on the location of construction for the solar panels, electric vehicle charging connections, active transportation pathways, and trees/green spaces.

Projects implemented in support of the GGRP Update would be required to adhere to City development regulations and General Plan policies to retain character of the City and minimize environmental impacts. In addition, Projects implemented in support of the GGRP Update would be reviewed for consistency with the General Plan, other applicable regulatory land use actions, and would be subject to any required environmental assessment that would be completed prior to approval of any project. As such, the GGRP Update would not result in adverse impacts related to scenic vistas, viewing corridors, or scenic roadways within the City. Furthermore, due to intervening

26 Burbank, City of. 2013. Burbank 2035: General Plan. https://new.burbankca.gov/documents/173607/0/Burbank2035+General+Plan.pdf/139656b0-80e9-3b11-dc6d-751642c85b38?t=1612301807431 Accessed: February 1, 2021

development typical of an urban setting, proposed projects included in the GGRP Update would not likely be visible from the scenic vistas or resources. Thus, scenic resources such as trees, rock outcroppings, and historic buildings would not be damaged within a scenic highway. Therefore, the GGRP Update and GHG Thresholds would result in a less than significant impact related to scenic vistas and related to scenic resources within scenic highways.

LESS THAN SIGNIFICANT IMPACT

c. Would the project, in non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those experienced from a publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?

The City of Burbank is an urbanized area with visual character/quality goals and policies included in the City General Plan Open Space and Conservation Element to preserve and protect the scenic and visual quality of the community. The GHG Emissions Threshold provides guidance during CEQA review and does not propose development or changes to land use and zoning. Thus, implementation of the GHG Emissions Threshold would not have construction or operational impacts related to visual character and scenic quality. Likewise, the GGRP Update would not involve land use or zoning changes but would instead promote infrastructure development and redevelopment through policies and programs. Implementation of the following measures may promote infrastructure development and redevelopment that may impact visual character Measure BE-1.1 and BE-1.2 promote electrification of newly constructed and existing buildings, while Measure C-1.1 and EG-1.1 promote installation of solar panels to facilitate the switching of building fuel and aim also to develop a battery storage program. Measure T-1.1 involves the implementation of the Complete Our Streets Plan that would include the installation of new bicycle and pedestrian/infrastructure facilities and Measure T-3.1 encourages the installation of electric vehicle charging stations and supporting infrastructure. Furthermore, Measure CS-1.1, facilitates the preparation of an Urban Forest Master Plan and requires planting and maintaining 2,000 net new trees by the year 2030.

Installation of solar panels and electric vehicle charging stations, introduction of active transportation infrastructure, and planting trees may slightly change visual character in the City. However, any projects would be located and designed to be complimentary to existing development and land uses in a manner consistent with applicable zoning and other regulations governing visual character and quality within the City of Burbank. In addition, projects implemented in support of the GGRP Update would be reviewed for consistency with the General Plan, and other applicable regulatory land use actions, and would be subject to any required environmental assessment that would be completed prior to approval of any project. Future plans or projects would be subject to environmental review under CEQA, and individual impact analyses will identify required plan- or project-specific mitigation measures where applicable. Therefore, the GGRP Update and GHG Thresholds would result in a less than significant impact related to regulations of visual character and quality.

LESS THAN SIGNIFICANT IMPACT

d. Would the project create a new source of substantial light or glare that would adversely affect daytime or nighttime views in the area?

The GHG Emissions Threshold provides guidance during CEQA review and does not propose development or changes to land use and zoning. Thus, implementation of the GHG Emissions

Threshold would not have construction or operational impacts related to light and glare. Likewise, the GGRP Update would not involve land use or zoning changes. Rather the GGRP Update would promote infrastructure development and redevelopment that is complimentary to existing development and land uses. As a policy document, the GGRP Update would not directly result in impacts related to light and glare. However, implementation of the following measures may promote infrastructure development and redevelopment. Measure EG-1.1 promotes installation of solar panels to facilitate fuel switching. Measure T-1.1 involves the implementation of the Complete Our Streets Plan, which would include installation of new bicycle and pedestrian facilities/infrastructure; Measure T-1.2 intends to provide clean, abundant, affordable, and accessible public transit, with a zero-emissions bus fleet by 2030; Measure T-3.1 facilitates the installation of electric vehicle charging stations and supporting infrastructure. Furthermore, Measure CS-1.1, facilitates the preparation of an Urban Forest Master Plan and seeks to plant and maintain 2,000 net new trees by the year 2030.

Projects implemented in support of the GGRP Update would be reviewed for consistency with the City Municipal Code to minimize environmental impacts related to light and glare through limitations of materials and shielding light structures. Presumably design and location of proposed solar infrastructure would be complimentary to existing development in the City. In addition, projects implemented in support of the GGRP Update would be reviewed for consistency with the General Plan, and other applicable regulatory land use actions, and would be subject to any required environmental assessment that would be completed prior to approval of any project. Future plans or projects would be subject to environmental review under CEQA, and individual impact analyses will identify required plan- or project-specific mitigation measures where applicable. Thus, the GGRP Update and GHG Threshold would result in a less than significant impact related to light and glare.

LESS THAN SIGNIFICANT IMPACT

Cumulative Impacts

The cumulative projects scenario is total projected population growth for Burbank (109,686 persons) in 2030. Cumulative impacts related to scenic resources, visual character, and increased light and glare would generally be site-specific, and cumulative projects are not anticipated to contribute to cumulative aesthetic impacts with adherence to General Plan policies and the Municipal Code. Because of the developed nature of Burbank, future infrastructure projects under the GGRP Update, in combination with other cumulative projects, would not adversely impact the visual character of the City. In addition, future development in the City would be required to comply with the City's Development Review process and be reviewed against applicable General Plan policies and City's design standards for design quality and compatibility with adjacent land uses. Furthermore, as a guidance document, the GHG Emissions Thresholds would not result in cumulative impacts. Therefore, implementation of the GGRP Update and GHG Thresholds would result in a less than significant cumulative impact related to aesthetics.

LESS THAN SIGNIFICANT IMPACT

2 Agriculture and Forestry Resources

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	■
b. Conflict with existing zoning for agricultural use or a Williamson Act contract?	☐	☐	☐	■
c. Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)); timberland (as defined by Public Resources Code Section 4526); or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?	☐	☐	☐	■
d. Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	■
e. Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☐	■

a. Would the project convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?

or

b. Would the project conflict with existing zoning for agricultural use or a Williamson Act contract

The City of Burbank does not contain farmland or lands used for agricultural purposes.[27] Therefore, the GGRP Update and GHG Threshold would result in no impact related to degradation of

27 Burbank, City of. 2013. Burbank 2035: General Plan. https://new.burbankca.gov/documents/173607/0/Burbank2035+General+Plan.pdf/139656b0-80e9-3b11-dc6d-751642c85b38?t=1612301807431. Accessed January 1, 2021.

agricultural resources or conversion of agricultural land to non-agriculture uses, nor would there be a conflict with existing zoning or general plan land use designations.

NO IMPACT

c. Would the project conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)); timberland (as defined by Public Resources Code Section 4526); or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?

or

d. Would the project result in the loss of forest land or conversion of forest land to non-forest use?

The City does not contain forest or timberland resources. Additionally, Measure CS-1.1, facilitates the preparation of an Urban Forest Master Plan and seeks to plant and maintain 2,000 net new trees by the year 2030. Therefore, the GGRP Update and GHG Threshold would result in no impact related to degradation of forestry resources or conversion of forest land to non-forest uses, nor would there be a conflict with existing zoning or General Plan land use designations.

NO IMPACT

e. Would the project involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use?

See impact discussions above under Topics 2a through 2d. The GGRP Update and GHG Threshold would not result in other changes to the existing environment which, due to their location or nature, would result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use. No impact would occur.

NO IMPACT

Cumulative Impacts

The cumulative projects scenario is total projected population growth for Burbank (109,686 persons) in 2030. The City does not contain farmland or lands used for agricultural purposes. Additionally, the City does not contain forest or timberland resources. Cumulative projects are not anticipated to contribute to cumulative forestry impacts with adherence to General Plan policies. In addition, the GGRP Update and GHG Threshold would not involve land use or zoning changes that could result in cumulative impacts related to conversion or loss of farmland or forest land. Therefore, implementation of the GGRP Update and GHG Threshold would result in no cumulative impact related to agricultural and forestry resources.

NO IMPACT

3 Air Quality

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☐	■
b. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?	☐	☐	■	☐
c. Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	■	☐
d. Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	☐	☐	■	☐

a. Would the project conflict with or obstruct implementation of the applicable air quality plan?

Burbank is located within the South Coast Air Basin (the Air Basin), which includes all of Orange County and the non-desert regions of Los Angeles County, Riverside County, and San Bernardino County. The Air Basin is under the jurisdiction of the South Coast Air Quality Management District (SCAQMD). As the local air quality management agency, SCAQMD is required to monitor air pollutant levels to ensure that State and federal air quality standards are met and, if they are not met, to develop strategies to meet the standards. Depending on whether or not the standards are met or exceeded, the South Coast Air Basin is classified as being in "attainment" or "nonattainment." Under State law, air districts are required to prepare a plan for air quality improvement for pollutants for which the district is in non-attainment. SCAQMD is in non-attainment for the State and federal ozone standards, the State and federal $PM_{2.5}$ (particulate matter up to 2.5 microns in size) standards, and the State PM_{10} (particulate matter up to 10 microns in size) standards, and the federal lead standards and is required to prepare a plan for improvement.[28]

The SCAQMD Clean Air Plan (Air Quality Management Plan [AQMP]) provides a plan to improve South Coast Air Basin air quality and protect public health as well as the climate. The most recent (2016) AQMP complies with State air quality planning requirements as codified in the California Health and Safety Code. The 2016 AQMP seeks to achieve multiple goals promoting reductions in criteria pollutant, greenhouse gases, and toxic risk, as well as efficiencies in energy use, transportation, and goods movement. The most effective way to reduce air pollution impacts on the

28 South Coast Quality Management District (SCAQMD). 2018. National and California Ambient Air Quality Standards Attainment Status for South Coast Air Basin. Available: http://www.aqmd.gov/docs/default-source/clean-air-plans/air-quality-management-plans/naaqs-caaqs-feb2016.pdf?sfvrsn=14. Accessed February 22, 2021

health of the approximately 17 million residents in the Air Basin, including those in disproportionally impacted communities that are concentrated along our transportation corridors and goods movement facilities, is to reduce emissions from mobile sources, the principal contributor to our air quality challenges. Thus, the SCAQMD works closely with CARB and the United States Environmental Protection Agency (U.S. EPA) who have primary responsibility for these sources. The 2016 AQMP also includes transportation control measures developed by the Southern California Association of Governments (SCAG) from the 2016 Regional Transportation Plan/ Sustainable Communities Strategy (RTP/SCS).[29]

The Federal Clean Air Act Amendments (CAAA) mandate that states submit and implement a State Implementation Plan (SIP) for areas not meeting air quality standards. The SIP includes pollution control measures to demonstrate how the standards will be met through those measures. The SIP is established by incorporating measures established during the preparation of AQMP and adopted rules and regulations by each local Air Pollution Control Districts and Air Quality Management Districts, which are submitted for approval to CARB and the U.S. EPA.[30] The goal of an AQMP is to reduce pollutant concentrations below the National Ambient Air Quality Standards (NAAQS) through the implementation of air pollutant emissions controls.

The GHG Emissions Threshold is a guidance document and does not propose development or changes to land use and zoning. Thus, implementation of the GHG Emissions Threshold would not result in construction or operational impacts. Additionally, the GGRP Update would not involve land use or zoning changes but would rather promote infrastructure development and redevelopment. Implementation of proposed measures would be beneficial by helping Burbank meet applicable air quality plan goals and generally reducing sensitive receptor exposure to pollutant concentrations. Although the purpose and intended effect of the GGRP Update is to reduce GHG emissions generated in the City to help reduce the effects of climate change, many of its measures and supporting actions would also reduce criteria pollutant (i.e., air quality) emissions.

Measure BE-1.1 and BE-1.2 promote electrification of newly constructed and existing buildings, while Measure BE-1.3 aims to reduce per-service population energy demand. Measure EG-1.1 promotes installation of solar panels to facilitate the switching of building fuel and aims also to develop a battery storage program. Measure T-1.1 involves the implementation of the Complete Our Streets Plan that would include the installation of new bicycle and pedestrian facilities/infrastructure; Measure T-1.2 intends to provide clean, abundant, affordable, and accessible public transit, with a zero-emissions bus fleet by 2030; and T-2.1 and T-2.2 require the continuation of Transportation Management Organization (TMO) Expansion, reaching 60 percent of employees by 2030 and 90 percent by 2045 and the strengthening of the TMO program and ordinance to increase compliance with the City's 1.61 Average Vehicle Ridership (AVR), respectively. The GGRP Update also includes Measure T-3.1 that encourages the installation of electric vehicle charging stations and supporting infrastructure and Measure T-4.1, which aims to implement Parking Management as identified in the Burbank2035 General Plan Mobility Element and the City Council's Six Parking Management Principles. Additionally, the GGRP Update includes Measure W-1.1, which intends to continue to reduce per service population potable water, and therefore, energy, consumption.

29 SCAQMD. 2016. Final SCAQMC Air Quality Management Plan. http://www.aqmd.gov/home/air-quality/clean-air-plans/air-quality-mgt-plan/final-2016-aqmp Accessed September 28, 2020.
30 CARB. 2016. State Strategy for the State Implementation Plan for Federal Ozone and PM2.5 Standards. https://ww3.arb.ca.gov/planning/sip/2016sip/2016sip.htm Accessed September 28, 2020.

In addition to the measures aimed at the community, the GGRP Update also includes measures that are specific to City government operations, including Measures CG-1.2 through CG-1.4, which require retrofitting all City streetlights and outdoor lighting to LED by 2030; electrification of City facilities; and implementation of a flexible employee commute program. These measures would decrease the use of non-renewable fuel sources for residential and non-residential land use operations. These energy- and transportation-related measures would reduce air quality emissions as well as GHG emissions. Therefore, the GGRP Update and GHG Threshold are consistent with the 2016 AQMP and would have no impact related to a conflict with or obstruction of the applicable air quality plan.

NO IMPACT

b. Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?

The GHG Emissions Threshold provides guidance during CEQA review and does not propose development or changes to land use and zoning. Thus, implementation of the GHG Emissions Threshold would not result in construction or operational impacts related to an increase of criteria pollutants. The GGRP Update would not involve land use or zoning changes but would instead promote infrastructure development and redevelopment. As a policy document, the GGRP Update would not result in impacts related to criteria pollutants. However, implementation of the following measures may promote infrastructure development and redevelopment.

Measure BE-1.1 and BE-1.2 promote electrification of newly constructed and existing buildings, while Measure C-1.1 and EG-1.1 promote installation of solar panels to facilitate the switching of building fuel and aim also to develop a battery storage program. Measure T-1.1 involves the implementation of the Complete Our Streets Plan, which would include the installation of new bicycle and pedestrian facilities and infrastructure, as well as Measure T-3.1, which encourages the installation of electric vehicle charging stations and supporting infrastructure. Furthermore, Measure CS-1.1, facilitates the preparation of an Urban Forest Master Plan and requires planting and maintaining 2,000 net new trees by the year 2030. Construction-related air quality impacts are generally associated with fugitive dust (PM_{10} and $PM_{2.5}$) and exhaust emissions from heavy construction vehicles and soil-hauling trucks, in addition to Reactive Organic Gas (ROG) that would be released during architectural coatings drying. However, future projects or plans would be reviewed for consistency with SCAQMD air quality regulations and other applicable local, State, and Federal regulations once project details and locations are known because future plans or projects would be subject to environmental review under CEQA, and individual impact analyses will identify required plan- or project-specific mitigation measures where applicable. Thus, construction associated with implementation of the GGRP Update would result in a less than significant impact related to net increase of criteria pollutants.

With respect to operational emissions, many measures would have the secondary benefit of reducing criteria pollutant emissions. Measures included in the GGRP Update aim to increase citywide renewable energy use, promote electric vehicles, reduce building natural gas use, reduce on-road gasoline fuel use, and reduce vehicle miles traveled. Implementation of such measures would be beneficial by helping Burbank meet applicable air quality plan goals. In addition, projects implemented in support of the GGRP Update would be reviewed for consistency with the General Plan, and other applicable regulatory land use actions, and would be subject to any required environmental assessment that would be completed prior to approval of any project. Therefore, the

GGRP Update and GHG Threshold would result in a less than significant impact related to criteria pollutant emissions.

LESS THAN SIGNIFICANT IMPACT

c. Would the project expose sensitive receptors to substantial pollutant concentrations?

The GHG Emissions Threshold provides guidance during CEQA review and does not propose development or changes to land use and zoning. Thus, implementation of the GHG Emissions Threshold would not result in construction or operational impacts related to exposure of sensitive receptors to substantial pollutant concentrations. Implementation of the following measures may promote infrastructure development and redevelopment.

Measure BE-1.1 and BE-1.2 promote electrification of newly constructed and existing buildings, while Measure C-1.1 and EG-1.1 promote installation of solar panels to facilitate the switching of building fuel and aim also to develop a battery storage program. Measure T-1.1 involves the implementation of the Complete Our Streets Plan, that would include the installation of new bicycle and pedestrian facilities/infrastructure and Measure T-3.1 encourages the installation of electric vehicle charging stations and supporting infrastructure. Furthermore, Measure CS-1.1, facilitates the preparation of an Urban Forest Master Plan and seeks to plant and maintain 2,000 net new trees by the year 2030.

Construction-related air quality impacts are generally associated with fugitive dust (PM_{10} and $PM_{2.5}$) and exhaust emissions from heavy construction vehicles and soil hauling trucks, in addition to ROG that would be released during the drying phase upon application of architectural coatings. While the GGRP Update could result in construction-related impacts from toxic air contaminants and exposure to sensitive receptors, projects included in the GGRP Update would be reviewed for consistency to comply with SCAQMD air quality regulations and other applicable local, State, and federal regulations once project details and locations are known because future plans or projects would be subject to environmental review under CEQA, and individual impact analyses will identify required plan- or project-specific mitigation measures where applicable. Thus, the construction associated with implementation of the GGRP Update would not result in substantial emissions of toxic air contaminants and exposure to sensitive receptors. No operational toxic air contaminant emissions are anticipated with implementation of the GGRP Update. Therefore, the GGRP Update and GHG Thresholds would have a less than significant impact related to exposure of sensitive receptors to toxic air contaminants.

LESS THAN SIGNIFICANT IMPACT

d. Would the project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

The CARB 2005 Air Quality Land Use Handbook: A Community Health Perspective identifies land uses associated with odor complaints, which include: sewage treatment plants, landfills, recycling facilities, waste transfer stations, petroleum refineries, biomass operations, auto body shops, coating operations, fiberglass manufacturing, foundries, rendering plants, and livestock operations.[31] The GHG Emissions Threshold provides guidance during CEQA review and does not propose development or changes to land use and zoning. Thus, implementation of the GHG Emissions Threshold would not have construction or operational impacts related to odors. Measure

31 California Air Resources Control Board (CARB). 2005. Air Quality and Land Use Handbook: A Community Health Perspective. https://ww3.arb.ca.gov/ch/handbook.pdf. Accessed February 3, 2021

SW-1.1 and promotes participation in recycling and organic waste programs and reducing such waste going to landfills to achieve 75 percent reduction in waste-related GHG emissions by 2025. As such, the GGRP Update could result in minor odors related to compost. However, green waste collection bins and compost application are not identified on the list of "Sources of Odor Complaints" (Table 1-4) as provided in the CARB Air Quality Land Use Handbook and would not be anticipated to result in other emissions, such as those leading to odors, adversely affecting a substantial number of people. Therefore, the GGRP Update and GHG Threshold would not facilitate development that could create adverse odors, and there would be a less than significant impact related to odors exposure.

LESS THAN SIGNIFICANT IMPACT

Cumulative Impacts

The cumulative projects scenario is total projected population growth for Burbank (109,686 persons) in 2030. The cumulative projects could exceed applicable SCAQMD thresholds or be inconsistent with the Clean Air Plan. However, implementation of the GGRP Update and GHG Threshold would have a less than significant contribution related to potential cumulative air quality impacts within the air basin and on sensitive receptors within the City of Burbank, given that the GGRP Update would result in Citywide reduction of GHG emissions, energy use, single-occupancy vehicle travel, water use, and waste generation. As such, implementation of the GGRP Update and GHG Threshold would not result in adverse impacts related to contribution of criteria pollutants to the air basin, exposure of sensitive receptors to toxic air contaminants, or odors. Therefore, implementation of the GGRP Update and GHG Threshold would result in a less than significant cumulative impact related to air quality.

LESS THAN SIGNIFICANT IMPACT

4 Biological Resources

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	☐	☐	■	☐
b. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	☐	☐	■	☐
c. Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	■	☐
d. Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	■	☐
e. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☐	■
f. Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	■

a. Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?

Burbank is a primarily urbanized community with parks and recreational and open spaces incorporated throughout the City. The City's Municipal Code Chapter 4 (Trees and Vegetation), as well as the General Plan Open Space and Conservation Element incorporate goals and policies to protect biological resources, such as trees and other plant habitats, as well as wildlife.

The GHG Emissions Threshold provides guidance during CEQA review and does not propose development or changes to land use and zoning. Thus, implementation of the GHG Emissions Threshold would not have construction or operational impacts related to habitat modification. The GGRP Update would not involve land use or zoning changes but would instead promote infrastructure development and redevelopment. As a policy document, the GGRP Update would not directly result in impacts related to wildlife species identified as candidate, sensitive, or special status. However, implementation of the following GGRP Update measures may promote infrastructure development and redevelopment and may result in impacts to species through habitat modification for purposes of infrastructure installation.

Measure BE-1.1 and BE-1.2 promote electrification of newly constructed and existing buildings, while Measure C-1.1 and EG-1.1 promote installation of solar panels to facilitate the switching of building fuel and aim also to develop a battery storage program. Measure T-1.1 involves the implementation of the Complete Our Streets Plan, that would include the installation of new bicycle and pedestrian facilities/infrastructure and Measure T-3.1 encourages the installation of electric vehicle charging stations and supporting infrastructure. Furthermore, Measure CS-1.1, facilitates the preparation of an Urban Forest Master Plan and seeks to plant and maintain 2,000 net new trees by the year 2030.

Future related projects would be required to undergo environmental review, including assessment and mitigation incorporation once project details and locations are known. The measures included in the GGRP Update would not conflict with the Municipal Code or goals/policies of the General Plan Open Space and Conservation Element but would rather be consistent with and promote those plans. As such, the GGRP Update and GHG Threshold itself would not have a substantial adverse effect on special-status wildlife species either directly through individual take or indirectly through species habitat modification. Therefore, the GGRP Update and GHG Threshold would result in a less than significant impact related to special-status wildlife species.

LESS THAN SIGNIFICANT IMPACT

b. Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?

or

c. Would the project have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

The GHG Emissions Threshold provides guidance during CEQA review and does not propose development or changes to land use and zoning. Thus, implementation of the GHG Emissions Threshold would not have construction or operational impacts related to riparian or other special habitats. The GGRP Update would not involve land use or zoning changes but would instead promote infrastructure development and redevelopment. As a policy document, the GGRP Update could result in impacts related to habitat whether riparian, wetland, or other sensitive natural community. According to the General Plan Open Space and Conservation Element, opportunities for wildlife (e.g., birds and mammals) habitat protection in Burbank include undeveloped or primarily undisturbed opens space areas, including Wildwood Canyon Park and Stough Canyon Park, which are the two largest parks in the City and are located in the Verdugo Mountains.[32]

Measure BE-1.1 and BE-1.2 promote electrification of newly constructed and existing buildings, while Measure C-1.1 and EG-1.1 promote installation of solar panels to facilitate the switching of building fuel and aim also to develop a battery storage program. Measure T-1.1 involves the implementation of the Complete Our Streets Plan, that would include the installation of new bicycle and pedestrian facilities/infrastructure and Measure T-3.1 encourages the installation of electric vehicle charging stations and supporting infrastructure. Furthermore, Measure CS-1.1, facilitates the preparation of an Urban Forest Master Plan and seeks to plant and maintain 2,000 net new trees by the year 2030.

Future related projects would be required to undergo environmental review, including assessment and mitigation incorporation once project details and locations are known. Projects would be reviewed for consistency with applicable local, regional, and State regulations once project details and locations are known. These measures and actions would not conflict with the Municipal Code or objectives and policies of the General Plan but would rather be consistent with and promote those plans. As such, the GGRP Update and GHG Threshold would not have a substantial adverse effect on riparian habitat or sensitive natural community, such as wetlands. Therefore, the GGRP Update and GHG Threshold would have a less than significant impact related to sensitive natural plant communities.

LESS THAN SIGNIFICANT IMPACT

d. Would the project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

The GHG Emissions Threshold provides guidance during CEQA review and does not propose development or changes to land use and zoning. Thus, implementation of the GHG Emissions Threshold would not have construction or operational impacts related to interference with species

32 Burbank, City of. 2013. Burbank 2035: General Plan. Available: https://new.burbankca.gov/documents/173607/0/Burbank2035+General+Plan.pdf/139656b0-80e9-3b11-dc6d-751642c85b38?t=1612301807431. Accessed January 5, 2021

movement. The GGRP Update would not involve land use or zoning changes, but would instead promote infrastructure development and redevelopment. As a policy document, the GGRP Update would not result in impacts related to interference with species movement. However, implementation of the following GGRP Update measures may promote infrastructure development and redevelopment.

Measure BE-1.1 and BE-1.2 promote electrification of newly constructed and existing buildings, while Measure C-1.1 and EG-1.1 promote installation of solar panels to facilitate the switching of building fuel and aim also to develop a battery storage program. Measure T-1.1 involves the implementation of the Complete Our Streets Plan, that would include the installation of new bicycle and pedestrian facilities/infrastructure and Measure T-3.1 encourages the installation of electric vehicle charging stations and supporting infrastructure. Furthermore, Measure CS-1.1, facilitates the preparation of an Urban Forest Master Plan and seeks to plant and maintain 2,000 net new trees by the year 2030.

Future related projects would be required to undergo environmental review, including assessment and mitigation incorporation once project details and locations are known. These GGRP Update measures and supporting actions do not conflict with the Municipal Code or objectives and policies of the General Plan and instead are consistent with and promote those plans. Therefore, the GGRP Update and GHG Emissions Threshold would result in a less than significant impact related to interference with species movement.

LESS THAN SIGNIFICANT IMPACT

e. Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

Burbank is a primarily urbanized community with neighborhood parks, community parks, and recreational spaces throughout the City.[33] The Burbank General Plan Open Space and Conservation Element incorporate goals and policies related to natural resources protection in the City. However, the City is not located within the jurisdiction of an adopted habitat conservation plan, natural community plan, or other approved local, regional, or State habitat conservation plan.

The GHG Emissions Threshold provides guidance during CEQA review and does not propose development or changes to land use and zoning. Thus, implementation of the GHG Emissions Threshold would not have construction or operational impacts related to biological resources. The GGRP Update does not involve land use or zoning changes but would rather promote infrastructure development and redevelopment. The purpose and intended effect of the GGRP Update is to reduce GHG emissions generated within the Burbank community, including related to City municipal operations, to help reduce the effects of climate change. Implementation of proposed measures and actions would be beneficial by helping Burbank meet applicable local policies and ordinances for protecting natural and biological resources. The GGRP Update would not conflict with or obstruct implementation of the applicable policies for preserving biological resources and would not affect the City's ability to attain goals and policies that protect biological resources. Therefore, the GGRP Update and GHG Threshold would result in no impact related to consistency with local biological resources protection policies.

NO IMPACT

33 Burbank, City of. February 19, 2013. Burbank 2035: General Plan. <vhttps://new.burbankca.gov/documents/173607/0/Burbank2035+General+Plan.pdf/139656b0-80e9-3b11-dc6d-751642c85b38?t=1612301807431>. Accessed February 5, 2021.

f. Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

The Burbank General Plan Open Space and Conservation Element includes an inventory of open space resources as well as goals and policies to preserve natural resources, such as plant and wildlife habitats in the City. However, the City is not located within the jurisdiction of an adopted habitat conservation plan, natural community plan, or other approved local, regional, or State habitat conservation plan. As such, the GGRP Update would not facilitate specific development projects, nor would it add or enable new development that would conflict with the adopted Municipal Code, General Plan, or other approved local, regional, or State habitat conservation plan. Therefore, the GGRP Update and GHG Threshold would have no impact related to consistency with an adopted habitat or natural community conservation plan.

NO IMPACT

Cumulative Impacts

The cumulative projects scenario is total projected population growth for Burbank (109,686 persons) in 2030. Implementation of cumulative projects could result in impacts to biological resources during infrastructure and building construction. The GGRP Update would promote infrastructure development and redevelopment. However, infrastructure development or redevelopment resulting from implementation of the GGRP Update would be required to comply with applicable General Plan policies and State and federal regulatory requirements regarding avoidance of special wildlife species and habitat. Furthermore, as a guidance document, the GHG Emissions Thresholds would not result in cumulative impacts. Therefore, implementation of the GGRP Update and GHG Thresholds would result in a less than significant cumulative impact related to biological resources.

LESS THAN SIGNIFICANT IMPACT

5 Cultural Resources

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?	☐	☐	■	☐
b. Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☐	☐	■	☐
c. Disturb any human remains, including those interred outside of formal cemeteries?	☐	☐	■	☐

a. Would the project cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?

The City has put forth preservation regulations through the Historic Resources Management Ordinance outlining designation and maintenance of historic properties and duties of the Heritage Commission.[34] Additionally, Burbank has three properties listed under the National Register of Historic Places, including the Burbank City Hall and Burbank Post Office.[35]

The GHG Emissions Threshold provides guidance during CEQA review and does not propose development or changes to land use and zoning. Thus, implementation of the GHG Emissions Threshold would not result in construction or operational impacts related to historical resources. The GGRP Update would not involve land use or zoning changes. Rather the GGRP Update would promote infrastructure development and redevelopment.

The GGRP Update would not involve land use or zoning changes but would promote building energy retrofits as well as infrastructure development and redevelopment that would be complimentary to existing development. Projects in Burbank would be required to comply with the Historic Resources Management Ordinance and General Plan Open Space and Conservation Element, which requires the identification acquisition, and management of sites and structures of architectural, historical, archaeological, and cultural significance.[36] This includes sites, structures, and areas that are associated with a historic event, activity, or persons that contribute to the historic character of districts, neighborhoods, landmarks, historic structures, and artifacts.

Implementation of the following measures may promote infrastructure development and redevelopment. Measure BE-1.1 and BE-1.2 promote electrification of newly constructed and

34 Burbank, City of. Historic Preservation in Burbank. https://www.burbankca.gov/web/community-development/historic-preservation-program Accessed August 12, 2021.
35 National Parks Service. National Register Database and Research. https://www.nps.gov/subjects/nationalregister/database-research.htm Accessed February 5, 2021.
36 Burbank, City of. 2013. General Plan. <https://new.burbankca.gov/documents/173607/0/Burbank2035+General+Plan.pdf/139656b0-80e9-3b11-dc6d-751642c85b38?t=1612301807431> Accessed February 5, 2021.

existing buildings, while Measure C-1.1 and EG-1.1 promote installation of solar panels to facilitate the switching of building fuel and aim also to develop a battery storage program. Measure T-1.1 involves the implementation of the Complete Our Streets Plan that would include the installation of new bicycle and pedestrian facilities/infrastructure and Measure T-3.1 encourages the installation of electric vehicle charging stations and supporting infrastructure. Furthermore, Measure CS-1.1, facilitates the preparation of an Urban Forest Master Plan and seeks to plant and maintain 2,000 net new trees by the year 2030. The physical changes these upgrades and additions would entail are dependent on the year of building construction and location of electrical and service panels and plumbing for connection of condensate drains, which in some cases may include modifications to the interior and/or exterior of buildings for wiring and panel replacement and minor excavation for connection of drainage to sewer systems. However, it is anticipated that retrofit activities would avoid alterations to the historic materials and distinguishing character (e.g., overall shape of the building, its materials, craftsmanship, decorative details, interior spaces and features, and aspects of its site and environment) of identified historic resources and, if warranted, be reviewed by the Heritage Commission. As such, implementation of the GGRP Update would not conflict with or obstruct the City's ability to comply with applicable historical resources preservation policies. Therefore, the GGRP Update and GHG Threshold would result in a less than significant impact related to historical resources.

LESS THAN SIGNIFICANT IMPACT

b. Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?

The City of Burbank has not identified known archeological sites within its City limits.[37,38] However, as-yet to be discovered or unknown sites or resources may exist. The GHG Emissions Threshold provides guidance during CEQA review and does not propose development or changes to land use and zoning. Thus, implementation of the GHG Emissions Threshold would not have construction or operational impacts related to archaeological resources.

The GGRP Update would not involve land use or zoning changes but would promote building energy retrofits as well as infrastructure development and redevelopment. For example, Measure BE-1.1 and BE-1.2 promote electrification of newly constructed and existing buildings, while Measure C-1.1 and EG-1.1 promote installation of solar panels to facilitate the switching of building fuel and aim also to develop a battery storage program. Measure T-1.1 involves the implementation of the Complete Our Streets Plan that would include the installation of new bicycle and pedestrian facilities/infrastructure and Measure T-3.1 encourages the installation of electric vehicle charging stations and supporting infrastructure. Furthermore, Measure CS-1.1, facilitates the preparation of an Urban Forest Master Plan and seeks to plant and maintain 2,000 net new trees by the year 2030. The physical changes these installations and enhancements would entail are dependent on the location of construction for the electric vehicle charging connections, active transportation.

As a policy document, the GGRP Update would not directly result in impacts related to archaeological resources. Implementation of the GGRP Update measures and supporting actions may promote infrastructure development and redevelopment that could result in an impact on these resources during construction. Future related projects would be required to undergo environmental review, including assessment and mitigation incorporation once project details and locations are known. The GGRP Update would not conflict with or obstruct the applicable policies

for preserving archeological resources and would not affect the City's ability to attain goals and policies that protect archeological resources. Therefore, the GGRP Update and GHG Emissions Threshold would result in a less than significant impact related to archaeological resources.

LESS THAN SIGNIFICANT IMPACT

c. Would the project disturb any human remains, including those interred outside of formal cemeteries?

There are no known burial points or burial sensitivity areas within the City.[39,] However, there is the possibility of encountering unknown buried archaeological deposits and human remains throughout Burbank. Impacts to historic and archaeological resources are generally site-specific. The GHG Emissions Threshold provide guidance during CEQA review and do not propose development or changes to land use and zoning. Thus, implementation of the GHG Emissions Threshold would not have construction or operational impacts related to human remains. The GGRP Update would not involve land use or zoning changes. Rather the GGRP Update would promote infrastructure development and redevelopment

As a policy document, the GGRP Update would not directly result in impacts related to human remains. Implementation of the GGRP Update measures and supporting actions may promote infrastructure development and redevelopment that could have an impact on these resources during construction. However, consistent with California Health and Safety Code Section 7050.5 and California Public Resources Code Section 5097.98, if human remains are encountered, no further disturbance shall occur until the County Coroner has made the necessary findings as to origin. The remains shall be left in place and free from disturbance until a final decision as to the treatment and disposition has been made. If the Coroner determines the remains to be Native American, the Native American Heritage Commission shall be contacted within 24 hours. The Native American Heritage Commission must then immediately identify the "most likely descendant(s)" of receiving notification of the discovery. The most likely descendant(s) shall then make recommendations within 48 hours, and engage in consultations concerning the treatment of the remains. With adherence to these State requirements, impacts related to burial findings if encountered during construction of future related projects would be reduced to a less than significant level. Therefore, the GGRP Update and GHG Emissions Threshold would result in a less than significant impact related to human remains.

LESS THAN SIGNIFICANT IMPACT

Cumulative Impacts

The cumulative projects scenario is total projected population growth for Burbank (109,686 persons) in 2030.There is the possibility of encountering buried archaeological deposits and human remains throughout Burbank. Implementation of the cumulative projects would include infrastructure and building development that could have an impact on cultural resources during construction. Impacts to historic and archaeological resources are generally site-specific. Accordingly, as required under applicable laws and regulations, potential impacts associated with cumulative developments would be addressed on a case-by-case basis. No known cultural resources would be removed, modified, or otherwise affected by the implementation of the GGRP Update. In addition, future projects in Burbank, including those associated with implementation of the GGRP

39 Burbank, City of. February 19, 2021. Burbank 2035: General Plan. <https://new.burbankca.gov/documents/173607/0/Burbank2035+General+Plan.pdf/139656b0-80e9-3b11-dc6d-751642c85b38?t=1612301807431 >. Accessed February 4, 2021.

Update, would be required to comply with Historic Resources Management Ordinance, with the main purpose of recognizing, preserving, and protecting historic resources in the interest of the health, prosperity, social and cultural enrichment, and general welfare of the people. Furthermore, as a guidance document, the GHG Emissions Threshold would not result in cumulative impacts. Therefore, implementation of the GGRP Update and GHG Threshold would result in a less than significant cumulative impact related to cultural resources.

LESS THAN SIGNIFICANT IMPACT

6 Energy

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	☐	☐	■	☐
b. Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	☐	☐	■	☐

a. Would the project result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?

California is one of the lowest per-capita energy users in the United States, ranked 48th in the nation, due to its energy efficiency programs and mild climate.[40] California consumed 285,488 gigawatt-hours (GWh) of electricity and 2,137,920 cubic feet of natural gas in 2018.[41,42,43] The single largest end-use sector for energy consumption in California is transportation (39.1 percent), followed by industry (23.5 percent), commercial (18.3 percent), and residential (18.3 percent).[44] Adopted in 2018, SB 100 accelerates the State's Renewable Portfolio Standards Program, codified in the Public Utilities Act, by requiring electricity providers to increase procurement from eligible renewable energy resources to 33 percent of total retail sales by 2020, 60 percent by 2030, and 100 percent by 2045.

The City of Burbank has demonstrated its commitment to energy efficiency and renewable energy, as described in the Sustainability and GHG Reduction Efforts Setting section above. Additionally, the City Municipal Code Chapter 1 (Building and Fire) specifies electrical code details by land use type within the City.[45] As part of Measure BE-1.1 and per the California Green Building Standards Code, the City will adopt an Electrification reach code for all new buildings and accessory dwelling units that bans the piping of natural gas to support fuel -switching and ultimate decarbonization

40 United States Energy Information Administration (USEIA). 2018. California Profile Overview. <https://www.eia.gov/state/?sid=CA.> Accessed February 2, 2021.
41 California Energy Commission (CEC). 2021. 2018 Total System Electric Generation. https://www.energy.ca.gov/data-reports/energy-almanac/california-electricity-data/2019-total-system-electric-generation/2018. Accessed January 5, 2021
42 California Energy Commission (CEC). 2021. Environmental Health and Equity Impacts from Climate Change and Mitigation Policies in California: A Review of the Literature. Accessed February 2, 2021.
43 USEIA. 2018. Natural Gas Consumption by End Use. https://www.eia.gov/dnav/ng/ng_cons_sum_dcu_SCA_a.htm . Accessed February 2, 2021.
44 USEIA. 2018. California Profile Overview. https://www.eia.gov/state/?sid=CA . Accessed January 5, 2021.
45 Burbank, City of. 2020. Municipal Code Chapter 1 (Building and Fire). Available: https://www.codepublishing.com/CA/Burbank/. Accessed February 2, 2021

purposes.[46] The City has also completed a total (i.e., community and municipal) GHG emissions inventory for 2019, which is summarized in Table 1. The largest sectors of GHG emissions are related to energy and transportation, followed by solid waste and water. According to the California Energy Commission (CEC), Los Angeles County consumed approximately 66,118.67 GWh in 2019.[47]

The GHG Emissions Threshold provides guidance during CEQA review and does not propose development or changes to land use and zoning. Thus, implementation of the GHG Emissions Threshold would not result in construction or operational impacts related to wasteful consumption of energy resources. The GGRP Update is a policy document containing climate action measures and supporting actions to reduce Burbank GHG emissions. The GGRP Update would not involve land use or zoning changes, but would promote infrastructure development and redevelopment. Furthermore, the purpose and intended effect of the GGRP Update is to reduce GHG emissions generated in the City to help reduce the effects of climate change, including those emissions generated by energy demand and supply. The GGRP Update encourages electrification, use of renewable energy, and energy efficiency in existing residential and commercial building stock as well as proposed new residential and commercial buildings.

Measure BE-1.1 through E-1.3 and EG-1.1 propose revisions to and new City ordinances requiring electrification of 100 percent new buildings and incremental portion of existing buildings as well as maximum usage of renewable energy and installation of solar systems, battery storage, and potential microgrids within the City to help meet community energy demand. In addition, Measure C-1.1 focuses on overcoming the equity constraints of existing building electrification by leveraging BWP's operations and efficiency programs to develop an Affordable Housing Electrification Program to lead Burbank's electrification targets through retrofitting low-income and affordable housing units in Burbank to all electric. As such, the GGRP Update would not result in the use of non-renewable resources in a wasteful or inefficient manner. Therefore, the GGRP Update would result in a less than significant impact related to the wasteful, inefficient, or unnecessary consumption of energy. Rather, the GGRP Update and GHG Threshold would assist in reducing use of non-renewable energy resources.

LESS THAN SIGNIFICANT IMPACT

b. Would the project conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

The City of Burbank has adopted the California Green Building Standards Code per Municipal Code Chapter 9-1-10. Therefore, construction and operation associated with infrastructure projects stemming from the GGRP Update would be designed to comply with the energy source standards of the California Green Building Standard Code. Likewise, development projects would be reviewed for consistency with the energy efficiency standards in the 2019 California Energy Code, Part 6 of the California Building Standards Code (Title 24). Thus, the GGRP Update would not conflict with adopted renewable energy or energy conservation plans. The GHG Emissions Threshold is a CEQA guidance document that does not propose development or changes to land use and zoning. As such, the GHG Emissions Threshold would not result in construction or operational impacts related to consistency with a State or local renewable energy plan. Therefore, the GGRP Update and GHG Emissions Threshold would result in a less than significant impact related to consistency with State

46 A reach code is a local building energy code that "reaches" beyond State minimum requirements for energy use in building design and construction, creating opportunities for local governments to lead the way on clean air, climate solutions, and the renewable energy economy.
47 California Energy Commission. 2016. Electricity Consumption by County. <http://ecdms.energy.ca.gov/elecbycounty.aspx>. Accessed February 8, 2021

and local renewable energy and energy efficiency plans. Rather, the GGRP Update would be consistent with State and local plans for renewable energy and energy efficiency.

Thus, the GGRP Update would revise but would not conflict with adopted renewable energy or energy conservation plans. Therefore, the GGRP Update would result in a less than significant impact related to consistency with State and local renewable energy and energy efficiency plans. Rather, the GGRP Update and GHG Threshold would be consistent with State and local plans for renewable energy and energy efficiency.

LESS THAN SIGNIFICANT IMPACT

Cumulative Impacts

The cumulative projects scenario is total projected population growth for Burbank (109,686 persons) in 2030. Implementation of the GGRP Update would result in reducing use of non-renewable energy resources across the community and in particular with remodels and new construction. And implementation of solar infrastructure and implementation of active transportation infrastructure would require construction. As such, construction of the cumulative projects within the City could result in temporary energy consumption impacts. However, the energy used would not be wasteful and would comply with all applicable requirements. Furthermore, as a guidance document, the GHG Emissions Thresholds would not result in cumulative impacts. Therefore, implementation of the GGRP Update and GHG Thresholds and GHG Emission Thresholds would result a less than significant cumulative impact related to energy.

LESS THAN SIGNIFICANT IMPACT

7 Geology and Soils

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				
▪ Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault?	☐	☐	☐	■
▪ Strong seismic ground shaking?	☐	☐	☐	■
▪ Seismic-related ground failure, including liquefaction?	☐	☐	☐	■
▪ Landslides?	☐	☐	☐	■
b. Result in substantial soil erosion or the loss of topsoil?	☐	☐	■	☐
c. Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?	☐	☐	■	■
d. Be located on expansive soil, as defined in Table 1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?	☐	☐	■	☐
e. Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	☐	☐	☐	■
f. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	■	☐

a. Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:

- *rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault;*
- *strong seismic ground shaking;*
- *seismic-related ground failure, including liquefaction; or*
- *landslides?*

Burbank is located in a seismically active region in an area of potential fault rupture, strong ground shaking, and slope instability. These geologic and seismic hazards can affect the structural integrity of structures and utilities, and in turn can cause severe property damage and potential loss of life. Burbank contains one active fault, the Verdugo Fault, located just south of the Verdugo Mountains. As stated in the General Plan Safety Element, in addition to the Verdugo Fault, several other active faults have the potential to cause ground shaking that would affect Burbank, including the San Fernando Fault (northwest of Burbank), Sierra Madre Fault (at the base of the San Gabriel Mountains east of Burbank), Hollywood Fault (south of Burbank), Newport-Inglewood Fault (12.5 miles southwest of Burbank), and the Raymond Fault (six miles southeast of Burbank).[48] Additionally, the San Andreas Fault, a large fault that runs nearly the entire length of California, is located approximately 27 miles to the northwest. An earthquake anywhere along these faults could trigger secondary seismic hazard impacts within Burbank.

Much of Burbank is located atop soils susceptible to liquefaction, particularly in areas west of I 5; however, as long as groundwater continues to be extracted in the upper Los Angeles River area and annual rainfall remains at normal levels, groundwater levels in Burbank can be expected to remain deeper than 50 feet, resulting in a low risk of liquefaction for most of the City.[49] As stated in the General Plan Safety Element, hazards from landslides and mudslides in the City are limited to properties at the base of undeveloped or unimproved slopes in the Verdugo Mountains, north of Sunset Canyon Drive. The City General Plan Safety establishes goals and policies (see Goal 5) related to minimizing personal and property damage resulting from seismic hazards, including earthquakes and landslides.[50] Projects are required to conform to applicable provisions of the current California Building Code.

The GHG Emissions Threshold is a guidance document and does not propose development or changes to land use and zoning. Thus, implementation of the GHG Emissions Threshold would not result in construction or operational impacts related to risk of loss, injury, or death involving rupture of a known earthquake fault, strong seismic ground shaking, seismic-related ground failure including liquefaction, or landslides. The GGRP Update is a policy document containing climate measures and supporting actions to reduce GHG emissions and is consistent with the Burbank General Plan and other regional regulations. The GGRP Update does not propose habitable development that could result in exposure of people or structures to potential substantial adverse effects, including the risk

48 Burbank, City of. January 29, 2013. Burbank 2035: General Plan. Available: https://new.burbankca.gov/documents/173607/0/Burbank2035+General+Plan.pdf/139656b0-80e9-3b11-dc6d-751642c85b38?t=1612301807431 Accessed January 5, 2021
49 Burbank, City of. January 29, 2013. Burbank 2035: General Plan. Available: https://new.burbankca.gov/documents/173607/0/Burbank2035+General+Plan.pdf/139656b0-80e9-3b11-dc6d-751642c85b38?t=1612301807431 Accessed January 5, 2021
50 Burbank, City of. January 29, 2013. Burbank 2035: General Plan. Available: https://new.burbankca.gov/documents/173607/0/Burbank2035+General+Plan.pdf/139656b0-80e9-3b11-dc6d-751642c85b38?t=1612301807431 Accessed January 5, 2021

of loss, injury, or death involving rupture of a known earthquake fault, strong seismic ground shaking, seismic-related ground failure, including liquefaction, or landslides. Therefore, the GGRP Update and GHG Threshold would result in no impact related to seismic- and landslide-related hazards.

NO IMPACT

b. Would the project result in substantial soil erosion or the loss of topsoil?

The GHG Emissions Threshold is a guidance document and does not propose development or changes to land use and zoning. Thus, implementation of the GHG Emissions Threshold would not result in construction or operational impacts related to substantial loss of topsoil. The GGRP Update would not involve land use or zoning changes, but it would promote infrastructure development and redevelopment. As a policy document, the GGRP Update would not directly require ground-disturbing activities. However, implementation of the following measures may promote infrastructure development and redevelopment. Measure BE-1.1 and BE-1.2 promote electrification of newly constructed and existing buildings, while Measure C-1.1 and EG-1.1 promote installation of solar panels to facilitate the switching of building fuel and aim also to develop a battery storage program. Measure T-1.1 involves the implementation of the Complete Our Streets Plan, which would include the installation of new bicycle and pedestrian facilities/infrastructure and Measure T-3.1 encourages the installation of electric vehicle charging stations and supporting infrastructure. Furthermore, Measure CS-1.1, facilitates the preparation of an Urban Forest Master Plan and seeks to plant and maintain 2,000 net new trees by the year 2030.

The physical changes these installations and enhancements would entail are dependent on the location of construction for the electric vehicle charging connections, active transportation pathways, and trees/green spaces, which in some cases may include minor temporary excavation. As such, the GGRP Update could result in construction-related soil erosion and topsoil loss impacts associated with such installations and plantings. However, projects would be reviewed for consistency with Burbank General Plan policies and other local and State geology and soils regulations prior to final siting and construction. Further, compliance with existing regulations, including California Building Code requirements, City-issued permit requirements, and construction general permit requirements, would minimize potential cumulative seismic and geologic impacts. Therefore, the GGRP Update and GHG Threshold would result in a less than significant impact related to soil erosion, loss of topsoil, and the presence of unstable soils.

LESS THAN SIGNIFICANT IMPACT

c. Would the project be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?

or

d. Would the project be located on expansive soil, as defined in Table 1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?

The GHG Emissions Threshold is a guidance document and does not propose development or changes to land use and zoning. Thus, implementation of the GHG Emissions Threshold would not result in construction or operational impacts related to project location on expansive soil. Additionally, the GGRP Update is a policy document containing measures that are consistent with the General Plan. Some of the proposed measures of GGRP Update would support construction

projects, such as electric vehicle charging station construction. However, the City's Building and Safety Division would determine which projects would be required to conduct geotechnical studies based on the scope of the development and adhere to related recommendations prior to final siting and construction that would reduce impacts. Therefore, the GGRP Update and GHG Emissions Threshold would result in a less than significant impact related to risks associated with location on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse as well as expansive soils.

LESS THAN SIGNIFICANT IMPACT

e. Would the project have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?

The GGRP Update and GHG Emissions Threshold would not involve the development of habitable structures and, thus, no use of septic tanks or alternative wastewater disposal systems. Therefore, no impact would occur related to soil capability support of alternative wastewater disposal systems.

NO IMPACT

f. Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

The GHG Emissions Threshold is a guidance document and does not propose development or changes to land use and zoning. Thus, implementation of the GHG Emissions Threshold would not result in construction or operational impacts related to paleontological resources. The GGRP Update would not involve land use or zoning changes. Rather the GGRP Update would promote infrastructure development and redevelopment. As a policy document, the GGRP Update would not directly result in impacts related to paleontological resources or unique geologic features. However, implementation of the following GGRP Update measures and supporting actions may promote infrastructure development and redevelopment.

Measure BE-1.1 and BE-1.2 promote electrification of newly constructed and existing buildings, while Measure C-1.1 and EG-1.1 promote installation of solar panels to facilitate the switching of building fuel and aim also to develop a battery storage program. Measure T-1.1 involves the implementation of the Complete Our Streets Plan, which would include the installation of new bicycle and pedestrian facilities/infrastructure and Measure T-3.1 encourages the installation of electric vehicle charging stations and supporting infrastructure. Furthermore, Measure CS-1.1, facilitates the preparation of an Urban Forest Master Plan and seeks to plant and maintain 2,000 net new trees by the year 2030. However, geotechnical and design guideline studies would be required for future projects, in addition to adherence with related recommendations prior to final siting and construction. Therefore, the GGRP Update and GHG Emissions Threshold would result in a less than significant impact related to paleontological resources or unique geologic features.

LESS THAN SIGNIFICANT IMPACT

Cumulative Impacts

The cumulative projects scenario is total projected population growth for Burbank (109,686 persons) in 2030. Cumulative projects could expose additional people and property to seismic and geologic hazards that are present in the region. The magnitude of geologic hazards for individual

projects, including those associated with implementation of the GGRP Update, would depend upon the location, type, and size of development and the specific hazards associated with individual sites. Specific geologic hazards associated with individual project sites would be limited to those sites without affecting other areas. Similarly, potential impacts to paleontological resources associated with each individual site would be limited to that site without affecting other areas, and impacts related to these resources would be minimized on a case-by-case basis. Compliance with existing regulations, including California Building Code requirements, City-issued permit requirements, and construction general permit requirements, would minimize potential cumulative seismic and geologic impacts. Seismic and geologic hazards would be addressed on a case-by-case basis and would not result in cumulative impacts. Furthermore, as a guidance document, the GHG Emissions Threshold would not result in cumulative impacts. Therefore, implementation of the GGRP Update and GHG Emission Threshold would result in a less than significant cumulative impact related to geology and soils.

LESS THAN SIGNIFICANT IMPACT

8 Greenhouse Gas Emissions

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	■	☐
b. Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	■	☐

a. Would the project generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment?

The greenhouse effect is a natural occurrence that helps regulate the temperature of the Earth. The majority of radiation from the Sun hits Earth's surface and warms it. The surface in turn radiates heat back towards the atmosphere, known as infrared radiation. Gases and clouds in the atmosphere trap and prevent some of this heat from escaping into space and re-radiate it in all directions. This process is essential to support life on Earth, because it warms the planet by approximately 60°F. Emissions from human activities since the beginning of the industrial revolution (approximately 270 years ago) have been adding to the natural greenhouse effect by increasing the gases in the atmosphere that trap heat and contribute to an average increase in Earth's temperature. Global warming is the observed increase in the average temperature of the Earth's surface, and climate change is the resultant change in wind patterns, precipitation, and storms over an extended period.

GHGs produced by human activities include CO_2, methane (CH_4), nitrous oxide (N_2O), hydroflourocarcons (HFCs), perfluorinated compound (PFC), and sulfur hexafluoride (SF_6) (see Appendix B for more details related to these GHG gases).[51] Combustion of fossil fuels (gasoline, natural gas, and coal), deforestation, and decomposition of waste release carbon into the atmosphere that had been locked underground and stored in oil, gas, and other hydrocarbon deposits or in the biomass of surface vegetation. Since 1750, estimated concentrations of CO_2, CH_4, and N_2O in the atmosphere have increased by over 36 percent, 148 percent, and 18 percent respectively, primarily due to human activity. Emissions of GHGs affect the atmosphere directly by changing its chemical composition.

Changes to the land surface also indirectly affect the atmosphere by changing the way in which Earth absorbs gases from the atmosphere. Potential impacts in California due to climate change

51 The proposed GGRP only considers emissions of CO_2, CH_4, and N_2O because these are the GHGs most relevant to local government policymaking. These gases comprise a large majority of GHG emissions at the community level. The remaining gases (HFCs, PFC, and SF_6) are emitted primarily in private sector manufacturing and electricity transmission and are the subject of regulation at the state level. Therefore, these gases were omitted from the GGRP Update.

include sea level rise, more extreme-heat days and high-ozone days, larger and more frequent forest fires, and more drought years.[52] Although GHG emissions do not typically cause direct health impacts at a local level, GHG emissions can result in indirect health impacts by contributing to climate change, which can have public health implications. The primary public health impacts of climate change include the following:[53]

- Increased incidences of hospitalization and deaths due to increased incidences of extreme heat events
- Increased incidences of health impacts related to ground-level ozone pollution due to increased average temperatures that facilitate ozone formation
- Increased incidences of respiratory illnesses from wildfire smoke due to increased incidences of wildfires
- Increased vector-borne diseases due to the growing extent of warm climates
- Increased stress and mental trauma due to extreme events and disasters, economic disruptions, and residential displacement

The City of Burbank has completed a total Burbank (i.e., community and municipal) GHG emissions inventory for the year 2019, which is summarized in Table 1. The largest sectors of GHG emissions are related to energy and transportation, followed by solid waste and water. The measures and actions address municipal and communitywide GHG emissions. As part of the GGRP Update, Burbank is committed to an emissions reduction target of 49 percent below 2010 levels by 2030 (SB 32 target year), 66 percent below 2010 levels by 2035 (General Plan horizon year) and reaching carbon neutrality by 2045 (EO B-55-18 target year). This 2030 GHG emissions goal is selected to be consistent with SB 32 State emissions targets and CEQA Guidelines § 15183.5 for a qualified GHG emissions reduction strategy as well as to be achievable by City-supported measures identified in the GGRP Update. The GGRP Update includes a BAU and adjusted forecast of GHG emissions that will enable the City to estimate the amount of emissions reductions needed to meet its goal.

The GGRP Update includes measures to increase use of zero-emission vehicles; increase use of public, active, and shared transportation; reduce water consumption and waste generation; increase recycling and composting; and increase tree planting. It also includes Measures CG-1.1 through CG-1.4 related to completing an annual progress report, retrofitting all City streetlights and outdoor lighting to LEDs, electrification of existing City facilities, and implementation of a flexible employee commute program that will continue to allow the City to lead by example. Table 3 includes a complete list of measures and descriptions of respective supporting actions included in this GGRP Update. The measures included in the GGRP Update combined with Statewide legislation and initiatives and regional transportation programs will enable the City to meet its emissions reduction target of 49 percent below 2010 levels by 2030 (SB 32 target year). Table 5 shows the contribution of the Statewide initiatives along with the measures and actions. The City needs to achieve 86,555 MT CO_2e of GHG emissions reductions by 2030 to meet its goal. The total estimated GHG reductions accounted for in the GGRP Update total 90,347 MT CO_2e by 2030.

Figure 3 and Table 5 illustrate how the BAU emissions are estimated to increase, thus widening the emissions reductions needed by 2030. Figure 3**Error! Reference source not found.** also shows emissions reductions expected from State level actions as well as the reductions needed to reach the Burbank emissions target. The measures and supporting action combined with Statewide

52 California Energy Commission (CEC). 2009. Environmental Health and Equity Impacts from Climate Change and Mitigation Policies in California: A Review of the Literature. Accessed January 2, 2021.
53 California Natural Resources Energy. 2018. California's Fourth Climate Change Assessment Statewide Summary Report. <http://www.climateassessment.ca.gov/state/>. Accessed January 2, 2021.

legislation and initiatives and Countywide transportation programs will enable the City of Burbank to meet its 2030 emissions reduction target.

The GGRP Update includes a list of 19 measures intended to reduce Burbank GHG emissions. Implementation of the GGRP Update would result in the reduction of community and municipal operational GHG emissions, while only generating temporary GHG emissions during construction of infrastructure development and redevelopment such as electric vehicle charging stations, bicycle paths, et cetera. Additionally, the GGRP Update would serve as a pathway to reduce GHG emissions and introduce other beneficial environmental and sustainability effects. These benefits include reduction in building energy consumption and vehicle miles traveled (and thus air pollution), water consumption, and solid waste generation. The GHG Emissions Threshold is a guidance document and does not propose development or changes to land use and zoning and, thus, would not result in construction or operational impacts related to GHG emissions. The GHG Emissions Threshold would establish GHG emissions targets and analysis methodologies that are enforced during CEQA review with the intention of reducing GHG emissions associated with construction and operation of future projects and plans in the City. Therefore, the GGRP Update and GHG Emissions Threshold would result in a less than significant impact related to generation of GHG emissions.

LESS THAN SIGNIFICANT IMPACT

b. Would the project conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

The GGRP Update and GHG Emissions Threshold are policy-level documents that set strategies to reduce GHG emissions within the City in an effort to also comply with State regulations. As discussed under Topic 8a above, the GGRP Update includes measures and actions to reduce City GHG emissions from forecasted levels by approximately 90,347 MT CO_2e by 2030. The purpose of the GGRP Update is to meet Burbank's proportionate fair share of the Statewide GHG emissions reduction target set by AB 32 and SB 32 and work toward the State's longer-term target of carbon neutrality identified in Executive Order B-55-18. The GGRP Update would not conflict with any applicable GHG reduction plans, including the California Climate Change Scoping Plan and the California Climate Change Scoping Plan Updates. For example, the GGRP Update and GHG Emissions Threshold specifically include policies and a locally appropriate quantitative threshold consistent with Statewide per-capita goals, as recommended by the 2017 Scoping Plan. The GGRP Update identifies how the City would achieve consistency with the Statewide GHG emissions limit.

The GHG Emissions Threshold would establish GHG emissions targets and analysis methodologies that are enforced during CEQA review with the intention of reducing GHG emissions associated with construction and operation of future projects and plans in the City. The GGRP Update would serve as a pathway to reduce GHG emissions and introduce other beneficial environmental and sustainability effects. These benefits include reduction in building energy consumption and vehicle miles traveled (and thus air pollution), water consumption, and solid waste generation. Therefore, the GGRP Update and GHG Emission Threshold would result in a less than significant impact related to consistency with applicable GHG emissions reduction plans, policies, and regulations.

LESS THAN SIGNIFICANT IMPACT

Cumulative Impacts

The cumulative projects scenario is total projected population growth for Burbank (109,686 persons) in 2030. Analyses of GHG emissions and climate change are cumulative in nature, as they

affect the accumulation of GHG emissions in the atmosphere. Cumulative projects that exceed the thresholds discussed above would have a significant impact related to GHG emissions and climate change, both individually and cumulatively. The GGRP Update creates a GHG emissions reduction strategy (consistent with Section 15183.5 of the CEQA Guidelines) for the City of Burbank. The GGRP Update includes a series of strategies, measures, and actions that are intended to reduce communitywide GHG emissions by approximately 49 percent below 2010 levels by 2030, which provides substantial progress toward meeting the City carbon neutrality goal by 2045, while meeting State goals. The GGRP Update acknowledges that additional actions beyond those identified in the plan will be necessary to achieve carbon neutrality and, therefore, provides a mechanism for updating and adopting a new plan triennially in order to incorporate new measures and technologies that will further the City toward meeting its goal of carbon neutrality. As such, the GGRP Update would result in the reduction of GHG emissions rather than generating GHG emissions. Furthermore, as a guidance document, the GHG Emissions Threshold would not result in cumulative impacts. Rather, the GHG Emissions Threshold would establish GHG emissions targets and analysis methodologies that are enforced during CEQA review with the intention of reducing GHG emissions associated with construction and operation of cumulative buildout.

LESS THAN SIGNIFICANT IMPACT

9 Hazards and Hazardous Materials

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	■	☐
b. Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	■	☐
c. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school?	☐	☐	■	☐
d. Be located on a site that is included on a list of hazardous material sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	■	☐
e. For a project located in an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?	☐	☐	☐	■
f. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	■
g. Expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires?	☐	☐	☐	■

a. Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

b. Would the project create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?

The GHG Emissions Threshold is a guidance document and does not propose development or changes to land use and zoning. Thus, implementation of the GHG Emissions Threshold would not result in construction or operational impacts related to creating a significant hazard. The GGRP Update is a policy document containing actions and supporting measures to reduce GHG emissions. The proposed GGRP Update does not involve identified site-specific development, nor would it facilitate new development. Implementation of the GGRP Update measures and supporting actions would not involve the routine transport, use, or disposal of hazardous materials and would not create reasonably foreseeable upset and/or accidental conditions involving the release of hazardous materials into the environment.

Implementation of some of the GGRP Update measures and actions, such as the installation of bicycle facilities, energy retrofits, and electric vehicle charging stations, may involve the use and transport of fuels, lubricating fluids, and solvents, among other activities. These types of materials are not considered acutely hazardous, and all storage, handling, and disposal of these materials are regulated by the California Department of Toxic Substances Control (CDTSC), United States Environmental Protection Agency (USEPA), Occupational Safety & Health Administration (OSHA), and Los Angeles County Department of Public Health - Environmental Health Division. Additionally, future development would be subject to review by the City for compliance with the General Plan and Municipal Code and would also be required to comply with applicable local, State, and Federal regulations. Therefore, the GGRP Update and GHG Emissions Threshold would result in a less than significant impact related to creating a significant hazard.

LESS THAN SIGNIFICANT IMPACT

c. Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school?

The GHG Emissions Threshold is a guidance document and does not propose development or changes to land use and zoning. Thus, implementation of the GHG Emissions Threshold would not result in construction or operational impacts related to handling hazardous materials. The GGRP Update is a policy document containing measures and actions to reduce GHG emissions. The proposed GGRP Update does not include site-specific proposals and development, nor would it emit or handle hazardous materials. Implementing some measures and actions may require future development or improvements, such as bike paths, solar panels, electric vehicle charging stations, battery storage, or building improvements related to electrification. However, projects would be reviewed for consistency with the General Plan and Municipal Code and applicable local, State, and federal regulations. Therefore, the GGRP Update and GHG Emissions Threshold would result in a less than significant impact related to handling of hazardous materials in proximity to an existing or proposed school.

LESS THAN SIGNIFICANT IMPACT

d. Would the project be located on a site that is included on a list of hazardous material sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?

The GHG Emissions Threshold is a guidance document and does not propose development or changes to land use and zoning. Thus, implementation of the GHG Emissions Threshold would not result in construction or operational impacts related to project site location on a site listed on a hazardous material site. The GGRP Update is a policy document containing measures and supporting actions to reduce GHG emissions. The GGRP Update does not include site-specific proposals and development, but implementation of the measures and actions could result in projects that may be located on listed hazardous materials site. However, future projects would be reviewed for consistency with the General Plan and Municipal Code and would be required to comply with applicable local, State, and federal regulations. Therefore, the GGRP Update and GHG Emissions Threshold would result in a less than significant impact related to location on a listed hazardous materials site.

LESS THAN SIGNIFICANT IMPACT

e. For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?

The Hollywood Burbank Airport is located in the City. The airport is located in the northwestern portion of the City, at 2627 N Hollywood Way. The GGRP Update and GHG Emissions Threshold are policy documents and implementation of which would not increase airport activity or otherwise increase potential exposure to aircraft-related hazards. Additionally, projects associated with the GGRP Update would undergo project-level CEQA review. Therefore, the GGRP Update and GHG Emissions Threshold would result in no impact related to risks associated with location proximate to a public airport.

NO IMPACT

f. Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

The GGRP Update and GHG Emissions Threshold are policy documents intended to reduce GHG emissions. The proposed GGRP Update and GHG Emissions Threshold do not involve site-specific development, nor would it facilitate new development that would interfere with adopted emergency plans. Therefore, the GGRP Update and GHG Emissions Threshold would result in no impact related to impairment or interference with implementation of an emergency response or evacuation plan.

NO IMPACT

g. Would the project expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires?

Two Mountain Fire Zones are designated by the Burbank Fire Department.[54] One zone is located along the foothills of the Verdugo Mountains in northeast Burbank, and the other is located in

54 Burbank, City of. February 19, 2013. Burbank 2035: General Plan. < https://new.burbankca.gov/documents/173607/0/Burbank2035+General+Plan.pdf/139656b0-80e9-3b11-dc6d-751642c85b38?t=1612301807431> Accessed December 26, 2020.

southwestern portion of the City adjacent to the Warner Bros. Studios. According to California Department of Forestry and Fire Protection (CalFIRE), Burbank is located in a designated California Very High Fire Hazard Severity Zone.[55] Per the Burbank General Plan Safety Element, the City is susceptible to loss from fire in the urban-wildland interface due to its proximity to the Verdugo Mountains and the Hollywood Hills.[56] Furthermore, City Municipal Code Chapter 1 (Building and Fire) provides regulations related to the safety of life and property from fire within the City.[57] The GGRP Update is a policy-level document that does not propose specific or other physical changes such as habitable development that could be put at risk in the case of a wildfire, nor does it grant entitlements for development that would have the potential to directly cause wildfire. Rather, the GGRP Update would aim to reduce natural gas infrastructure that poses wildfire risk if damaged during seismic events and to underground new or restructured electric power lines that pose wildfire risk if damaged during high-wind events. Thus, the GGRP Update and Emissions Threshold would result in no impact related to wildfire.

NO IMPACT

Cumulative Impacts

The cumulative projects scenario is total projected population growth for Burbank (109,686 persons) in 2030. Hazards and hazardous materials impacts are typically site specific in nature. Cumulative projects, including the GGRP Update, are not anticipated to contribute to cumulative hazards and hazardous materials impacts with adherence to applicable General Plan policies, applicable regional and County regulations (e.g., Los Angeles County Hazardous Waste Management Plan), and applicable State and Federal regulatory requirements. Furthermore, as a guidance document, the GHG Emissions Thresholds would not result in cumulative impacts. Therefore, implementation of the GGRP Update and GHG Emissions Threshold would result in a less than significant cumulative impact related to hazards and hazardous materials.

LESS THAN SIGNIFICANT IMPACT

55 California Department of Forestry and Fire Protection (CalFIRE). 2020. Fire Hazard Severity Zone Viewer. https://egis.fire.ca.gov/FHSZ/ . Accessed March 3, 2021.
56 Burbank, City of. February 19, 2013. Burbank 2035: General Plan. < https://new.burbankca.gov/documents/173607/0/Burbank2035+General+Plan.pdf/139656b0-80e9-3b11-dc6d-751642c85b38?t=1612301807431> Accessed December 26, 2020.
57 Burbank, City of. 2021. Municipal Code Chapter 1 (Building and Fire). < https://www.codepublishing.com/CA/Burbank/>. Accessed March 3, 2021.

10 Hydrology and Water Quality

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	☐	☐	☐	■
b. Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	☐	☐	☐	■
c. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:				
(i) Result in substantial erosion or siltation on- or off-site;	☐	☐	■	☐
(ii) Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;	☐	☐	■	☐
(iii) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or	☐	☐	■	☐
(iv) Impede or redirect flood flows?	☐	☐	■	☐
d. In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	☐	☐	■	☐
e. Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☐	☐	☐	■

a. Would the project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?

The GHG Emissions Thresholds is a guidance document as does not propose development or changes to land use and zoning. Thus, implementation of the GHG Emissions Thresholds would not result in construction or operational impacts related to water quality standards. The GGRP Update is a policy document containing measures and actions intended to reduce GHG emissions in the City. Future projects would be reviewed for consistency with local and State regulations, including the implementation of stormwater pollution prevention plans (SWPPPs). As such, the GGRP Update's related infrastructure changes would not utilize or alter water supply or result in new or different wastewater discharge. Additionally, projects would be small in scale and not result in substantial, adverse impacts related to surface or groundwater quality. Therefore, the GGRP Update and GHG Emissions Threshold would result in no impact related to surface or groundwater water quality in Burbank.

NO IMPACT

b. Would the project substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?

The GHG Emissions Thresholds is a guidance document and does not propose development or changes to land use and zoning. Thus, implementation of the GHG Emissions Thresholds would not result in construction or operational impacts related to groundwater supplies. The GGRP Update is a policy document containing measures and supporting actions that are consistent with the City's General Plan. In addition, implementation of the GGRP Update actions related to infrastructure development and redevelopment would not substantially degrade groundwater quality or groundwater recharge. As a result, no adverse impacts related to groundwater supplies or resources would occur.

Measure CS-1.1 facilitates the preparation of an Urban Forest Master Plan and seeks to plant and maintain 2,000 net new trees by the year 2030. Encouragement of tree planting and thus provision of pervious areas in the City would increase groundwater recharge. As such, implementing the GGRP Update would have a beneficial effect related to local groundwater recharge as well as support groundwater management in Burbank. Therefore, the GGRP Update and GHG Emissions Threshold would result in no impact related to impedance of sustainable groundwater management in the San Fernando Groundwater Basin.

NO IMPACT

c. Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:

- *i. result in substantial erosion or siltation on- or off-site;*
- *ii. substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;*
- *iii. create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or*
- *iv. impede or redirect flood flows?*

The GHG Emissions Thresholds is a guidance document and does not propose development or changes to land use and zoning. Thus, implementation of the GHG Emissions Thresholds would not result in construction or operational impacts related to alterations in polluted runoff. Implementation of the following GGRP Update measures and supporting actions may promote infrastructure development and redevelopment. Measure BE-1.1 and BE-1.2 promote electrification of newly constructed and existing buildings, while Measure C-1.1 and EG-1.1 promote installation of solar panels to facilitate the switching of building fuel and aim also to develop a battery storage program. Measure T-1.1 involves the implementation of the Complete Our Streets Plan, which would include the installation of new bicycle and pedestrian facilities/infrastructure and Measure T-3.1 encourages the installation of electric vehicle charging stations and supporting infrastructure. Furthermore, Measure CS-1.1, facilitates the preparation of an Urban Forest Master Plan and seeks to plant and maintain 2,000 net new trees by the year 2030.

Projects would be required to undergo environmental review, including assessment and mitigation incorporation, including the implementation of a SWPPP and compliance with applicable local, State, and Federal regulations once project details and locations are known. Further, GGRP Update-related infrastructure changes would be designed to not result in substantial additional erosion or runoff. Therefore, the GGRP Update and GHG Emissions Thresholds would result in a less than significant impact related to drainage flows and polluted runoff.

LESS THAN SIGNIFICANT IMPACT

d. In flood hazard, tsunami, or seiche zones, would the project risk release of pollutants due to project inundation?

The City is not located within designated seiche or tsunami zones.[58] Portions of the City are within the 100- and 500-year flood zones defined by Federal Emergency Management Agency (FEMA).[59] Additionally, three reservoirs upstream from Burbank, Reservoirs #1, #4, and #5, are classified as dams by the California Department of Water Resources. Though small, these reservoirs impound more than 50 acre-feet of water. However, these reservoirs are not large enough to result in considerable risk of inundation in Burbank that would result from failure of any of the facilities.

In Burbank, new construction, including infrastructure projects associated with implementation of the GGRP Update, in flood-prone areas must comply with Chapter 1 (Building and Fire) of the Burbank Municipal Code. In Burbank, construction, including infrastructure projects associated with implementation of the GGRP Update, must comply with City General Plan Safety Element goals/policies related to hazards, including flooding hazards. In addition, Burbank works with the Los Angeles County Flood Control District to maintain, to identify, and fund flood control improvements regularly, and to update the Burbank All- Hazard Mitigation Plan on a regular basis. [60] Therefore, the GGRP Update and GHG Emissions Thresholds would result in a less than significant impact related to flooding and inundation resulting in release of pollutants.

58 Burbank, City of. February 19, 2013. Burbank 2035: General Plan. < https://new.burbankca.gov/documents/173607/0/Burbank2035+General+Plan.pdf/139656b0-80e9-3b11-dc6d-751642c85b38?t=1612301807431> Accessed December 26, 2020.
59 Burbank, City of. February 19, 2013. Burbank 2035: General Plan. < https://new.burbankca.gov/documents/173607/0/Burbank2035+General+Plan.pdf/139656b0-80e9-3b11-dc6d-751642c85b38?t=1612301807431> Accessed December 26, 2020.

60 Burbank, City of. February 19, 2013. Burbank 2035: General Plan. < https://new.burbankca.gov/documents/173607/0/Burbank2035+General+Plan.pdf/139656b0-80e9-3b11-dc6d-751642c85b38?t=1612301807431> Accessed December 26, 2020.

LESS THAN SIGNIFICANT IMPACT

e. Would the project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

The GHG Emissions Thresholds is a guidance document and does not propose development or changes to land use and zoning. Thus, implementation of the GHG Emissions Thresholds would not result in construction or operational impacts related to obstruction of a water quality control plan. The GGRP Update measures would not include direct extraction of groundwater and rather encourages water savings through conservation. The GGRP Update would not interfere with or obstruct implementation of water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality. Therefore, the GGRP Update and GHG Emissions Thresholds would result in no impact related to consistency with a water quality control plan or sustainable groundwater management plan.

NO IMPACT

Cumulative Impacts

The cumulative projects scenario is total projected population growth for Burbank (109,686 persons) in 2030. Cumulative projects, including the GGRP Update, are not anticipated to contribute to cumulative hydrology and water quality impacts with adherence to applicable General Plan policies and other applicable City policies, as well as applicable State and federal regulatory requirements. Implementation of the GGRP Update would not contribute to an increase in growth and development in Burbank but could result in infrastructure development or redevelopment projects, including renewable energy facilities and alternative transportation thoroughfares. As such, implementation of the GGRP Update and other cumulative projects could have incremental impacts related to hydrology and water quality, with potential minor alterations to existing drainage patterns in the City. However, cumulative projects would comply with applicable local, State, and Federal regulations related to hydrology and water quality. Therefore, implementation of the GGRP Update would result in a less than significant cumulative impact related to hydrology and water quality.

LESS THAN SIGNIFICANT IMPACT

11 Land Use and Planning

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Physically divide an established community?	☐	☐	☐	■
b. Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	■	☐

a. Would the project physically divide an established community?

The GHG Emissions Thresholds is a guidance document and does not propose development or changes to land use and zoning. Thus, implementation of the GHG Emissions Thresholds would not result in construction or operational impacts related to division of an established community. The GGRP Update is a policy document containing measures and actions that are consistent with the Burbank General Plan and does not include specific development projects that would divide an established community. Measure T-1.1 involves the installation of new bicycle and pedestrian facilities, Measure T-1.2 includes providing clean, abundant, affordable, and accessible public transit, and Measure T-3.1 encourages the installation of electric vehicle charging stations and supporting infrastructure. These measures are aimed at decreasing vehicle miles traveled and increasing active transportation within the City. Such measures and supporting actions would help to increase connectivity within the Burbank community. Therefore, the GGRP Update would result in no impact related to division of an established community.

NO IMPACT

b. Would the project cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?

The GHG Emissions Thresholds is a guidance document and does not propose development or changes to land use and zoning. Thus, implementation of the GHG Emissions Thresholds would not result in impacts related to conflict with a land use plan. The GGRP Update is a policy document containing measures and actions that are consistent with the Burbank General Plan and that are designed to reduce adverse environmental impacts associated with climate change. Nonetheless, implementing the GGRP Update would require some modification of existing policies, including developing and implementing new programs, and projects, or modifying existing ones. For example, Measures BE-1.1, BE-1.2, T-1.1, T-1.2, T-2.1, T-2.2, T-3.1, T-4.1 SW-1.1, and CS-1.1 call for the adoption of new codes/ordinances related to building electrification, solar and electric vehicle charging infrastructure installation, natural gas ban, organic waste collection and recovery, and

shade trees. In addition, Measure T-1.1 calls for the amendment of the zoning code to require installation of bike parking in instances where off-street parking is required.

Implementation of the following measures may promote infrastructure development and redevelopment. Measure BE-1.1 and BE-1.2 promote electrification of newly constructed and existing buildings, while Measure C-1.1 and EG-1.1 promote installation of solar panels to facilitate the switching of building fuel and aim also to develop a battery storage program. The physical changes these upgrades and additions would entail are dependent on the year of building construction and location of electrical and service panels and plumbing for connection of condensate drains, which in some cases may include modifications to the interior and/or exterior of buildings for wiring and panel replacement and minor excavation for connection of drainage to sewer systems.

Measure T-1.1 involves the implementation of the Complete Our Streets Plan, which would include the installation of new bicycle and pedestrian facilities/infrastructure and Measure T-3.1 encourages the installation of electric vehicle charging stations and supporting infrastructure. Furthermore, Measure CS-1.1, facilitates the preparation of an Urban Forest Master Plan and seeks to plant and maintain 2,000 net new trees by the year 2030. The physical changes these installations and enhancements would entail are dependent on the location of construction for the electric vehicle charging connections, active transportation pathways, and trees/green spaces, which in some cases may include minor temporary excavation. In order to implement these measures and the supporting actions, the City Municipal Code, General Plan, and other applicable documents may need to be amended to reflect new or modified requirements.

However, where modifications of existing policies are needed, such as updates to policies related to energy and active transportation, the measures would result in greater avoidance or reduction of environmental effects. Therefore, the GGRP Update and GHG Emission Thresholds would result in no impact related to consistency with current land use plans or policies.

NO IMPACT

Cumulative Impacts

The cumulative projects scenario is total projected population growth for Burbank (109,686 persons) in 2030. The GGRP Update is a policy document containing measures and actions that are consistent with the City's General Plan. Nonetheless, implementing the GGRP Update would require some modification of existing policies and ordinances, including developing and implementing new programs, and projects, or modifying existing ones. The proposed policy changes are consistent with the intent of the goals and policies established within the City General Plan and Zoning Regulations and would not cumulatively contribute to population growth or the loss of housing. Cumulative projects, including the GGRP Update, would be required to adhere to City development regulations and General Plan policies to retain land use character and minimize environmental impacts. And GGRP Update projects would be reviewed for consistency with the General Plan and other applicable regulatory land use actions prior to approval. Furthermore, as a guidance document, the GHG Emissions Thresholds would not result in cumulative impacts. Therefore, implementation of the GGRP Update would result in a less than significant cumulative impact related to land use.

LESS THAN SIGNIFICANT IMPACT

12 Mineral Resources

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	■	☐	■
b. Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?	☐	☐	☐	■

a. Would the project result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?

b. Would the project result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?

The City of Burbank General Plan states approximately half of the City is located on an area that is classified by the State Mining and Geology Board as MRZ-2, which is a mineral classification that indicates that mineral resources may be present. The remainder of the City is located on an area that is classified as MRZ-3, which indicates that the significance of mineral resources could not be evaluated based on available data. Likewise, because the City is urbanized, further classification of the MRZ-2 area cannot be done to determine if there really are significant mineral resources in the area. Because future mining activities could not occur without impacting large areas of the City, the General Plan notes that mining is infeasible and the City therefore is not considered to be a potential future source of mineral resources. The GGRP Update and GHG Emissions Thresholds would not facilitate infrastructure development projects within the City that could result in the loss of availability of known mineral resources. Therefore, the GGRP Update would result in no impact related to mineral resource.

NO IMPACT

Cumulative Impacts

The cumulative projects scenario is total projected population growth for Burbank (109,686 persons) in 2030. While the City of Burbank General Plan states approximately half of the City is located on an area that is classified by the State Mining and Geology Board as MRZ-2, the General Plan also notes that mining is infeasible and the City therefore is not considered to be a potential future source of mineral resources. As such, no cumulative impact related to mineral resources could occur.

Therefore, implementation of the GGRP Update and GHG Emissions Threshold would result in no cumulative impact related to mineral resources.

NO IMPACT

13 Noise

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project result in:				
a. Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	■	☐
b. Generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	■	☐
c. For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	■

a. Would the project result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

Noise is unwanted sound that disturbs human activity. Environmental noise levels typically fluctuate over time, and different types of noise descriptors are used to account for this variability. Noise level measurements include intensity, frequency, and duration, as well as time of occurrence. Noise level (or volume) is generally measured in decibels (dB) using the A-weighted sound pressure level (dBA). Because of the way the human ear works, a sound must be about 10 dBA greater than the reference sound to be judged as twice as loud. In general, a 3 dBA change in community noise levels is noticeable, while 1-2 dBA changes generally are not perceived. Quiet suburban areas typically have noise levels in the range of 40-50 dBA, while arterial streets are in the 50-60+ dBA range. Normal conversational levels are in the 60-65 dBA range, and ambient noise levels greater than 65 dBA can interrupt conversations.

Noise levels typically attenuate (or drop off) at a rate of 6 dBA per doubling of distance from point sources (such as construction equipment). Noise from lightly traveled roads typically attenuates at a rate of about 4.5 dBA per doubling of distance. Noise from heavily traveled roads typically attenuates at about 3 dBA per doubling of distance; while noise from a point source typically attenuates at about 6 dBA per doubling of distance. Noise levels may also be reduced by the introduction of intervening structures. For example, a single row of buildings between the receptor

and the noise source reduces the noise level by about 5 dBA, while a solid wall or berm that breaks the line-of-sight reduces noise levels by 5 to 10 dBA.

The Noise Element of the Burbank General Plan aims to ensure appropriate noise levels considered compatible for community noise environments. Noise in Burbank is primarily generated by vehicular traffic on major arterials and the freeway network, with noise from railroads and aircraft operations representing a major secondary source of noise in certain parts of the City. Land uses adjacent to these roadways, railroads, and the airport, are affected by machinery, industrial activity, and vehicle generated noise. Secondary sources of noise in the City are generated by construction and maintenance activities associated with both public and private works and development projects as well as noise generated by movie and television studios, including explosions, vehicle operations, loudspeakers, and mechanical equipment.[61] The "ambient environment" includes noise emanating from the Burbank Airport, Traffic on Route 5 and Route 134, and the local roadway network. Existing ambient noise levels range from 76 dBA to 100 dBA. Noise levels exceed 65 dBA, a typical standard for "sensitive locations," in some locations throughout the City. The City's normally acceptable exterior noise exposure standard is 65 dBA community noise equivalent level (CNEL) or less for residential and other sensitive land uses.

The GHG Emissions Thresholds is a guidance document and does not propose development or changes to land use and zoning. Thus, implementation of the GHG Emissions Thresholds would not result in construction or operational impacts related to excessive noise levels. The GGRP Update is a policy document containing programs that are consistent with the General Plan. Some of the measures and actions included in the GGRP Update would support construction projects, such as electric vehicle charging station construction that may result in a temporary increase in noise levels. However, future projects identified as measures/actions in the GGRP Update would be reviewed for consistency with the General Plan Noise Element and Municipal Code Chapter 3 Article 2 (Noise Control) and would be required to comply with applicable local, State, and Federal regulations.[62]

The Burbank General Plan identifies noise-sensitive land uses and noise sources and policies to provide for the protection of the community from the adverse effects of excessive noise. The GGRP Update encompasses a suite of GHG-reduction opportunities that affect the transportation sector. For example, Measures T-1.1 and T-1.2 aim to implement the Complete Our Streets Plan and increase transit use. These measures would not only reduce vehicle miles traveled but also reduce traffic-related noise in Burbank. Therefore, the GGRP Update and GHG Emissions Threshold would not generate excessive noise levels and, therefore, would result in a less than significant impact related to noise exposure.

LESS THAN SIGNIFICANT IMPACT

b. Would the project result in generation of excessive groundborne vibration or groundborne noise levels?

While people have varying sensitivities to vibrations at different frequencies, in general they are most sensitive to low-frequency vibration. Vibration in buildings, such as from nearby construction activities, may cause windows, items on shelves, and pictures on walls to rattle. Vibration of building components can also take the form of an audible low-frequency rumbling noise, referred to as

61 Burbank, City of. February 19, 2013. Burbank 2035: General Plan. < https://new.burbankca.gov/documents/173607/0/Burbank2035+General+Plan.pdf/139656b0-80e9-3b11-dc6d-751642c85b38?t=1612301807431> Accessed December 26, 2020.
62 Burbank, City of. 2020. Municipal Code Chapter 3 Article 2 (Noise Control). https://www.codepublishing.com/CA/Burbank/. Accessed February 2, 2021

groundborne noise.[63] Although groundborne vibration is sometimes noticeable in outdoor environments, it is almost never annoying to people who are outdoors. The primary concern from vibration is that it can be intrusive and annoying to building occupants and vibration-sensitive land uses.

Vibration amplitudes are usually expressed in peak particle velocity (PPV) or Root Mean Square (RMS) vibration velocity. The PPV and RMS velocity are normally described in inches per second (in/sec). PPV is defined as the maximum instantaneous positive or negative peak of a vibration signal. PPV is often used in monitoring of blasting vibration because it is related to the stresses that are experienced by buildings.[64] Vibration significance ranges from approximately 50 vibration decibels (VdB), which is the typical background vibration-velocity level, to 100 VdB, the general threshold where minor damage can occur in fragile buildings.[65] The general human response to different levels of groundborne vibration velocity levels is described in Table 6.

Table 6 Human Response to Different Levels of Groundborne Vibration

Vibration Velocity Level	Human Reaction
65 VdB	Approximate threshold of perception for many people
75 VdB	Approximate dividing line between barely perceptible and distinctly perceptible. Many people find that transportation-related vibration at this level is unacceptable.
85 VdB	Vibration acceptable only if there are an infrequent number of events per day

VdB = vibration decibels

Source: Federal Transit Administration. Transit Noise and Vibration Impact Assessment Manual. 2018.[66]

The GHG Emissions Thresholds is a guidance document and does not propose development or changes to land use and zoning. Thus, implementation of the GHG Emissions Thresholds would not result in construction or operational impacts related to groundborne vibration. The GGRP Update is a policy document containing measures that are consistent with the General Plan. Some of the measures and actions would support construction projects, such as electric vehicle charging station construction that may result in a temporary increase in groundborne vibration. However, future projects would be subject to review by the City for compliance with the General Plan and Municipal Code and would be required to comply with applicable local, State, and Federal regulations. Therefore, the GGRP would result in a less than significant impact related to groundbourne vibration.

LESS THAN SIGNIFICANT IMPACT

c. For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use

63 California Department of Transportation (Caltrans). 2013. Transportation and Construction Vibration Guidance Manual (CT-HWANP-RT-13-069.25.3). <http://www.dot.ca.gov/hq/env/noise/pub/TCVGM_Sep13_FINAL.pdf>. Accessed February 16, 2021.
64 Federal Highway Administration (FHWA). 2006. Highway Construction Noise Handbook. (FHWAHEP-06-015; DOT-VNTSC-FHWA-06-02). <http://www.fhwa.dot.gov/environment/construction_noise/handbook>. Accessed February 16, 2021.
65 Federal Transit Administration (FTA). 2018. Transit Noise and Vibration Impact Assessment Manual. <https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/research-innovation/118131/transit-noise-and-vibration-impact-assessment-manual-fta-report-no-0123_0.pdf>. Accessed February 16, 2021.
66 Federal Transit Administration. 2018. Transit Noise and Vibration Impact Assessment Manual. <https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/research-innovation/118131/transit-noise-and-vibration-impact-assessment-manual-fta-report-no-0123_0.pdf>. Accessed February 16, 2021.

airport, would the project expose people residing or working in the project area to excessive noise levels?

The Hollywood Burbank Airport is the only public airport or airstrip located in the City. The airport is located in the northwestern portion of the City, at 2627 N Hollywood Way. The GHG Emissions Thresholds is a guidance document and does not propose development or changes to land use and zoning. Thus, implementation of the GHG Emissions Thresholds would not result in noise exposure impacts related to airports, airstrips, or helicopters. The GGRP Update does not propose land use or zoning changes related to airports, airstrips, or heliports, nor does it include development that would increase exposure to excessive noise levels associated with operation of airports, airstrips, or heliports. Therefore, the GGRP Update and GHG Emissions Thresholds would result in no impact related to aviation-related noise exposure.

NO IMPACT

Cumulative Impacts

The cumulative projects scenario is total projected population growth Burbank (109,686 persons) in 2030. The GGRP Update is a policy document containing measures and actions that are consistent with the City of Burbank General Plan. Some of the measures would support construction projects, such as electric vehicle charging station construction, which may result in a temporary increase in groundborne vibration or noise levels. However, cumulative projects, including the GGRP Update, would be subject to review by the City for compliance with the General Plan and Municipal Code and would be required to comply with applicable State and federal regulations. Additionally, the GGRP Update encompasses a suite of GHG-reduction opportunities that would decrease traffic and traffic-related noise. As such, implementation of the GGRP Update would not generate excessive groundborne vibration or noise levels. Therefore, the GGRP Update would result in a less than significant cumulative impact related to noise.

LESS THAN SIGNIFICANT IMPACT

14 Population and Housing

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Induce substantial unplanned population growth in an area, either directly (e.g., by proposing new homes and businesses) or indirectly (e.g., through extension of roads or other infrastructure)?	☐	☐	☐	■
b. Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	■

a. Would the project induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?

or

b. Would the project displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?

The GHG Emissions Thresholds is a guidance document and does not propose development or changes to land use and zoning. Thus, implementation of the GHG Emissions Thresholds would not result in construction or operational impacts related to substantial unplanned population growth. Likewise, the GGRP Update does not include measures or actions that would increase the population or induce additional population growth that would displace people or housing. Therefore, the GGRP Update and GHG Emissions Threshold would result in no impact related to population and housing.

NO IMPACT

Cumulative Impacts

The cumulative projects scenario is total projected population growth for Burbank (109,686 persons) in 2030. Cumulative projects, including the GGRP Update, are not anticipated to displace people or housing nor induce substantial unplanned population growth in the City. Specifically, the GGRP Update would not contribute to person or housing displacement in the City of Burbank nor result in population growth beyond that already assumed and planned for in the General Plan. Therefore, the GGRP Update and GHG Emissions Threshold would result in no cumulative impact related to population and housing.

NO IMPACT

15 Public Services

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
▪ Fire protection?	☐	☐	☐	■
▪ Police protection?	☐	☐	☐	■
▪ Schools?	☐	☐	☐	■
▪ Parks?	☐	☐	☐	■
▪ Other public facilities?	☐	☐	☐	■

a. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered facilities, or the need for new or physically altered facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for:

- *Fire protection;*
- *Police protection;*
- *Schools;*
- *Parks; or*
- *Other public facilities?*

The GHG Emissions Thresholds is a guidance document and does not propose development or changes to land use and zoning. Thus, implementation of the GHG Emissions Thresholds would not result in construction or operational impacts related to public services. The GGRP Update is a policy document containing measures and actions that are consistent with the Burbank General Plan. Implementation of the GGRP Update would not result in increases in population or induce additional population growth. As such, the GGRP Update would not require the construction of new or physically altered governmental facilities to serve additional population, the construction of which could cause significant environmental impacts. Furthermore, future projects identified as

measures/actions in the GGRP Update would be reviewed for consistency with the Burbank General Plan and other applicable local and State regulations.

Nonetheless, implementing the GGRP Update would require some modification of existing policies, including developing and implementing new programs and projects, or modifying existing ones. The GGRP Update is designed to reduce adverse environmental impacts associated with climate change. While modifications of existing policies are needed, the measures and actions included in the GGRP Update would not result in increases in population or induce additional population growth that would result in the provision of new or physically altered governmental facilities or the need for new or physically altered governmental facilities. Therefore, the GGRP Update and GHG Emissions Threshold would result in no impact related to public services in terms of need for the construction of new or altered governmental facilities.

NO IMPACT

Cumulative Impacts

The cumulative projects scenario is total projected population growth for Burbank (109,686 persons) in 2030. Implementation of cumulative projects, including the GGRP Update, would not result in increases in population or induce additional population growth beyond that assumed under the Burbank General Plan. Therefore, implementation of the GGRP Update would not result in substantial cumulative need to expand public services facilities. Therefore, the GGRP Update would result in a less-than significant cumulative impact related to public services.

LESS THAN SIGNIFICANT IMPACT

16 Recreation

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a. Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☐	■
b. Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☐	☐	■

a. Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?

or

b. Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?

Burbank is a primarily urbanized community with approximately 2,700 total acres of designated open space throughout the City, including approximately 700 acres of improved parkland.[67] The General Plan Open Space and Conservation Element incorporate goals and policies to protect open space and recreational resources in the City.[68] Additionally, the City Municipal Code Chapter 1 Zoning outlines regulation of park accessibility, services, and maintenance within the City.

The GHG Emissions Thresholds is a guidance document and does not propose development or changes to land use and zoning. Thus, implementation of the GHG Emissions Thresholds would not result in construction or operational impacts related to neighborhood or regional parks. The GGRP Update is a policy document containing programs that are consistent with the Burbank General Plan. Additionally, the GGRP Update would not result in substantial population growth or direct land use changes. As such, implementation of the GGRP Update would not result in a substantial physical deterioration of parks or other recreational facilities or result in the need to expand recreational facilities. Therefore, the GGRP Update and GHG Emissions Threshold would result in no impact related to the need for construction of new or altered recreational facilities.

NO IMPACT

67 Burbank, City of. 2013. General Plan. <https://new.burbankca.gov/documents/173607/0/Burbank2035+General+Plan.pdf/139656b0-80e9-3b11-dc6d-751642c85b38?t=1612301807431> Accessed February 5, 2021.
68 Burbank, City of. 2013. General Plan. <https://new.burbankca.gov/documents/173607/0/Burbank2035+General+Plan.pdf/139656b0-80e9-3b11-dc6d-751642c85b38?t=1612301807431> Accessed February 5, 2021.

Cumulative Impacts

The cumulative projects scenario is total projected population growth for Burbank (109,686 persons) in 2030. Implementation of cumulative projects, including the GGRP Update, would not result in increases in population or induce additional population growth beyond that assumed under the General Plan. In addition, the GGRP Update would not result in population growth or direct land use change. Therefore, implementation of the GGRP Update would not result in substantial cumulative physical deterioration of parks or other recreational facilities or result in the cumulative need to expand recreational facilities. Therefore, implementation of the GGRP Update and GHG Emissions Threshold would result in no cumulative impact related to recreation.

NO IMPACT

17 Transportation

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	☐	☐	☐	■
b. Conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?	☐	☐	☐	■
c. Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible use (e.g., farm equipment)?	☐	☐	■	☐
d. Result in inadequate emergency access?	☐	☐	■	☐

a. Would the project conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?

or

b. Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?

The City embraces a policy direction to make Burbank a place where bicycling and walking are encouraged and fostered, and where safety, education and facilities are provided as an ongoing part of transportation and recreational planning and programs. While allowing people to circulate without cars is an emphasis of the Mobility Element, another emphasis is getting people to share rides and reduce the number of vehicular trips. In order to accomplish this, the City aims to take specific actions that will assist people in finding ways to share a ride, give priority to vehicles with more than a single occupant, or even eliminate the need for the trip totally.[69]

The City of Burbank General Plan Mobility Element includes the following applicable active transportation and transit with goal of reducing vehicle miles traveled policies:

- Policy 1.1 Consider economic growth, transportation demands, and neighborhood character in developing a comprehensive transportation system that meets Burbank's needs.
- Policy 2.1 Improve Burbank's alternative transportation access to local and regional destinations through land use decisions that support multimodal transportation.
- Policy 2.3 Prioritize investments in transportation projects and programs that support viable

69 Burbank, City of. 2013. General Plan. <https://new.burbankca.gov/documents/173607/0/Burbank2035+General+Plan.pdf/139656b0-80e9-3b11-dc6d-751642c85b38?t=1612301807431> Accessed February 5, 2021.

alternatives to automobile use.

- Policy 2.4 Require new projects to contribute to the city's transit and/or non-motorized transportation network in proportion to its expected traffic generation.
- Policy 2.5 Consult with local, regional, and state agencies to improve air quality and limit greenhouse gas emissions from transportation and goods movement.
- Policy 3.1 Use multi-modal transportation standards to assess the performance of the City street system.
- Policy 3.2 Complete city streets by providing facilities for all transportation modes.
- Policy 3.3 Provide attractive, safe street designs that improve transit, bicycle, pedestrian, and equestrian connections between homes and other destinations.
- Policy 3.5 Design street improvements so they preserve opportunities to maintain or expand bicycle, pedestrian, and transit systems.
- Policy 4.1 Ensure that local transit service is reliable, safe, and provides high-quality service to
- major employment centers, shopping districts, regional transit centers, and residential
- areas.
- Policy 4.2 Use best-available transit technology to better link local destinations and improve rider convenience and safety, including specialized services for youth and the elderly.
- Policy 4.3 Improve and expand transit centers; create a new transit center in the Media District.
- Policy 4.4 Advocate for improved regional bus transit, bus rapid transit, light rail, or heavy rail services linking Burbank's employment and residential centers to the rest of the region.
- Policy 4.5 Improve transit connections with nearby communities and connections to Downtown Los Angeles, West San Fernando Valley, Hollywood, and the Westside.
- Policy 4.6 Proactively plan for transit deficiencies should Los Angeles County Metropolitan Transportation Authority (MTA) make cutbacks to local service.
- Policy 4.7 Integrate transit nodes and connection points with adjacent land uses and public pedestrian spaces to make them more convenient to transit users.
- Policy 4.8 Promote multimodal transit centers and stops to encourage seamless connections between local and regional transit systems, pedestrian and bicycle networks, and commercial and employment centers.
- Policy 4.9 Support efforts to create a seamless fare-transfer system among different transportation modes and operators.
- Policy 4.10 Actively promote public-private partnerships for transit-oriented development opportunities.
- Policy 5.1 Maximize pedestrian and bicycle safety, accessibility, connectivity, and education throughout Burbank to create neighborhoods where people choose to walk or ride between nearby destinations.
- Policy 5.2 Implement the Bicycle Master Plan by maintaining and expanding the bicycle network, providing end-of-trip facilities, improving bicycle/transit integration, encouraging bicycle use, and making bicycling safer.
- Policy 5.3 Provide bicycle connections to major employment centers, shopping districts, residential areas, and transit connections.
- Policy 5.4 Ensure that new commercial and residential developments integrate with Burbank's bicycle and pedestrian networks.
- Policy 5.5 Require new development to provide land necessary to accommodate pedestrian infrastructure, including sidewalks at the standard widths specified in Table M-2.
- Policy 7.2 Design commercial and residential parking standards to limit new vehicle trips, incentivize transit use, and promote non-motorized transportation.

- Policy 7.3 Reconfigure or remove underutilized street parking when needed to accommodate safer bicycle travel, increase walkability, improve transit operation, or improve vehicle safety.
- Policy 8.1 Update and expand the citywide transportation demand management requirements to improve individual economic incentives and change traveler choice.
- Policy 8.2 Strengthen partnerships with transit management organizations to develop citywide demand management programs and incentives to encourage alternative transportation options.
- Policy 8.3 Require multi-family and commercial development standards that strengthen connections to transit and promote walking to neighborhood services.
- Policy 9.1 Ensure safe interaction between all modes of travel that use the street network, specifically the interaction of bicyclists, pedestrians, and equestrians with motor vehicles.
- Policy 9.2 Address the needs of people with disabilities and comply with the requirements of the Americans with Disabilities Act during the planning and implementation of transportation improvement projects.
- Policy 9.3 Provide access to transportation alternatives for all users, including senior, disabled, youth, and other transit-dependent residents.
- Policy 9.4 Preserve and promote safe riding for equestrians to access public riding trails.

In addition, the City's Complete Our Streets Plan regulates the development and implementation of a bicycle and pedestrian network in order to provide a viable transportation alternative to the automobile, improves safety for bicyclists and pedestrians, maintenance of bicycle network, facility design, community involvement, safety, and education[70] Furthermore, the SCAG 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) identifies how the southern California region would meet its GHG emission reduction targets.[71] The SCAG 2016 RTP/SCS is supported by a combination of transportation and land use strategies that help the region achieve State GHG emission reduction goals and Federal Clean Air Act requirements, preserve open space areas, improve public health and roadway safety, support the vital goods movement industry, and utilize resources more efficiently.

The GHG Emissions Thresholds is a guidance document and does not propose development or changes to land use and zoning. Thus, implementation of the GHG Emissions Thresholds would not result in construction or operational impacts related to conflict with a program, plan, ordinance, or policy addressing the transportation circulation system. The GGRP Update is a policy document containing measures and actions that are consistent with the City General Plan Mobility Element, Complete Our Streets Plan, and the SCAG 2016 RTP/SCS with many that are aimed at facilitating the implementation of the local transportation programs and improvements. For example, Measure T-1.1 aims to implement the Complete Our Streets Plan, increasing active transportation mode share; Measure T-1.2 intends to provide clean, abundant, affordable and accessible public transit; and Measure T-1.3 will continue TMO expansion.

The measures and supporting actions would be consistent with and promote the General Plan Mobility Element and the Complete Our Streets Plan. Implementation of some of the measures and actions included in the GGRP Update may require future infrastructure development or improvements, such as bike paths and lockers. However, projects would be subject to review by the City for compliance with the General Plan and be required to comply with applicable local, State,

70 Burbank, City of. June 16, 2020. Complete Our Streets Plan. https://www.burbankca.gov/home/showpublisheddocument?id=54111 Accessed February 2, 2021.
71 Southern California Association of Governments (SCAG). 2016. 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy. Available: <http://scagrtpscs.net/Pages/FINAL2016RTPSCS.aspx#toc>. Accessed February 16, 2021.

and Federal regulations. Therefore, the GGRP Update and GHG Emissions Threshold would result in no impact related to consistency with plans addressing the transportation circulation system.

NO IMPACT

c. Would the project substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible use (e.g., farm equipment)?

or

d. Would the project result in inadequate emergency access?

The GHG Emissions Thresholds is a guidance document and does not propose development or changes to land use and zoning. Thus, implementation of the GHG Emissions Thresholds would not result in construction or operational impacts related to risk associated with transportation design or features. The GGRP Update is a policy document containing measures and supporting actions that are consistent with the City General Plan and would not facilitate development beyond that allowed under the General Plan. As such, it would not create transportation hazards or result in inadequate emergency access. For example, Measure T-1.1 aims to implement the Complete Our Streets Plan to increase active transportation and decrease vehicle miles traveled within the City. Additionally, Measure T-1.2 intends to provide clean, abundant, affordable and accessible public transit and Measure T-1.3 will continue TMO expansion. These GGRP measures and supporting actions would promote active transportation, ridership, and sustainable transportation practices within the community to enhance bicycle, pedestrian, and transit connectivity, which in turn would reduce potential transportation hazards and would provide adequate emergency access.

The GGRP Update does not include measures and actions that would substantially increase transportation hazards due to a design feature or incompatible land uses. Furthermore, projects would be reviewed for consistency with the Burbank General Plan and other applicable local and State regulations. Therefore, the GGRP Update and GHG Emissions Threshold would result in a less-than significant impact related to transportation hazards and emergency access.

LESS THAN SIGNIFICANT IMPACT

Cumulative Impacts

The cumulative projects scenario is total projected population growth for Burbank (109,686 persons) in 2030. The GGRP Update is a policy document containing measures and actions that are consistent with the City's General Plan, and, similar to the other cumulative projects, the GGRP Update does not propose development beyond that anticipated under the General Plan that would require transportation facilities. The measures and actions included in the GGRP Update promote alternative modes of transportation and reduction of the amount of vehicle miles traveled throughout the City. In addition, the GGRP Update measures and actions would not conflict with the objectives and policies of the General Plan or Complete Our Streets Plan but would rather be consistent with and promote those plans. Therefore, the GGRP Update and GHG Emissions Thresholds would result in a less than significant cumulative impact related to transportation.

LESS THAN SIGNIFICANT IMPACT

18 Tribal Cultural Resources

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in a Public Resources Code Section 21074 as either a site, feature, place, or cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:				
a. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k), or	☐	☐	■	☐
b. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	☐	☐	■	☐

a. Would the project cause a substantial adverse change in the significance of a tribal cultural resource as defined in Public Resources Code Section 21074 that is listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k)?

or

b. Would the project cause a substantial adverse change in the significance of a tribal cultural resource as defined in Public Resources Code 21074 that is a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1?

On September 15, 2021, the eight following Native American Heritage Commission (NAHC)-identified local Native American tribal groups were formally notified that the City initiated environmental review of the GGRP Update and GHG Emissions Threshold and were invited to provide consultation:

- Gabrieleño Band of Mission Indians – Kizh Nation
- Gabrieleño/Tongva Nation
- Fernandeño Tataviam Band of Mission Indians

- Gabrieleño Tongva Indians of California Tribal Council
- San Gabriel Band of Mission Indians
- Gabrieleño-Tongva Tribe
- Soboba Band of Luiseño Indians
- Santa Rosa Band of Cahuilla Indians

On September 15, 2021, the NAHC was also notified that the City initiated environmental review of the GGRP Update/GHG Emissions Thresholds and were invited to provide comments. During the consultation period, one response was received from Jairo Avila of the Fernandeño Tataviam Band of Mission Indians. The City met with Mr. Avila on January 26, 2022. During the meeting, the proposed project was discussed. Additionally, the specific conditions, measures, or protocols that are being considered to address concerns of local tribes as part of the proposed project were discussed. No mitigation measures were requested, and no tribal cultural resources were identified that could be impacted by the plan. Therefore AB 52 compliance requirements have been met.

The GHG Emissions Thresholds is a guidance document and does not propose development or changes to land use and zoning. Thus, implementation of the GHG Emissions Thresholds would not result in construction or operational impacts related to tribal cultural resources. The GGRP Update would not involve land use or zoning changes but would instead promote infrastructure development and redevelopment. As a policy document, the GGPR Update would also not directly entail ground disturbing activities. Implementation of the following measures may promote infrastructure development and redevelopment. Measure BE-1.1 and BE-1.2 promote electrification of newly constructed and existing buildings, while Measure C-1.1 and EG-1.1 promote installation of solar panels to facilitate the switching of building fuel and aim also to develop a battery storage program. Measure T-1.1 involves the implementation of the Complete Our Streets Plan, which would include the installation of new bicycle and pedestrian facilities/infrastructure and Measure T-3.1 encourages the installation of electric vehicle charging stations and supporting infrastructure. Furthermore, Measure CS-1.1, facilitates the preparation of an Urban Forest Master Plan and seeks to plant and maintain 2,000 net new trees by the year 2030. The physical changes these upgrades and additions would entail are dependent on the year of building construction and location of electrical and service panels and plumbing connection of condensate drains, which sometimes may include modifications to the interior and/or exterior of buildings for wiring and panel replacement and minor excavation for connection of drainage to sewer systems.

Implementation of these measures could impact unknown tribal cultural resources during construction that involves below-grade activities. However, projects would be required to comply with Historic Resources Management Ordinance and General Plan Open Space and Conservation Element purpose that require the identification and preservation of sites and structures of architectural, historical, archaeological, and cultural significance. This includes sites, structures, and areas that are associated with tribal cultural activities or persons that contribute to the cultural character of artifacts. As such, tribal cultural resources would be protected upon discovery and, thus, impacts would be reduced to a minimal level. Additionally, future related projects would be required to undergo environmental review, including assessment and mitigation incorporation once project details and locations are known. Further, the City proposes to implement PDF CUL-1, which establishes specific requirements for development projects that are implemented as part of the GGRP Update that require ground disturbance (grading, trenching, foundation work, and other excavations) beyond five feet bgs where it was not previously excavated beyond five feet bgs. Therefore, the GGRP Update and GHG Emissions Threshold would result in a less than significant impact related to tribal cultural resources.

LESS THAN SIGNIFICANT IMPACT

Cumulative Impacts

The cumulative projects scenario is total projected population growth for Burbank (109,686persons) in 2030. Cumulative projects could increase the potential for adverse effects to unknown tribal cultural resources in the City. Impacts to tribal cultural resources are site-specific; accordingly, as required under applicable laws and regulations, potential impacts associated with cumulative developments would be addressed on a case-by-case basis as cumulative project details and locations become known. Therefore, the GGRP Update and GHG Emissions Threshold would result in a less than significant cumulative impact related to tribal cultural resources.

LESS THAN SIGNIFICANT IMPACT

19 Utilities and Service Systems

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	☐	☐	■	☐
b. Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	☐	☐	☐	■
c. Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☐	■
d. Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	☐	☐	☐	■
e. Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	☐	☐	☐	■

a. Would the project require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?

The GHG Emissions Thresholds is a guidance document and does not propose development or changes to land use and zoning. Thus, implementation of the GHG Emissions Thresholds would not have direct construction or operational impacts related to utilities and service systems. The GGRP Update is a policy document aimed at reducing water and energy consumption and related GHG emissions throughout the City of Burbank and does not include site-specific infrastructure designs or project proposals. Implementing the GGRP Update would not result in an increase in population and

housing nor would it facilitate growth beyond that anticipated by the General Plan. As such, implementing the GGRP Update would not create new demand related to water, wastewater, stormwater drainage, electric power, natural gas power, or telecommunications utilities.

However, projects resulting from implementation of the GGRP Update could include redevelopment and/or restructuring of electricity and natural gas power facilities and infrastructure. Measure BE-1.1 and BE-1.2 promote electrification of newly constructed and existing buildings, while Measure C-1.1 and EG-1.1 promote installation of solar panels to facilitate the switching of building fuel and aim also to develop a battery storage program. Measure T-1.1 involves the implementation of the Complete Our Streets Plan that would include the installation of new bicycle and pedestrian facilities/infrastructure and Measure T-3.1 encourages the installation of electric vehicle charging stations and supporting infrastructure. Furthermore, Measure CS-1.1, facilitates the preparation of an Urban Forest Master Plan and seeks to plant and maintain 2,000 net new trees by the year 2030.

Water Supply Facilities/Infrastructure

Burbank does not have ownership rights to naturally occurring water underneath the City and is dependent on imported water purchased from the Metropolitan Water District. However, Burbank receives groundwater credits based on the amount of water BWP imports to Burbank that eventually makes it way down to underground aquifers. Burbank's water supply is made up of 47 percent stored groundwater, 33 percent State Water Project water, and 20 percent water from groundwater credits. Groundwater credits are received based on the extent of water imported by BWP to Burbank and arrives to underground aquifers, total recycled water, and untreated water stored as groundwater. Burbank utilizes these credits to pump from wells located in Burbank and distributes as drinking water after being treated. BWP supplies a greater part of its drinking water through purchased water from MWD with the State Water Project. [72]

The City of Burbank addresses issues of water supply in its Urban Water Management Plan (UWMP).[73] The 2020 UWMP is a long-range planning document used to assess current and projected water usage, water supply planning and conservation and recycling efforts. Burbank minimizes the need for importing water by utilizing recycling water, spreading and storing imported water, and promoting water conservation. MWD water supply reliability is dependent on their ability to meet 100 percent of retail demands and they are working on a "diverse water portfolio" to do that. BWP's groundwater supply reliability is dependent on drought years which could limit Burbank from accessing enough groundwater and gaining enough groundwater credits but has the option of purchasing water through LADWP. BWP's two treatment plants allows for a steady flow of potable water. Recycled water supply is derived from the Burbank Water Reclamation Plant and is highly reliable; it is connected to the LA-Glendale Water Reclamation Plant as backup or supplemental water supply. It is expected by normal and dry-year estimates that future demands through 2040 will have 100 percent reliability. In addition, the 2020 UWMP includes a Water Shortage Contingency Plan.

Measure W-1.1 promotes water consumption reduction through continued implementation of the 2020 UWMP water conservation programs, enforce MWELO requirements, enforce large irrigation customers required use of recycled water, work with BWP to implement public education on water

72 Burbank Water and Power. Water Supply. https://www.burbankwaterandpower.com/water/water-supply/water-sources> Accessed February 2021.
73 Burbank Water and Power>. 2015. Urban Water Management Plan. < https://www.burbankwaterandpower.com/images/administrative/downloads/2015_UWMP_Final_06-24-2016.pdf>. Accessed February 4, 2021.

conservation efforts, update BWP's 2010 Recycled Water Master Plan, and modernize irrigation controllers of at least three parks per year, upgrading systems at all parks by 2025 in Burbank.

The GGRP Update and GHG Emissions Thresholds would not result in new land uses that would contribute to an increase in water use compared to existing conditions or require relocation or construction of new water infrastructure. Therefore, no impact related to need for construction or expansion of water supply facilities and infrastructure would occur.

Wastewater Treatment Facilities/Infrastructure

The City of Burbank operates the Burbank Water Reclamation Plant (BWRP). It is a tertiary treatment plant built in 1966 to meeting the communities residential and commercial wastewater and sewer demands. It treats 9 million gallons (MG) of sewage per day. The BWRP performs a multi-step treatment process where it eventually ends up the reclaimed water pump station that delivers reclaimed water to the City.[74] The GGRP Update and GHG Emissions Thresholds would not result in new land uses that would generate sanitary wastewater or otherwise contribute to an increase in wastewater treatment requirements. The amount or characteristics of wastewater treated at the BWRP would not change compared to existing conditions with implementation of the proposed plan. The GGRP Update and GHG Emissions Thresholds would not require relocation or construction of new wastewater collection or treatment infrastructure. Therefore, no impact related to need for construction or expansion of wastewater treatment facilities and infrastructure would occur.

Stormwater Drainage Facilities/Infrastructure

As discussed in Section 10, *Hydrology and Water Quality*, the GHG Emissions Thresholds provide guidance during CEQA review, and does not propose development or changes to land use and zoning. Thus, implementation of the GHG Emissions Thresholds would not have direct construction or operational impacts related to alterations in polluted runoff. However, implementation of the following GGRP Update measures and supporting actions may promote infrastructure development and redevelopment. Measure BE-1.1 and BE-1.2 promote electrification of newly constructed and existing buildings, while Measure C-1.1 and EG-1.1 promote installation of solar panels to facilitate the switching of building fuel and aim also to develop a battery storage program. Measure T-1.1 involves the implementation of the Complete Our Streets Plan, which would include the installation of new bicycle and pedestrian facilities/infrastructure and Measure T-3.1 encourages the installation of electric vehicle charging stations and supporting infrastructure. Furthermore, Measure CS-1.1, facilitates the preparation of an Urban Forest Master Plan and seeks to plant and maintain 2,000 net new trees by the year 2030.

Construction of infrastructure development and redevelopment could result in erosion and potential redirect of flood flows or drainage patterns. However, implementation of proposed actions would not include infrastructure changes that would result in additional sources of polluted runoff. Additionally, future related projects would be required to undergo environmental review, including assessment and mitigation incorporation once project details and locations are known. As a result, no negative impacts related to polluted runoff would occur. Therefore, implementing the GGRP Update would have no effect on polluted runoff. As such, implementation of the GGRP Update would not require a Stormwater Pollution Prevention Plan (SWPPP). Therefore, no impact

74 Burbank, City of. Burbank Water Reclamation Plan. https://www.burbankca.gov/web/public-works/burbank-water-reclamation-plant Accessed February 4, 2021.

related to need for construction or expansion of stormwater drainage facilities and infrastructure would occur.

Electric Power Facilities/Infrastructure

Measures BE-1.1 and BE-1.2 propose revisions to existing ordinances and adoption of new ordinances to incorporate electrification of all new buildings and 10 percent of existing buildings within the City by 2030. In addition, new electric vehicle charging station installation would involve the construction of new electric power facilities and infrastructure and could also involve the relocation of existing electric power infrastructure and transmission lines. The GGRP Update and GHG Emissions Thresholds would serve as a pathway to reduce GHG emissions and other beneficial environmental and sustainability effects. These benefits include reduction in energy consumption. Therefore, the GGRP Update and GHG Emissions Threshold would result in a less than significant impact related to construction, expansion, or relocation of electric power facilities and infrastructure.

Natural Gas Power Facilities/Infrastructure

The GGRP Update would not involve new land uses that require new or additional natural gas service. However, implementation of the GGRP Update could involve the relocation or removal of existing natural gas facilities and infrastructure. The GGRP Update and GHG Emissions Threshold would serve as a pathway to reduce GHG emissions and other beneficial environmental and sustainability effects. These benefits include reduction in energy consumption. Therefore, the GGRP Update and GHG Emissions Threshold would result in a less than significant impact related to removal of natural gas power facilities and infrastructure.

Telecommunications Facilities/Infrastructure

The proposal plan would not involve new land uses that would require telecommunications infrastructure and is not anticipated to involve the relocation of existing telecommunications facilities. Therefore, the GGRP Update and GHG Emissions Threshold would result in no impact related to need for construction or expansion of telecommunication facilities and infrastructure.

NO IMPACT

b. Would the project have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?

or

c. Would the project result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?

The GHG Emissions Thresholds is a guidance document and does not propose development or changes to land use and zoning. Thus, implementation of the GHG Emissions Thresholds would not result in construction or operational impacts related to water supplies. The GGRP Update is a policy-level document that does not include site-specific infrastructure designs or project proposals, nor does it grant entitlements for development that would have the potential to increase demand for water supply or other utility services. Implementing the GGRP Update would include no new residential construction and would have no effect on water demand and wastewater treatment

demand. Thus, the GGRP Update and GHG Emissions Thresholds would result in no impact related to water supply and wastewater treatment.

NO IMPACT

d. Would the project generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?

or

e. Would the project comply with federal, state, and local management and reduction statutes and regulations related to solid waste?

The City of Burbank has a multiple licensed waste haulers that collect solid waste, green waste, recyclables, and bulky items. Burbank's solid waste is transferred to a variety of landfills, including: Chiquita Canyon Sanitary Landfill, Antelope Valley Public Landfill, Azusa Land Reclamation Co. Landfill, Burbank Landfill, Clean Harbors Landfill, Covanta Stanislaus, El Sobrante Landfill, Frank R. Bowerman Sanitary LF, Kirby Canyon Recycle and Disposal Facility, Lancaster Landfill and Recycling Center, McKittrick Waste Treatment Site, Mid Valley Sanitary Landfill, Monterey Peninsula Landfill, Newby Island, Olinda Alpha Landfill, San Timoteo Sanitary Landfill, Simi Valley Landfill & Recycling Center, Southeast Resource Recovery Facility, Sunshine Canyon City/County Landfill. Although the City waste haulers could use multiple landfills, the majority of the waste is transferred to Burbank Landfill and Chiquita Canyon Sanitary Landfill. CalRecycle reports that in 2019 a total of 90,932 tons of solid waste from Burbank was disposed at 19 different landfills. Additionally, the City of Burbank has a landfill within City jurisdictional boundaries, the Burbank Landfill is operational and has a remaining capacity of 5,174,362 cubic yards.

The GHG Emissions Thresholds is a guidance document and does not propose development or changes to land use and zoning. Thus, implementation of the GHG Emissions Thresholds would not result in construction or operational impacts related to solid waste. The GGRP Update would not involve new land uses that require new or additional solid waste collection service. Rather Measure SW-1.1 promotes waste reduction via participation in recycling and organic waste programs and reducing such waste going to landfills to achieve 75 percent reduction in waste-related GHG emissions by 2025. The GGRP Update would not facilitate development and, thus, would not affect solid waste collection and disposal demand. Additionally, because the GGRP is a policy document that would not facilitate growth beyond that anticipated by the General Plan, it would not generate solid waste in excess of State or local standards. Therefore, the GGRP Update and GHG Emissions Threshold would result in no impact related to solid waste.

NO IMPACT

Cumulative Impacts

The cumulative projects scenario is total projected population growth Burbank (109,686 persons) in 2030. Cumulative projects within the City could result in increases in population and additional use of or need for utilities and service systems. While implementation of the GGRP Update and related infrastructure projects would not result in increases in population or induce additional population growth that would require additional use of existing City utilities or service systems, implementation of new or replacement energy or transportation infrastructure under the GGRP Update could result in less than significant cumulative utility construction impacts. Therefore, implementation of the

GGRP Update and GHG Emissions Threshold would result in a less than significant cumulative impact related to utilities and service systems.

LESS THAN SIGNIFICANT IMPACT

20 Wildfire

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:				
a. Substantially impair an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	■
b. Due to slope, prevailing winds, and other factors, exacerbate wildfire risks and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	☐	☐	☐	■
c. Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	☐	☐	☐	■
d. Expose people or structures to significant risks, including downslopes or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	☐	☐	☐	■

a. If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project substantially impair an adopted emergency response plan or emergency evacuation plan?

or

b. If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project, due to slope, prevailing winds, and other factors, exacerbate wildfire risks and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?

or

c. If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?

or

d. If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project expose people or structures to significant risks, including downslopes or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?

Two Mountain Fire Zones are designated by the Burbank Fire Department.[75] One zone is located along the foothills of the Verdugo Mountains in northeast Burbank, and the other is located in southwestern portion of the City adjacent to the Warner Bros. Studios. According to CalFIRE, Burbank is located in a designated California Very High Fire Hazard Severity Zone.[76] Per the Burbank General Plan Safety Element, the City is susceptible to loss from fire in the urban-wildland interface due to its proximity to the Verdugo Mountains and the Hollywood Hills.[77] Furthermore, City Municipal Code Chapter 1 (Building and Fire) provides regulations related to the safety of life and property from fire within the City.[78] The GGRP Update is a policy-level document that does not propose specific or other physical changes such as habitable development that could be put at risk in the case of a wildfire, nor does it grant entitlements for development that would have the potential to directly cause wildfire. Rather, the GGRP aims to reduce natural gas infrastructure that poses wildfire risk if damaged during seismic events and to underground new or restructured electric power lines that pose wildfire risk if damaged during high-wind events. Thus, the GGRP Update and Emissions Threshold would result in no impact related to wildfire.

NO IMPACT

Cumulative Impacts

The cumulative projects scenario is total projected population growth for Burbank (109,686 persons) in 2030. The GGRP Update and GHG Emissions Threshold do not include new habitable development that could be at risk from wildfire, nor does it grant entitlements for development that would have the potential to cause wildfire. Furthermore, as a guidance document, the GHG Emissions Thresholds would not result in cumulative impacts. Thus, the GGRP Update and the GHG Emissions Threshold would result in no cumulative impact related to wildfire.

NO IMPACT

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76 California Department of Forestry and Fire Protection (CalFIRE). 2020. Fire Hazard Severity Zone Viewer. https://egis.fire.ca.gov/FHSZ/ . Accessed March 3, 2021.
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21 Mandatory Findings of Significance

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Does the project:				
a. Have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	☐	■	☐
b. Have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	☐	☐	■	☐
c. Have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☐	■	☐

a. Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?

The intent of the GGRP Update is to reduce GHG emissions from Burbank community and municipal operations through implementation of measures and corresponding actions. The measures and supporting actions are consistent with the Burbank 2035 General Plan and encourage residents, businesses, and the City to reduce energy, fuel use, water use, VMT, and solid waste generation and the associated GHG emissions. The GGRP Update would not facilitate development that would eliminate or threaten wildlife habitats or eliminate important examples of the major periods of California history or prehistory. Furthermore, as a guidance document, the GHG Emissions

Thresholds would not result in significant biological and cultural resources impacts. Therefore, as discussed in more detail in Sections 4, *Biological Resources*, and 5, *Cultural Resources*, the GGRP Update and GHG Emissions Thresholds would result in a less than significant impact related to biological and cultural resources.

LESS THAN SIGNIFICANT IMPACT

b. Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?

Implementation of the GGRP Update would result in a cumulatively beneficial reduction of GHG emissions across the City. In addition, as discussed throughout the respective cumulative impacts discussions within this document, the GGRP Update would not result in significant cumulative impacts. Rather, implementation of the GGRP Update would be consistent with General Plan policies aimed at reducing emissions of GHGs and air pollutants, reducing VMT, reducing energy and water supply demands on utilities, and decreasing solid waste generation. Furthermore, as a guidance document, the GHG Emissions Thresholds would not result in cumulative impacts. Therefore, the GGRP Update and GHG Emissions Thresholds would result in an overall less than significant cumulative impact related to all CEQA topics addressed within this document.

LESS THAN SIGNIFICANT IMPACT

c. Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?

The GGRP Update would not result in adverse effects on human beings. Rather, as discussed throughout this document, the GGRP Update would serve as a pathway to reduce GHG emissions and other positive environmental and sustainability effects. These benefits include reduction in non-renewable building energy consumption and VMT (and thus air pollution), in transportation- related GHG emissions, energy and water consumption, and solid waste generation. However, as discussed in more detail in Sections 3, *Air Quality*, 13, *Noise*, and 17, *Transportation*, the GGRP Update could cause temporary construction impacts related to transportation, air quality, and noise that could, in turn, affect human beings but would not result in a substantial adverse environmental effect. Furthermore, as a guidance document, the GHG Emissions Thresholds would not result in cumulative impacts. Therefore, the GGRP Update would result in a less than significant impact related to potential for adverse effects on human beings.

LESS THAN SIGNIFICANT IMPACT

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Rincon prepared this GGRP Update and GHG Emissions Threshold Initial Study-Negative Declaration under contract to the City of Burbank. Persons involved in data gathering, environmental impact analysis, quality review, graphics preparation, and document formatting include the following.

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Appendix A

Sources, Health Effects, and Typical Controls Associated with Criteria Pollutants

Sources, Health Effects, and Typical Controls Associated with Criteria Pollutants

Pollutant	Sources	Health Effects	Typical Controls
Ozone (O_3)	Formed when reactive organic gases (ROG) and nitrogen oxides react in the presence of sunlight. ROG sources include any source that burns fuels (e.g., gasoline, natural gas, wood, oil); solvents; petroleum processing and storage.	Breathing difficulties, lung tissue damage, vegetation damage, damage to rubber and some plastics.	Reduce motor vehicle reactive organic gas (ROG) and nitrogen oxide (NO_X) emissions through emission standards, reformulated fuels, inspections programs, and reduced vehicle use. Limit ROG emissions from commercial operations, gasoline refueling facilities, and consumer products. Limit ROG and NO_X emissions from industrial sources such as power plants and manufacturing facilities.
Carbon monoxide (CO)	Any source that burns fuel such as automobiles, trucks, heavy construction and farming equipment, residential heating.	Chest pain in heart patients, headaches, reduced mental alertness.	Control motor vehicle and industrial emissions. Use oxygenated gasoline during winter months. Conserve energy.
Nitrogen dioxide (NO_2)	See Carbon Monoxide.	Lung irritation and damage. Reacts in the atmosphere to form ozone and acid rain.	Control motor vehicle and industrial combustion emissions. Conserve energy.
Sulfur dioxide (SO_2)	Coal or oil burning power plants and industries, refineries, diesel engines.	Increases lung disease and breathing problems for asthmatics. Reacts in the atmosphere to form acid rain.	Reduce use of high sulfur fuels (e.g., use low sulfur reformulated diesel or natural gas). Conserve energy.
Respirable particulate matter (PM_{10})	Road dust, windblown dust, agriculture and construction, fireplaces. Also formed from other pollutants (NO_X, SO_X, organics).	Increased respiratory disease, lung damage, cancer, premature death, reduced visibility, surface soiling.	Control dust sources, industrial particulate emissions, woodburning stoves and fireplaces. Reduce secondary pollutants which react to form PM_{10}. Conserve energy.
Fine particulate matter ($PM_{2.5}$)	Fuel combustion in motor vehicles, equipment, and industrial sources; residential and agricultural burning. Also formed from reaction of other pollutants (NO_X, SO_X, organics, and NH3).	Increases respiratory disease, lung damage, cancer, and premature death, reduced visibility, surface soiling. Particles can aggravate heart diseases such as congestive heart failure and coronary artery disease.	Reduce combustion emissions from motor vehicles, equipment, industries, and agricultural and residential burning. Precursor controls, like those for ozone, reduce fine particle formation in the atmosphere.
Lead	Metal smelters, resource recovery, leaded gasoline, deterioration of lead paint.	Learning disabilities, brain and kidney damage. Control metal smelters.	No lead in gasoline or paint.
Sulfur Dioxide (SO_2)	Coal or oil burning power plants and industries, refineries, diesel engines.	Increases lung disease and breathing problems for asthmatics. Reacts in the atmosphere to form acid rain.	Reduce use of high sulfur fuels (e.g., use low sulfur reformulated diesel or natural gas). Conserve energy.
Sulfates	Produced by reaction in the air of SO2, (see SO2 sources), a component of acid rain.	Breathing difficulties, aggravates asthma, reduced visibility.	See SO2

Pollutant	Sources	Health Effects	Typical Controls
Hydrogen Sulfide	Geothermal power plants, petroleum production and refining, sewer gas.	Nuisance odor (rotten egg smell), headache and breathing difficulties (higher concentrations).	Control emissions from geothermal power plants, petroleum production and refining, sewers, and sewage treatment plants.
Visibility Reducing Particulates	See $PM_{2.5}$	Reduced visibility (e.g., obscures mountains and other scenery), reduced airport safety.	See $PM_{2.5}$
Vinyl Chloride	Exhaust gases from factories that manufacture or process vinyl chloride (construction, packaging, and transportation industries).	Central nervous system effects (e.g., dizziness, drowsiness, headaches), kidney irritation, liver damage, liver cancer.	Control emissions from plants that manufacture or process vinyl chloride, installation of monitoring systems.
Toxic Air Contaminant (TAC)	Combustion engines (stationary and mobile), diesel combustion, storage and use of TAC-containing substances (i.e., gasoline, lead smelting, etc.)	Depends on TAC, but may include cancer, mutagenic and/or teratogenic effects, other acute or chronic health effects.	Toxic Best Available Control Technologies (T-BACT), limit emissions from known sources.

Source: Compiled by Rincon Consultants, Inc. in September 2020

Appendix B

Description of Greenhouse Gases of California Concern

Description of Greenhouse Gases of California Concern

Greenhouse Gas	Physical Description and Properties	Global Warming Potential (100 years)	Atmospheric Residence Lifetime (years)	Sources
Carbon dioxide (CO_2)	Odorless, colorless, natural gas.	1	50–200	Burning coal, oil, natural gas, and wood; decomposition of dead organic matter; respiration of bacteria, plants, animals, and fungus; oceanic evaporation; volcanic outgassing; cement production; land use changes
Methane (CH_4)	Flammable gas and is the main component of natural gas.	28[79]	12	Geological deposits (natural gas fields) extraction; landfills; fermentation of manure; and decay of organic matter
Nitrous oxide (N_2O)	Nitrous oxide (laughing gas) is a colorless GHG.	298	114	Microbial processes in soil and water; fuel combustion; industrial processes
Chloro-fluoro-carbons (CFCs)	Nontoxic, nonflammable, insoluble, and chemically unreactive in the troposphere (level of air at the Earth's surface); formed synthetically by replacing all hydrogen atoms in methane or ethane with chlorine and/or fluorine atoms.	3,800–8,100	45–640	Refrigerants aerosol propellants; cleaning solvents
Hydro-fluoro-carbons (HFCs)	Synthetic human-made chemicals used as a substitute for CFCs and contain carbon, chlorine, and at least one hydrogen atom.	140 to 11,700	1–50,000	Automobile air conditioners; refrigerants
Per-fluoro-carbons (PFCs)	Stable molecular structures and only break down by ultraviolet rays about 60 kilometers above Earth's surface.	6,500 to 9,200	10,000–50,000	Primary aluminum production; semiconductor manufacturing
Sulfur hexafluoride (SF_6)	Human-made, inorganic, odorless, colorless, and nontoxic, nonflammable gas.	22,800	3,200	Electrical power transmission equipment insulation; magnesium industry, semiconductor manufacturing; a tracer gas

79 The City of Burbank used a 20-year Global Warning Potential for methane.

Greenhouse Gas	Physical Description and Properties	Global Warming Potential (100 years)	Atmospheric Residence Lifetime (years)	Sources
Nitrogen trifluoride (NF_3)	Inorganic, is used as a replacement for PFCs, and is a powerful oxidizing agent.	17,200	740	Electronics manufacture for semiconductors and liquid crystal displays

Source: Compiled by Rincon Consultants, Inc. in September 2020

Appendix G: CEQA GHG Emissions Thresholds and Guidance

City of Burbank California Environmental Quality Act (CEQA) Greenhouse Gas (GHG) Emissions Thresholds and Guidance

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Appendices

1 Introduction

The California Environmental Quality Act (CEQA) requires discretionary plans and projects to undergo an environmental review process, which includes an evaluation of plan- or project-related greenhouse gas (GHG) emissions.[1] This GHG thresholds and guidance document is intended to provide methodological guidance and quantitative thresholds of significance for use by City planners, applicants, consultants, agencies, and members of the public in the preparation of GHG emissions analyses under CEQA for plans and projects located within the City of Burbank.

The City of Burbank (City) prepared a Draft Greenhouse Gas Reduction Plan Update (GGRP Update) with the goal of carbon neutrality by 2045.[2] While the City Council, City staff, and community will continue to develop an approach to the long-term goal of carbon neutrality, the GGRP Update includes specific actions to achieve the short-term communitywide emissions reduction targets of 49 percent below 2010 levels by 2030, which is consistent with California's goal of reducing GHG emissions to 40 percent below 1990 levels by 2030 (Senate Bill 32) and represents substantial progress toward the State's carbon neutrality goal for 2045.

The City's 2030 target was developed to provide substantial progress towards the City's long-term goal of carbon neutrality target and contribute substantial progress toward meeting the State's GHG reduction goals identified in SB 32 and Executive Order (EO) B-55-18. Consistent with this process, the City's GGRP Update includes procedures to evaluate the City's emissions in light of the trajectory of the GGRP Update's targets to assess its "substantial progress" toward achieving long-term reduction targets identified in the GGRP Update and State legislation or EOs. The GGRP Update also includes commitments and mechanisms to adopt additional policies to achieve further GHG emissions reductions necessary to avoid interference with, and make substantial progress toward, the long-term GGRP Update and State targets. This is important because these targets have been set at levels that achieve California's fair share of international emissions reduction targets that will stabilize global climate change effects and avoid the adverse environmental consequences of climate change.

To support progress toward the City's 2030 emission reduction goal as well as the longer-term carbon neutrality goal, plans and projects within the City that undergo CEQA review will need to demonstrate consistency with targets in the GGRP Update, which will be a Qualified GHG Emissions Reduction Plan, consistent with CEQA Guidelines Section 15183.5, upon adoption of its CEQA review document, specifically the GGRP Update Initial Study-Negative Declaration (IS-ND), and approval of the GGRP Update by City Council. Section 2, *GGRP Update Summary*, provides an overview of this plan and the associated GHG emissions inventories, reduction measures, and forecasts included therein. In addition, Section 3, *Regulatory and Legal Setting*, offers an overview of relevant regulations and case law pertaining to the analysis of GHG emissions consistent with CEQA and the CEQA Guidelines.

Plans and projects that are consistent with the GGRP Update's demographic (i.e., residents and employees) projections and land use assumptions will be able to tier from the adopted GGRP

[1] Refer to Appendix A for an overview of GHG emissions and climate change.

[2] Carbon neutrality is defined as net zero carbon emissions, which is achieved either by balancing carbon emissions with carbon removal or by completely eliminating carbon emissions.

Update IS-ND pursuant to CEQA Guidelines Section 15183.5. To streamline this CEQA GHG emissions analysis process, the City has prepared a GGRP Update Project Review Checklist that can be utilized in plan- and project-level CEQA review documents to ensure that such proposed plans and projects are consistent with the GGRP Update GHG emissions reduction strategy. Chapter 4, *Determining Consistency with the City's GGRP Update*, includes guidance on how to navigate this consistency determination process.

For plans or projects that are not consistent with the GGRP Update's demographic projections and land use assumptions, a different methodology and assessment utilizing quantitative thresholds of significance would be necessary to evaluate GHG emissions impacts. Section 5, *Utilizing Quantitative CEQA GHG Thresholds*, includes guidance on how to use the specific quantitative thresholds that were developed for purposes of evaluating the level of significance of GHG emissions impacts.[3] Furthermore, Section 6, *Quantifying GHG Emissions*, provides direction regarding how to quantify a plan or project's GHG emissions for comparison to the applicable threshold of significance.

The City's GGRP Update acknowledges that additional actions beyond those identified in the plan will be required to achieve its long-term goal of carbon neutrality by 2045. As a result, the plan provides a mechanism for updating and adopting a new GGRP Update every three years in order to incorporate new measures and technologies that will further move the City toward meeting its long-term aspirational carbon neutrality goal. Section 7, *Moving into the Future*, offers further explanation of how CEQA review of plans and projects could be affected by future updates and/or iterations of the GGRP Update.

[3] In compliance with CEQA Guidelines Section 15064.7(b), this guidance document and the quantitative thresholds contained herein will be presented to the City Council for formal adoption via resolution through a public review process, which will include an opportunity for public input.

2 GGRP Update Summary

The following sections provide an overview of the City's GGRP Update, including the 2010 and 2019 communitywide GHG emissions inventories, proposed GHG emission reduction strategy, and the communitywide GHG emissions forecast for years 2030 and 2045.

2.1 Communitywide GHG Emissions Inventories

The City completed communitywide GHG emissions inventories for years 2010 and 2019, which are summarized in Table 1. Specifically, a recalculation of the 2010 GHG inventory developed as part of the 2035 GGRP was performed as part of the GGRP Update to ensure that methodologies followed for both inventory years are consistent, progress since the 2035 GGRP is accurately represented, and the reduction targets are based on an equivalent comparison of past and future GHG emissions. The reassessment of the 2010 GHG inventory includes updated global warming potentials and updated methodologies associated with the Community Protocol for Accounting and Reporting of Greenhouse Gas Emissions.[4] As shown therein, communitywide GHG emissions declined by approximately 28 percent between 2010 and 2019, which exceeds the City's target of reducing emissions by approximately 15 percent below 2010 levels by 2020 and the State's target of reducing emissions to 1990 levels (i.e., an approximately 15 percent reduction below baseline 2010 levels) by 2020. The most significant changes occurred in the transportation and energy sectors through increased efficiency and increased renewable energy procurement by BWP, as well as increased fuel efficiency in the on-road vehicle fleet. The water sector also experienced relatively significant GHG emission reductions through increased renewable energy procurement statewide.

Table 1 City of Burbank 2010 and 2019 Communitywide GHG Emissions Levels

Sector	2010 (MT of CO_2e)	2019 (MT of CO_2e)	Percent Change from 2010 to 2019
Energy	728,939	573,376	-21%
Transportation	727,072	470,653	-35%
Solid Waste	33,638	35,890	7%
Water	23,064	4,936	-79%
Total	**1,512,713**	**1,084,854**	-28%

MT = metric tons; CO_2e = carbon dioxide equivalents

Note: Numbers are rounded to the nearest whole number

[1] AB 32 sets a target of reducing GHG emissions to 1990 levels by 2020, which is considered equivalent to a 15 percent reduction in baseline 2010 levels according to the CARB (2008) Climate Change Scoping Plan.

Source: Rincon Consultants, Inc. 2020. City of Burbank 2019 Greenhouse Gas Emissions Inventory, Forecast, and Reduction Targets Memorandum.

2.2 GHG Emission Reduction Strategy

To achieve the City's GHG emission reduction targets, the City's GGRP Update includes a series of measures, strategies, and supportive actions that are intended to reduce communitywide GHG emissions by approximately 49 percent below 2010 levels by 2030 and provide substantial progress

[4] ICLEI. July 2019. U.S. Community Protocol for Accounting and Reporting of Greenhouse Gas Emission.

toward meeting the City's and State's long-term GHG emission reduction targets. The GGRP Update acknowledges that additional actions beyond those identified in the plan will be necessary to achieve the deep decarbonization needed to reach the State's long-term goal of carbon neutrality and therefore provides a mechanism for updating the GGRP every three years in order to incorporate new measures and technologies that will further the City toward meeting the State's long-term goal of carbon neutrality.

The City's GGRP Update includes GHG emission reduction measures under the following six categories:

- **Energy.** These measures include electrifying new construction, electrifying existing buildings, and reducing per-service person energy demand.
- **Transportation.** These measures include implementing the Complete Streets plan; providing clean, abundant, affordable, and accessible public transit; continuing expansion of the Burbank Transportation Management Organization; and increasing zero-emission vehicle adoption.
- **Water.** This measure focuses on reducing potable water consumption and associated electricity usage.
- **Waste.** This measure aims to increase organic waste disposal.
- **Carbon Sequestration.** This measure strives to increase tree planting throughout the city.
- **City Government.** These measures include reviewing and updating the GGRP, retrofitting City streetlights with light-emitting diode (LED) technology, electrifying existing and new City facilities, and implementing a sustainable employee commute program.

In addition, the GGRP update includes several adapatation measures directed toward reducing the impacts of extreme heat, implementing a city-wide Vulnreability Assessment and Adaptation Plan, and evaluating biodiversity in the city as well as maintaing or increasing native species.

Table 2 summarizes the GHG emissions reductions included in the GGRP Update that are anticipated to be achieved by the six categories of GHG emission reduction measures in addition to State laws and programs by 2030. As shown therein, implementation of State laws and programs as well as these measures would reduce communitywide emissions by approximately 386,243 MT of CO_2e per year, or approximately 40 percent, below 1990 levels (which equates to 49 percent below 2010 levels) to approximately 767,692 MT of CO_2e per year. These emission reductions would equate to an approximately 33 percent reduction below business-as-usual GHG emissions forecast for year 2030.

Table 2 City of Burbank Communitywide GHG Emissions Reductions by 2030

Source	2030 Annual Emissions (MT of CO_2e)
2010 Baseline Emissions[1]	1,512,713
Business-as-Usual Emissions[2]	1,153,935
State Laws/Programs[3]	(295,896)
Energy Measures	(30,117)
Transportation Measures	(47,490)
Water Measures	(405)
Waste Measures	(11,040)
Carbon Sequestration Measures	(71)
Municipal Measures	(1,222)
Total Emissions Reductions	**(386,243)**
Remaining Emissions	**767,692**
Percent Reduction below 2010 Levels	**(49%)**
Percent Reduction below Business-as-Usual Levels	**(33%)**

2.3 GHG Emissions Forecast

Figure 1 and Table 3 summarize the communitywide GHG emissions forecast under three scenarios: 1) business-as-usual, 2) implementation of State laws and programs, and 3) implementation of State laws and programs and the GGRP Update. While State legislation compares emissions reduction targets to a 1990 baseline, the targets provided here for the City are compared to a 2010 baseline. Consistent with the methodology used for setting targets in the 2013 GGRP, 1990 GHG emission levels are assumed to be 15 percent below 2010 levels.[5] As shown, under the business-as-usual scenario, communitywide GHG emissions are forecasted to decrease by approximately 24 percent between 2010 and 2030. With implementation of State laws and programs, communitywide GHG emissions would decline by approximately 43 percent between 2010 and 2030. Furthermore, full implementation of the GGRP Update alongside State laws and programs would reduce communitywide GHG emissions by approximately 49 percent below 1990 levels by 2030, which equates to 40 percent below 1990 levels, consistent with SB 32.

[5] The 15% reduction below Baseline establishes an estimate of 1990 emission levels for the City. This is based on the Governor's Office of Planning and Research General Plan Guidelines. See Appendix D, Reduction Measure Substantial Evidence and GHG Reduction Quantification, of the GGRP Update.

Figure 1 City of Burbank GHG Emissions Forecast, 2010 to 2045

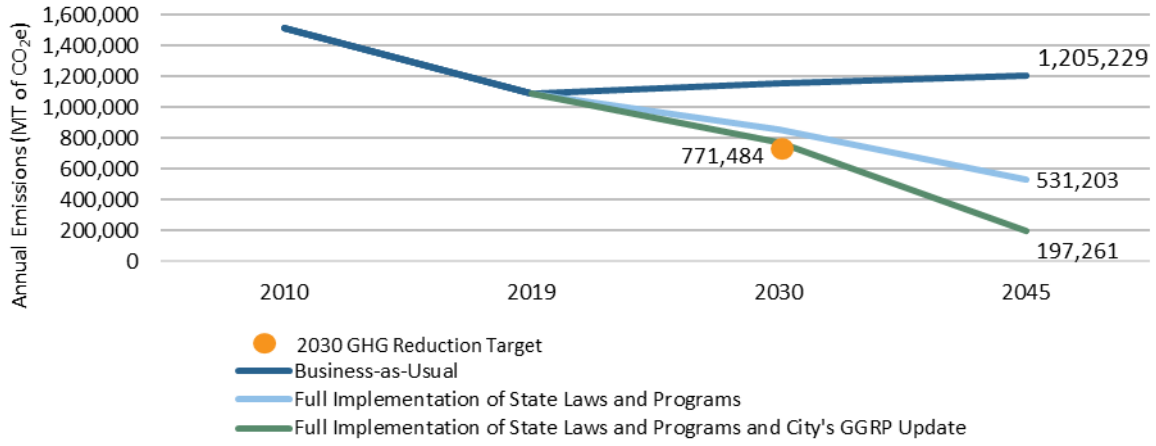


Table 3 City of Burbank GHG Emissions Forecast Through 2045

Sector	2010 (MT of CO_2e)	2019 (MT of CO_2e)	2030 (MT of CO_2e)	Percent Change (2010-2030)	2045 (MT of CO_2e)	Percent Change (2010-2045)
Business-as-Usual						
Energy	728,939	573,376	624,269	(14%)	650,859	(11%)
Transportation	727,072	470,653	487,384	(33%)	510,104	(30%)
Solid Waste	33,638	35,890	37,169	10%	38,914	16%
Water	23,064	4,936	5,112	(78%)	5,352	(77%)
Total	**1,512,713**	**1,084,854**	**1,153,935**	**(24%)**	**1,205,229**	**(20%)**
Implementation of State Laws and Programs[1]						
Energy	728,939	573,376	455,123	(38%)	158,286	(78%)
Transportation	727,072	470,653	361,197	(50%)	331,444	(54%)
Solid Waste	33,638	35,890	37,169	10%	38,914	16%
Water	23,064	4,936	4,549	(80%)	2,559	(89%)
Total	**1,512,713**	**1,084,854**	**858,039**	**(43%)**	**531,203**	**(65%)**
Implementation of State Laws and Programs and City's GGRP Update						
Energy[2]	728,939	573,376	423,965	(42%)	93,018	(87%)
Transportation[3]	727,072	470,653	313,526	(57%)	74,639	(90%)
Solid Waste[4]	33,638	35,890	26,129	(22%)	27,222	(19%)
Water[5]	23,064	4,936	4,144	(82%)	2,559	(89%)
Carbon Sequestration[6]	0	0	(71)	N/A	(177)	N/A
Total	**1,512,713**	**1,084,854**	**767,692**	**(49%)**	**197,261**	**(87%)**

MT = metric tons; CO_2e = carbon dioxide equivalents; ( ) denotes a negative number

Note: Numbers are rounded to the nearest whole number.

[1] State laws and programs include State vehicle fuel efficiency standards, the Renewables Portfolio Standard, and triennial updates of Title 24.

[2] Includes implementation of the energy measures outlined in the GGRP Update.

[3] Includes implementation of the transportation measures outlined in the GGRP Update.

[4] Includes implementation of the solid waste measures outlined in the GGRP Update.

[5] Includes implementation of the water measures outlined in the GGRP Update.

[6] Includes implementation of the carbon sequestration measures outlined in the GGRP Update.

Sources: Appendix C; Rincon Consultants, Inc. 2021. City of Burbank 2019 Greenhouse Gas Emissions Inventory, Forecast, and Reduction Targets Memorandum.

At this time, the State has codified a target of reducing emissions to 40 percent below 1990 emissions levels by 2030 (SB 32) and has developed the 2017 Climate Change Scoping Plan to demonstrate how the State will achieve the 2030 target and make substantial progress toward the 2050 goal of an 80 percent reduction in 1990 GHG emission levels set by EO S-3-05. However, EO B-55-18 identifies a new goal of carbon neutrality by 2045.

While State and regional regulations related to energy and transportation systems, along with the State's GGRP Update and Trade program, are designed to be set at limits to achieve most of the

GHG emissions reductions needed to achieve the State's long-term targets, local governments can do their fair share toward meeting the State's targets by siting and approving projects that accommodate planned population growth and projects that are GHG-efficient. The Association of Environmental Professional (AEP) Climate Change Committee recommends that CEQA GHG analyses evaluate project emissions in light of the trajectory of State climate change legislation and assess their "substantial progress" toward achieving long-term reduction targets identified in available plans, legislation, or EOs.

The City has adopted a goal of achieving reducing emissions by 49 percent below 2010 levels by 2030 (SB 32 target year) and by 66 percent below 2010 levels by 2035 (the General Plan horizon year) and reaching carbon neutrality by 2045. The City has proposed the GGRP Update as a pathway to make progress toward these targets. As shown in Table 3, implementation of the GGRP Update would achieve an approximately 49 percent reduction in communitywide GHG emissions below 2010 by 2030, which equates to 40 percent reduction in communitywide GHG emissions below 1990 levels by 2030. [6] Therefore, the City's long-term aspirational goal of carbon neutrality and the associated GGRP Update establish a trajectory that provides GHG emissions reductions in line with those required by SB 32 for 2030. Because SB 32 is considered an interim target toward meeting the 2045 State goal of carbon neutrality, implementation of the GGRP Update would make substantial progress toward meeting the State's long-term 2045 goal. Avoiding interference with, and making substantial progress toward, these long-term State targets is important because these targets have been set at levels that achieve California's fair share of international emissions reduction targets that will stabilize global climate change effects and avoid the adverse environmental consequences described in Appendix A (Executive Order B-55-18).

2.4 Qualified GHG Emissions Reduction Plan

According to CEQA Guidelines Section 15183.5, project-specific environmental documents can tier from, or incorporate by reference, the existing programmatic review in a qualified GHG emissions reduction plan, which allows for project-level evaluation of GHG emissions through the comparison of the project's consistency with the GHG emissions reduction strategy included in the qualified GHG emissions reduction plan. To meet the requirements of CEQA Guidelines Section 15183.5, a qualified GHG emissions reduction plan must include the following:

1. Quantify existing and projected GHG emissions within the plan area;
2. Establish a level, based on substantial evidence, below which the contribution to GHG emissions from activities covered by the plan would not be cumulatively considerable;
3. Identify and analyze sector specific GHG emissions within the plan's geographic area;
4. Specify measures or a group of measures, including performance standards, that if implemented, would collectively achieve the specified emissions level;
5. Establish a tool or mechanism to monitor progress and to require amendment if the plan is not achieving specified levels; and
6. Be adopted in a public process following environmental review.

Development projects can demonstrate consistency with a qualified GHG emissions reduction plan if they are consistent with the plan's assumptions regarding future growth projections and consistent

[6] (1,285,806 MT of CO_2e – 767,692 MT of CO_2e)/1,285,806 MT of CO_2e = 40% reduction; (1,512,713 MT of CO_2e – 767,692 MT of CO_2e)/1,512,713MT of CO_2e = 49% reduction

with the plan's GHG emissions reduction measures.[7] Projects consistent with the qualified GHG reduction plan, including conformance with performance measures applicable to the project, would not require additional GHG emissions analysis or mitigation under CEQA Guidelines Sections 15064(h) and 1513.5(b)(2). The City of Burbank has developed the GGRP Update Project Review Checklist to assist with determining project consistency with the GGRP Update. The checklist is intended to provide individual projects the opportunity to demonstrate that they are minimizing GHG emissions while ensuring that new development achieves its proportion of emissions reductions consistent with the assumptions of the GGRP Update. Project consistency with a GHG emissions reduction plan can also be demonstrated through quantitative analysis that demostrates the project will not impede (or will facilitate) the City's ability to meet its GHG emissions reduction targets or by incorporating the reduction measures included in the GHG emissions reduction plan.

Table 4 summarizes the consistency of the GGRP Update with these requirements for year 2030 (the next State milestone target year for GHG emission reductions). As shown in Table 4, upon adoption of the IS-ND and approval of the plan by City Council, the City's GGRP Update will meet the requirements of a qualified GHG emission reduction plan per CEQA Guidelines Section 15183.5(1) for projects with buildout years through 2030.

Table 4 GGRP Update Consistency with CEQA Guidelines Section 15183.5(1) for Year 2030

CEQA Guidelines Section 15183.5(1) Requirement[1]	GGRP Update Consistency
Quantify GHG emissions, both existing and projected over a specified time period, resulting from activities within a defined geographic area.	**Consistent.** The GGRP Update includes communitywide GHG emissions inventories for years 2010 and 2019 and forecasts GHG emissions for years 2030, 2035, and 2040. See Section 2, *Inventory, Forecast, and Targets,* and Appendix C of the GGRP Update. The reassessment of the 2010 GHG inventory includes updated global warming potentials and updated methodologies associated with the Community Protocol for Accounting and Reporting of Greenhouse Gas Emissions.[8]
Establish a level, based on substantial evidence, below which the contribution to GHG emissions from activities covered by the plan would not be cumulatively considerable.	**Consistent**. A key aspect of a qualified GHG emissions reduction plan is substantial evidence that the identified GHG emissions reduction target establishes a threshold where GHG emissions are not cumulatively considerable. See Section 2, *Inventory, Forecast, and Targets, and* Appendix C of the GGRP Update. The Association of Environmental Professionals (2016) Beyond Newhall and 2020 white paper identifies this threshold as being a local target that aligns with the State legislative targets. The GGRP Update establishes targets that align with State goals. Specifically, the GGRP Update includes targets to reduce GHG emissions to 49% below 2010 levels by 2030 (SB 32 target year); 66% below 2010 levels by 2035 (General Plan horizon year), and achieve carbon neutrality by 2045 (EO B-55-18 target year). As discussed in Section 2.3, *GHG Emissions Forecast*, implementation of the plan will achieve a 40 percent reduction in 1990 emissions levels by 2030. Therefore, this local target is consistent with the State targets of a 40 percent emission reduction in 1990 levels by 2030.
Identify and analyze the GHG emissions resulting from specific actions or categories of actions anticipated within the geographic area.	**Consistent.** The GGRP Update breaks down its inventories into four sectors (energy, transportation, solid waste, and water). See Section 2, *Inventory, Forecast, and Targets,* and Appendix C of the GGRP Update. The plan also identifies six categories of GHG emission reduction measures and quantifies the emission reductions that would be achieved by implementation of each measure.
Specify measures or a group of measures, including performance standards, that	**Consistent.** The GGRP Update specifies strategies, measures, and foundational actions that the City will enact and implement between 2020 and 2030 to reduce GHG emissions to 49% below 2010 levels by 2030 (SB 32 target year). As discussed in

[7] GGRP Updates or GGRPs typically utilize growth projections from the local jurisdiction's General Plan or applicable Metropolitan Planning Organization's regional demographic forecast.

[8] ICLEI. July 2019. U.S. Community Protocol for Accounting and Reporting of Greenhouse Gas Emission.

CEQA Guidelines Section 15183.5(1) Requirement[1]	GGRP Update Consistency
substantial evidence demonstrates, if implemented on a project-by-project basis, would collectively achieve the specified emissions level.	Section 2.3, *GHG Emissions Forecast*, implementation of the plan will achieve a 40 percent reduction in 1990 emissions levels by 2030, which is consistent with the State target of a 40 percent emission reduction in 1990 levels by 2030 and demonstrates substantial progress by 2030 toward achieving the City's long-term aspirational goal of carbon neutrality by 2045. See Section 3, *GHG Emission Reduction Measures,* and Appendix D of the GGRP Update.
Establish a mechanism to monitor the plan's progress toward achieving the level and to require amendment if the plan is not achieving specified levels.	**Consistent.** The GGRP Update includes a process to complete an updated community-wide GHG emissions inventory annually through CAPDash. Additionally, the GGRP Update includes a process to update and adopt a new GGRP Update every three years order to incorporate new measures and technologies that will further the City toward meeting its long-term aspirational goal of carbon neutrality. See Section 5, *Implementation*.
Be adopted in a public process following environmental review.	**Consistent.** The City has prepared an IS-ND for the GGRP Update that will be circulated for public review and comment and adopted prior to approval of the GGRP Update and CEQA GHG Emissions Thresholds and Guidance by City Council. See Appendix F of the GGRP Update.

[1] Source: 2019 CEQA Guidelines

3 Regulatory and Legal Setting

The following regulations, executive orders, and case law pertain to the analysis of GHG emissions consistent with CEQA and the CEQA Guidelines.

3.1 Relevant CEQA Guidelines Sections

Pursuant to the requirements of SB 97, the California Natural Resources Agency has adopted amendments to the CEQA Guidelines for the feasible mitigation of GHG emissions or the effects of GHG emissions. The adopted CEQA Guidelines, which were last updated in December 2018, provide general regulatory guidance on the analysis and mitigation of GHG emissions in CEQA documents, while giving lead agencies the discretion to set quantitative or qualitative thresholds for the assessment and mitigation of GHG emissions and climate change impacts.

Based on Appendix G of the CEQA Guidelines, impacts related to GHG emissions generated by a proposed plan/project would be significant if the plan/project would:

- Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment; and/or
- Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of GHGs.

The vast majority of individual projects do not generate sufficient GHG emissions to directly influence climate change. However, physical changes caused by a plan/project can contribute incrementally to cumulative effects that are significant, even if individual changes resulting from a plan/project are limited. As discussed in Appendix A, the adverse environmental impacts of cumulative GHG emissions, including sea level rise, increased average temperatures, more drought years, and more large forest fires, are already occurring. As a result, cumulative impacts related to GHG emissions and climate change are significant. Therefore, per CEQA Guidelines Section 15064.4(b), the analysis of GHG emissions under CEQA typically involves an analysis of whether a plan or project's contribution towards an impact would be cumulatively considerable. "Cumulatively considerable" means that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, other current projects, and probable future projects (CEQA Guidelines Section 15064[h][1]).

The following sections of the CEQA Guidelines (last updated on December 28, 2018) pertain to the creation of significance thresholds and the analysis of a plan/project's GHG emissions.

CEQA Guidelines Section 15064(b)

(1) The determination of whether a project may have a significant effect on the environment calls for careful judgment on the part of the public agency involved, based to the extent possible on scientific and factual data. An ironclad definition of significant effect is not always possible because the significance of an activity may vary with the setting. For example, an activity which may not be significant in an urban area may be significant in a rural area.

(2) Thresholds of significance, as defined in Section 15064.7(a), may assist lead agencies in determining whether a project may cause a significant impact. When using a threshold, the

lead agency should briefly explain how compliance with the threshold means that the project's impacts are less than significant. Compliance with the threshold does not relieve a lead agency of the obligation to consider substantial evidence indicating that the project's environmental effects may still be significant.[9]

CEQA Guidelines Section 15064.4

(a) The determination of the significance of GHG emissions calls for a careful judgment by the lead agency consistent with the provisions in section 15064. A lead agency shall make a good-faith effort, based to the extent possible on scientific and factual data, to describe, calculate or estimate the amount of GHG emissions resulting from a project. A lead agency shall have discretion to determine, in the context of a particular project, whether to

(1) Quantify GHG emissions resulting from a project; and/or

(2) Rely on a qualitative analysis or performance-based standards.

(b) In determining the significance of a project's GHG emissions, the lead agency should focus its analysis on the reasonably foreseeable incremental contribution of the project's emissions to the effects of climate change. A project's incremental contribution may be cumulatively considerable even if it appears relatively small compared to Statewide, national or global emissions. The agency's analysis should consider a timeframe that is appropriate for the project. The agency's analysis also must reasonably reflect evolving scientific knowledge and State regulatory schemes. A lead agency should consider the following factors, among others, when determining the significance of impacts from GHG emissions on the environment:

(1) The extent to which the project may increase or reduce GHG emissions as compared to the existing environmental setting.

(2) Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project.

(3) The extent to which the project complies with regulations or requirements adopted to implement a Statewide, regional, or local plan for the reduction or mitigation of GHG emissions (see, e.g., section 15183.5[b]). Such requirements must be adopted by the relevant public agency through a public review process and must reduce or mitigate the project's incremental contribution of GHG emissions. If there is substantial evidence that the possible effects of a particular project are still cumulatively considerable notwithstanding compliance with the adopted regulations or requirements, an EIR must be prepared for the project. In determining the significance of impacts, the lead agency may consider a project's consistency with the State's long-term climate goals or strategies, provided that substantial evidence supports the agency's analysis of how those goals or strategies address the project's incremental contribution to climate change and its conclusion that the project's incremental contribution is not cumulatively considerable.

(c) A lead agency may use a model or methodology to estimate GHG emissions resulting from a project. The lead agency has discretion to select the model or methodology it considers most appropriate to enable decision makers to intelligently take into account the project's incremental contribution to climate change. The lead agency must support its selection of a

[9] 2019 CEQA Guidelines.

model or methodology with substantial evidence. The lead agency should explain the limitations of the particular model or methodology selected for use.[10]

CEQA Guidelines Section 15064.7

(a) A threshold of significance is an identifiable quantitative, qualitative or performance level of a particular environmental effect, non-compliance with which means the effect will normally be determined to be significant by the agency and compliance with which means the effect normally will be determined to be less than significant.

(b) Each public agency is encouraged to develop and publish thresholds of significance that the agency uses in the determination of the significance of environmental effects. Thresholds of significance to be adopted for general use as part of the lead agency's environmental review process must be adopted by ordinance, resolution, rule, or regulation, and developed through a public review process and be supported by substantial evidence. Lead agencies may also use thresholds on a case-by-case basis as provided in Section 15064(b)(2).

(c) When adopting or using thresholds of significance, a lead agency may consider thresholds of significance previously adopted or recommended by other public agencies or recommended by experts, provided the decision of the lead agency to adopt such thresholds is supported by substantial evidence.

(d) Using environmental standards as thresholds of significance promotes consistency in significance determinations and integrates environmental review with other environmental program planning and regulation. Any public agency may adopt or use an environmental standard as a threshold of significance. In adopting or using an environmental standard as a threshold of significance, a public agency shall explain how the particular requirements of that environmental standard reduce project impacts, including cumulative impacts, to a level that is less than significant, and why the environmental standard is relevant to the analysis of the project under consideration. For the purposes of this subdivision, an "environmental standard" is a rule of general application that is adopted by a public agency through a public review process and that is all the following:

(1) a quantitative, qualitative or performance requirement found in an ordinance, resolution, rule, regulation, order, plan or other environmental requirement;

(2) adopted for the purpose of environmental protection;

(3) addresses the environmental effect caused by the project; and,

(4) applies to the project under review.[11]

CEQA Guidelines Section 15183.5

(a) Lead agencies may analyze and mitigate the significant effects of GHG emissions at a programmatic level, such as in a general plan, a long-range development plan, or a separate plan to reduce GHG emissions. Later project-specific environmental documents may tier from and/or incorporate by reference that existing programmatic review. Project-specific environmental documents may rely on an EIR containing a programmatic analysis of GHG emissions as provided in section 15152 (tiering), 15167 (staged EIRs) 15168 (program EIRs),

[10] Ibid.

[11] Ibid.

15175–15179.5 (Master EIRs), 15182 (EIRs Prepared for Specific Plans), and 15183 (EIRs Prepared for General Plans, Community Plans, or Zoning).

(b) Plans for the Reduction of GHG Emissions. Public agencies may choose to analyze and mitigate significant GHG emissions in a plan for the reduction of GHG emissions or similar document. A plan to reduce GHG emissions may be used in a cumulative impacts analysis as set forth below. Pursuant to sections 15064(h)(3) and 15130(d), a lead agency may determine that a project's incremental contribution to a cumulative effect is not cumulatively considerable if the project complies with the requirements in a previously adopted plan or mitigation program under specified circumstances.

(1) Plan Elements. A plan for the reduction of GHG emissions should:

(A) Quantify GHG emissions, both existing and projected over a specified time period, resulting from activities within a defined geographic area;

(B) Establish a level, based on substantial evidence, below which the contribution to GHG emissions from activities covered by the plan would not be cumulatively considerable;

(C) Identify and analyze the GHG emissions resulting from specific actions or categories of actions anticipated within the geographic area;

(D) Specify measures or a group of measures, including performance standards, that substantial evidence demonstrates, if implemented on a project-by-project basis, would collectively achieve the specified emissions level;

(E) Establish a mechanism to monitor the plan's progress toward achieving the level and to require amendment if the plan is not achieving specified levels;

(F) Be adopted in a public process following environmental review.

(2) Use with Later Activities. A plan for the reduction of GHG emissions, once adopted following certification of an EIR or adoption of an environmental document, may be used in the cumulative impacts analysis of later projects. An environmental document that relies on a GHG reduction plan for a cumulative impacts analysis must identify those requirements specified in the plan that apply to the project, and, if those requirements are not otherwise binding and enforceable, incorporate those requirements as mitigation measures applicable to the project. If there is substantial evidence that the effects of a particular project may be cumulatively considerable, notwithstanding the project's compliance with the specified requirements in the plan for the reduction of GHG emissions, an EIR must be prepared for the project.

(c) Special Situations. As provided in Public Resources Code sections 21155.2 and 21159.28, environmental documents for certain residential and mixed use projects, and transit priority projects, as defined in section 21155, that are consistent with the general use designation, density, building intensity, and applicable policies specified for the project area in an applicable sustainable communities strategy or alternative planning strategy need not analyze global warming impacts resulting from cars and light duty trucks. A lead agency should consider whether such projects may result in GHG emissions resulting from other sources, however, consistent with these Guidelines.[12]

[12] Ibid.

CEQA Guidelines Section 15126.4(c)

Consistent with section 15126.4(a), lead agencies shall consider feasible means, supported by substantial evidence and subject to monitoring or reporting, of mitigating the significant effects of GHG emissions. Measures to mitigate the significant effects of GHG emissions may include, among others:

(1) Measures in an existing plan or mitigation program for the reduction of emissions that are required as part of the lead agency's decision;

(2) Reductions in emissions resulting from a project through implementation of project features, project design, or other measures, such as those described in Appendix F;

(3) Off-site measures, including offsets that are not otherwise required, to mitigate a project's emissions;

(4) Measures that sequester GHGs;

(5) In the case of the adoption of a plan, such as a general plan, long range development plan, or plans for the reduction of GHG emissions, mitigation may include the identification of specific measures that may be implemented on a project-by-project basis. Mitigation may also include the incorporation of specific measures or policies found in an adopted ordinance or regulation that reduces the cumulative effect of emissions.[13]

3.2 Relevant State and Regional GHG Reduction Targets

Executive Order S-03-05

On June 1, 2005, the governor issued EO S-03-05, which established a statewide goal of reducing GHG emissions to 1990 levels by 2020 and created the Climate Action Team. The 2020 GHG reduction target contained in EO S-03-05 was later codified by Assembly Bill (AB) 32.

Assembly Bill 32

California's major initiative for reducing GHG emissions is outlined in AB 32, the "California Global Warming Solutions Act of 2006," which was signed into law in 2006. AB 32 codifies the Statewide goal of reducing GHG emissions to 1990 levels by 2020 and requires the California Air Resources Board (CARB) to prepare a Scoping Plan that outlines the main State strategies for reducing GHG emissions to meet the 2020 deadline. In addition, AB 32 requires CARB to adopt regulations to require reporting and verification of Statewide GHG emissions. Based on this guidance, CARB approved a 1990 Statewide GHG level and 2020 limit of 427 million metric tons (MMT) of carbon dioxide equivalents (CO_2e).[14] The Scoping Plan was approved by CARB on December 11, 2008 and included measures to address GHG emission reduction strategies related to energy efficiency, water use, and recycling and solid waste, among other measures. Many of the GHG reduction measures

[13] Ibid.

[14] Different types of GHGs have varying global warming potentials (GWPs). The GWP of a GHG is the potential of a gas or aerosol to trap heat in the atmosphere over a specified timescale (generally, 100 years). Because GHGs absorb different amounts of heat, a common reference gas, CO_2, is used to relate the amount of heat absorbed to the amount of the gas emissions, referred to as carbon dioxide equivalent (CO_2e), and is the amount of a GHG emitted multiplied by its GWP. Carbon dioxide has a 100-year GWP of one. By contrast, methane has a GWP of 25, meaning its global warming effect is 25 times greater than CO_2 on a molecule per molecule basis (Intergovernmental Panel on Climate Change 2007).

included in the Scoping Plan (e.g., Low Carbon Fuel Standard, Advanced Clean Car standards, and GGRP Update-and-Trade) have been adopted since approval of the Scoping Plan.[15]

In May 2014, CARB approved the first update to the AB 32 Scoping Plan. The 2013 Scoping Plan update defined CARB's climate change priorities for the next five years and set the groundwork to reach post-2020 Statewide goals. The update highlighted California's progress toward meeting the "near-term" 2020 GHG emission reduction goals defined in the original Scoping Plan. It also evaluated how to align the State's longer-term GHG reduction strategies with other State policy priorities, including those for water, waste, natural resources, clean energy, transportation, and land use. [16]

Executive Order B-30-15

On April 29, 2015, the governor issued EO B-30-15, which established state GHG emission reduction targets of 40 percent below 1990 levels by 2030 and 80 percent below 1990 levels by 2050. The 2030 GHG emissions reduction target contained in EO B-30-15 was later codified by SB 32. The next scoping plan development process has been initiated for carbon neutrality and is scheduled for adoption in 2022.

Senate Bill 32

On September 8, 2016, the governor signed SB 32 into law, extending AB 32 by requiring the State to further reduce GHG emissions to 40 percent below 1990 levels by 2030 (the other provisions of AB 32 remain unchanged). On December 14, 2017, CARB adopted the 2017 Scoping Plan, which provides a framework for achieving the 2030 target. The 2017 Scoping Plan relies on the continuation and expansion of existing policies and regulations, such as the GGRP Update-and-Trade Program, as well as implementation of recently adopted programs and policies, such as SB 350 and SB 1383. The 2017 Scoping Plan also puts an increased emphasis on innovation, adoption of existing technology, and strategic investment to support its strategies. As with the 2013 Scoping Plan update, the 2017 Scoping Plan does not provide project-level thresholds for land use development. Instead, it recommends that local governments adopt policies and locally appropriate quantitative thresholds consistent with Statewide per GGRP Update goals of six metric tons (MT) of CO_2e by 2030 and two MT of CO_2e by 2050. As stated in the 2017 Scoping Plan, these goals may be appropriate for plan-level analyses (city, county, subregional, or regional level), but not for specific individual projects because they include all emissions sectors in the State.[17]

Senate Bill 375

SB 375, signed in August 2008, enhances the state's ability to reach AB 32 goals by directing CARB to develop regional GHG emission reduction targets to be achieved from passenger vehicles by 2020 and 2035. SB 375 aligns regional transportation planning efforts, regional GHG reduction targets, and affordable housing allocations. Metropolitan Planning Organizations (MPOs) are required to adopt a Sustainable Communities Strategy (SCS), which allocates land uses in the MPO's Regional Transportation Plan (RTP). Qualified projects consistent with an approved SCS or Alternative Planning

[15] CARB. 2008. *Climate Change Scoping Plan*. December 2008. https://www.arb.ca.gov/cc/scopingplan/document/adopted_scoping_plan.pdf (accessed January 2020).

[16] CARB. 2014. *First Update to the Climate Change Scoping Plan*. May 15, 2014. https://ww3.arb.ca.gov/cc/scopingplan/2013_update/first_update_climate_change_scoping_plan.pdf (accessed January 2020).

[17] CARB. 2017. 2017 Climate Change Scoping Plan. https://www.arb.ca.gov/cc/scopingplan/scoping_plan_2017.pdf (accessed January 2020).

Strategy categorized as "transit priority projects" would receive incentives to streamline CEQA processing

On March 22, 2018, CARB adopted updated regional targets for reducing GHG emissions from 2005 levels by 2020 and 2035. SCAG was assigned targets of an 8 percent reduction in per capita GHG emissions from passenger vehicles related to 2005 levels by 2020 and a 19 percent reduction in per capita GHG emissions from passenger vehicles related to 2005 levels by 2035. SCAG adopted the 2020 RTP/SCS titled Connect SoCal in September 2020, which meets the requirements of SB 375.[18]

Executive Order B-55-18

On September 10, 2018, the governor issued EO B-55-18, which established a new Statewide goal of achieving carbon neutrality by 2045 and maintaining net negative emissions thereafter. This goal is in addition to the existing Statewide GHG emission reduction targets established by SB 375, SB 32, SB 1383, and SB 100. EO B-55-18 also tasks CARB with including a pathway toward the EO B-55-18 carbon neutrality goal in the next Scoping Plan update.

3.3 Relevant GHG Emissions Analysis Case Law

Friends of Oroville v. City of Oroville (Case No. 070448)

The Third District Court of Appeal decision in the *Friends of Oroville v. City of Oroville* case was published on August 19, 2013. This decision evaluated the methodology used to analyze GHG emissions in an Environmental Impact Report (EIR) prepared for a Wal-Mart Supercenter development project that included replacing an existing Wal-Mart store with a Wal-Mart Supercenter in Oroville in Butte County. The EIR used consistency with the AB 32 emissions reduction target as its significance threshold for evaluating the project's GHG emissions and compared the magnitude of the proposed project's emissions to statewide 2004 emission levels as part of the analysis. The Court found that EIR applied "a meaningless, relative number to determine insignificant impact" rather than evaluating the project's emissions in light of the AB 32 emissions reduction target. The Court also found that the EIR "misapplied the [AB] 32 threshold-of-significance standard by [1] failing to calculate the GHG emissions for the existing Wal-Mart and [2] failing to quantitatively or qualitatively ascertain or estimate the effect of the Project's mitigation measures on GHG emissions." The Court determined that the EIR could and should have performed these quantifications to adequately evaluate the project's GHG emissions using the AB 32 emissions reduction target.

Sierra Club v. County of San Diego (Case No. 37-2018-00043084-CU-TT-CTL)

The Fourth District Court of Appeal decision in the *Sierra Club v. County of San* case was published on October 29, 2014. This decision evaluated the adequacy of the GGRP Update prepared by the County of San Diego to satisfy Mitigation Measure CC-1.2 of the program EIR prepared for its 2011 General Plan. To reduce GHG emissions impacts of the 2011 General Plan to a less-than-significant level, Mitigation Measure CC-1.2 required the preparation of a GGRP Update that would include "more detailed GHG emissions reduction targets and deadlines" and that would "achieve comprehensive and enforceable GHG emissions reduction of 17 percent (totaling 23,572 MT of

[18] Southern California Association of Governments. 2020. *Connect SoCal: The 2020-2045 Regional Transportation Plan/ Sustainable Communities Strategy of the Southern California Association of Governments*. September 3, 2020. https://scag.ca.gov/read-plan-adopted-final-plan (accessed March 2021).

CO_2e) from County operations from 2006 by 2020 and 9 percent reduction (totaling 479,717 MT of CO_2e) in community emissions from 2006 by 2020." The Court found the GGRP Update did not include enforceable and feasible GHG emission reduction measures that would achieve the necessary emissions reductions; therefore, the GGRP Update did not meet the requirements of Mitigation Measure CC-1.2 and would not ensure that the mitigation measure would reduce GHG emissions to a less-than-significant impact. In addition, the Court found that the County failed to evaluate the environmental impacts of the GGRP Update and its associated thresholds of significance under CEQA.

Center for Biological Diversity v. California Department of Fish and Wildlife (Case No. 217763)

The California Supreme Court's decision in the *Center for Biological Diversity v. California Department of Fish and Wildlife* case was published on November 30, 2015. This decision evaluated the methodology used to analyze GHG emissions in an EIR prepared for the Newhall Ranch development project that included approximately 20,885 dwelling units with 58,000 residents on 12,000 acres of undeveloped land in Los Angeles County. The EIR used a business-as-usual (BAU) approach to evaluate whether the project would be consistent with the AB 32 Scoping Plan. The Court found there was insufficient evidence in the record of that project to explain how a project that reduces its GHG emissions by the same percentage as the BAU reduction identified for the State to meet its Statewide targets supported a conclusion that project-level impacts were below the level of significance.

The California Supreme Court suggested regulatory consistency as a pathway to compliance by stating that a lead agency might assess consistency with the State's GHG reduction goals by evaluating for compliance with regulations designed to reduce GHG emissions. This approach is consistent with CEQA Guidelines Section 15064.4(b), which provides that a determination of an impact is not cumulatively considerable to the extent to which the project complies with regulations or requirements implementing a Statewide, regional, or local plan to reduce or mitigate GHG emissions. The Court also found that a lead agency may rely on numerical and efficiency-based thresholds of significance for GHG emissions, if supported by substantial evidence.

Golden Door Properties, LLC v. County of San Diego/Sierra Club, LLC v. County of San Diego (Case No. 072406)

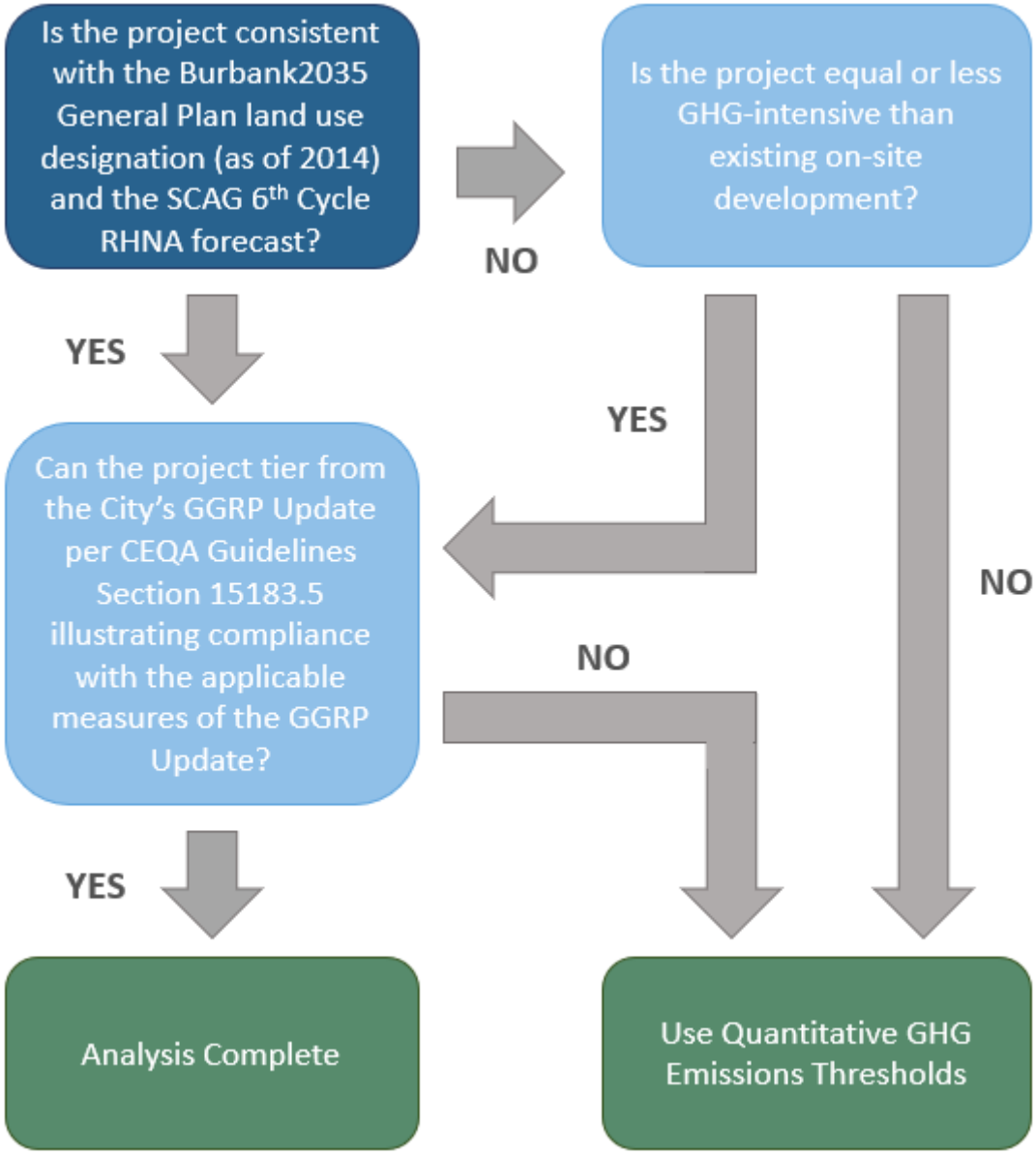
The Fourth District Court of Appeal decision in the *Golden Door Properties, LLC v. County of San Diego* case (published on September 28, 2018) evaluated the County of San Diego's 2016 Guidance Document's GHG efficiency metric, which establishes a generally applicable threshold of significance for proposed projects. The Court held that the County of San Diego is barred from using its 2016 Guidance Document's threshold of significance of 4.9 MT of CO_2e per service person per year for GHG analysis. The Court stated that the document violated CEQA because it was not adopted formally by ordinance, rule, resolution, or regulation through a public review process per CEQA Guidelines Section 15064.7(b). The Court also found that the threshold was not supported by substantial evidence that adequately explained how a service population threshold derived from Statewide data could constitute an appropriate GHG metric to be used for all projects in unincorporated San Diego County. Nevertheless, lead agencies may make plan- or project-specific GHG emissions threshold determinations.

4 Determining Consistency with the City's GGRP Update

As discussed in Chapter 2, *GGRP Update Summary*, upon public adoption of the GGRP Update IS-ND and approval of the GGRP Update by City Council, the City's GGRP Update will be a qualified GHG emission reduction plan per the requirements of CEQA Guidelines Section 15183.5 for year 2030 and can, therefore, be utilized to streamline the GHG emissions analysis for plans and projects with buildout years through 2030.[19] Projects that are consistent with the demographic forecasts and land use assumptions used in the GGRP Update can utilize the checklist to demonstrate consistency with the GGRP Update's emissions reduction strategy, and if consistent, can tier from the existing programmatic environmental review contained in the adopted IS-ND for the GGRP Update. In doing so, these projects would result in less-than-significant GHG emissions and would not result in a cumulatively considerable impact related to GHG emissions and climate change. The following process, illustrated in Figure 2, explains how to demonstrate a plan/project's consistency with the GGRP Update GHG emissions reduction strategy and, thereby, tier from the adopted IS-ND for the GGRP Update. This approach is consistent with the recommendations of the AEP Climate Change Committee (2016) for tiering from qualified GHG reduction plans that demonstrate substantial progress toward meeting the next milestone Statewide planning reduction target (i.e., a 40 percent reduction below 1990 levels by 2030 as set forth by SB 32).

[19] Projects that are statutorily or categorically exempt from CEQA compliance would not need to perform an analysis of GHG emissions or tier from the City's GGRP Update.

Figure 2 Determining Consistency with the City's GGRP Update



Step 1: Consistency with the Demographic Forecasts and Land Use Assumptions

The demographic forecasts and land use assumptions of the GGRP Update are based on the population and employment data and sixth cycle Regional Housing Needs Allocation (RHNA) from SCAG, which are in turn based on the existing land use and General Plans of local jurisdictions as of

2015.[20] If a plan/project is consistent with the existing (2013) General Plan land use and zoning designation(s) of the plan area/project site as identified in the Burbank2035 General Plan adopted in 2014, then the plan/project is consistent with the demographic forecasts and land use assumptions of the GGRP Update and can move on to Step 2. In this case, the plan/project's associated GHG emissions were accounted for in the GHG emissions forecasts included in the GGRP Update and are within the scope of this plan's analysis of communitywide GHG emissions. Accordingly, the analysis of the plan/project's GHG emissions in its CEQA document should include a reference to the plan/project's consistency with the existing (2013) General Plan land use and zoning designation(s) of the plan area/project site and should explain the aforementioned connection between the existing (2013) General Plan land use and zoning designation(s) and the GHG emissions forecasts in the GGRP Update. Then, proceed to Step 2.

If a plan/project is not consistent with the existing (2013) General Plan land use and zoning designation(s) of the plan area/project site but would result in equivalent or fewer GHG emissions as compared to existing on-site development, then the plan/project would still be within the demographic forecasts and land use assumptions of the GGRP Update and can move on to Step 2. To provide substantial evidence for this determination, GHG emissions generated under existing conditions and the proposed project need to be quantified and included in the CEQA analysis. See Chapter 6, *Quantifying GHG Emissions*, for guidance on quantifying GHG emissions for existing conditions and the proposed plan/project. In this case, the analysis of the plan/project's GHG emissions in its CEQA document should include a quantitative comparison of the proposed plan/project's GHG emissions and GHG emissions generated by existing on-site development. The analysis should clearly explain how the plan/project's emissions are equivalent or less than those generated by existing on-site development. Then, proceed to Step 2.

If a plan/project is not consistent with the existing (2013) General Plan land use and zoning designation(s) of the plan area/project site and would result in either new development of undeveloped land or redevelopment with higher GHG emissions than existing on-site development, the plan/project cannot use the checklist to tier from the adopted IS-ND for the GGRP Update. Instead, the plan/project's GHG emissions can be evaluated using the quantitative GHG thresholds described in Chapter 5, *Utilizing Quantitative CEQA GHG Thresholds*, to evaluate the significance of the plan/project's GHG emissions. This method can also be utilized for projects with a post-2030 buildout year.

Step 2: Consistency with the GGRP Update Project Review Checklist

The City has prepared the GGRP Update Project Review Checklist for plans and projects to ensure that they are consistent with the measures of the GGRP Update (Appendix B). A project applicant can utilize the checklist to show that the plan/project includes all applicable measures of the GGRP Update. Projects that use the GGRP Update Project Review Checklist are not required to quantify reductions from the measures included on the checklist because the reductions from applicable measures have already been quantified at a programmatic level in the GGRP Update. If a plan/project is consistent with the applicable measures on the GGRP Update Project Review Checklist, then the plan/project can tier from the programmatic environmental review included in the adopted IS-ND for the GGRP Update pursuant to CEQA Guidelines Section 15183.5(b). A plan/project that is consistent with all applicable measures of the GGRP Update Project Review

[20] Southern California Association of Governments. 2020. Connect SoCal Technical Report – Demographics and Growth Forecast. September 3, 2020. https://scag.ca.gov/sites/main/files/file-attachments/0903fconnectsocal_demographics-and-growth-forecast.pdf?1606001579 (accessed March 2021).

Checklist would result in less-than-significant GHG emissions and would not result in a cumulatively considerable impact related to GHG emissions and climate change. In this case, the analysis of a plan or project's GHG emissions in its respective CEQA review document should include a summary of the plan/project's consistency with applicable measures of the GGRP Update Project Review Checklist and an explanation with substantial evidence of why any measures in the checklist are not applicable to the plan/project.

5 Utilizing Quantitative CEQA GHG Thresholds

As discussed in Chapter 4, *Determining Consistency with the City's GGRP Update,* if a plan/project is not consistent with the existing (2013) General Plan land use and zoning designation(s) of the plan area/project site or the SCAG RHNA allocation or has a post-2030 buildout year, then the plan/project cannot use the GGRP Update Project Review Checklist. Instead, the significance of the plan/project's GHG emissions can be evaluated using quantitative GHG thresholds derived from the assumptions of the GGRP Update. If the plan/project's emissions are at or below the applicable threshold, the plan/project can tier from the existing programmatic environmental review contained in the adopted IS-ND for the GGRP Update if it has a pre-2030 buildout year. In doing so, these plans/projects would result in less-than-significant GHG emissions and would not result in a cumulatively considerable impact related to GHG emissions and climate change. The following sections provide an explanation of the methodology used to calculate the thresholds, guidance on how to utilize the thresholds, and justification for use of these thresholds.

5.1 GHG Emissions Calculation Methodology

CEQA Guidelines Section 15064.4 does not establish a specific quantitative threshold of significance for evaluating GHG emissions associated with a proposed plan or project. Lead agencies have the discretion to establish significance thresholds for their respective jurisdictions, and in establishing those thresholds, a lead agency may appropriately look to thresholds developed by other public agencies, or suggested by other experts, as long as the threshold chosen is supported by substantial evidence (CEQA Guidelines Section 15064.7[c]). The following methodology is consistent with guidance provided by the AEP Climate Change Committee in 2016 for establishing GHG emissions efficiency thresholds using the local jurisdictional GHG inventory and demographic forecasts.[21]

An efficiency threshold is a threshold expressed as a per-person metric (e.g., per resident, per employee, or per service person). Efficiency thresholds are calculated by dividing the allowable GHG emissions inventory in a selected calendar year by the resident, employee, or service population in that year. The efficiency threshold identifies the quantity of GHG emissions that can be generated on a per-person basis without significantly impacting the environment.

Locally appropriate, plan- and project-specific GHG emissions efficiency thresholds were derived from the GHG emissions forecasts calculated for the GGRP Update. These thresholds were created to comply with CEQA and the CEQA Guidelines and interpretive GHG emissions analysis case law, which are summarized in Chapter 3, *Regulatory and Legal Setting*. The City of Burbank GHG emissions efficiency thresholds were calculated using the emissions forecasts with all emissions sectors included, because plans and projects would generate vehicle trips, consume energy, and produce solid waste, thereby generating emissions in all categories. Efficiency thresholds were calculated for year 2030 to provide GHG emissions thresholds for new development in line with the State's next milestone target for year 2030.

[21] AEP. 2016. Final White Paper Beyond 2020 and Newhall: A Field Guide to New CEQA Greenhouse Gas Thresholds and Climate Action Plan Targets for California. https://califaep.org/docs/AEP-2016_Final_White_Paper.pdf (accessed January 2020).

GHG emissions efficiency thresholds would be used during the CEQA review process for new residential, non-residential, and mixed-use plans and projects. Therefore, forecasted GHG emissions in the GGRP Update were disaggregated into existing development and new development for each threshold year. Furthermore, forecasted GHG emissions for new development were further disaggregated into residential and non-residential development for each threshold year for the purpose of calculating thresholds specific to residential, non-residential, and mixed-use projects. The results of the disaggregation of the GHG emissions forecast are presented in Figure 3 and

Table 5, which summarizes the total amount of GHG emissions expected to be generated by existing, new residential, and new non-residential development for threshold year 2030.

Figure 3 Allowable GHG Emissions from Existing and New Development in Year 2030

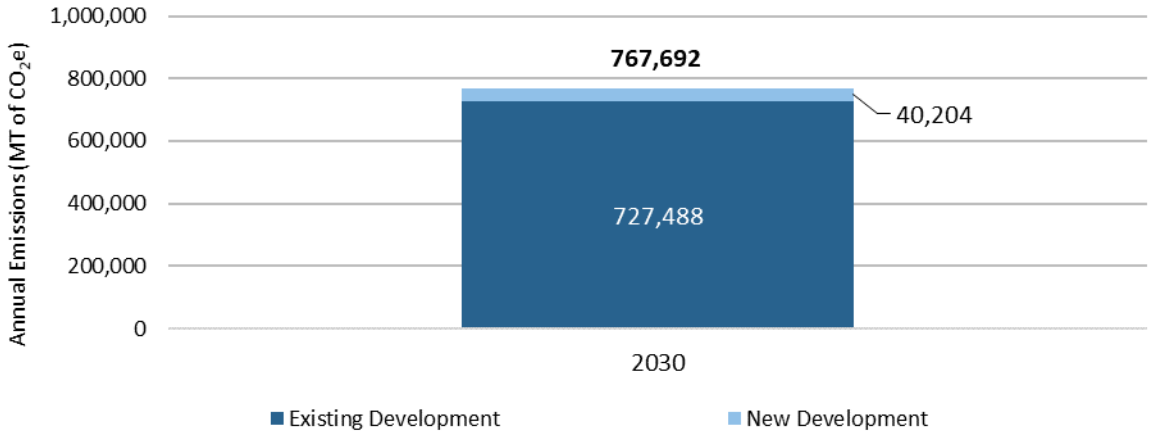


Table 5 GHG Emissions Forecast for Year 2030 (MT of CO_2e)

	2030		
Source	**Existing Development**	**New Construction**	**Total**
Baseline GHG Emissions	1,084,854	69,080	1,153,935
State Laws/Programs	270,087	25,809	295,896
GGRP Update Energy Measures	29,081	1,037	30,117
GGRP Update Transportation Measures	45,856	1,634	47,490
GGRP Update Water Measures	391	14	405
GGRP Update Waste Measures	10,660	380	11,040
GGRP Update Sequestration Measures	68	2	71
Municipal Measures[1]	1,222	N/A	1,222
Remaining Total GHG Emissions	**727,488**	**40,204**	**767,692**

( ) denotes a negative number; N/A = not applicable
Note: GHG emissions reductions achieved by City Government measures are not included because implementation of the actions associated with these measures would serve only to reduce municipal, rather than communitywide, emissions.
See Appendix C for calculations.

Table 6 summarizes the demographic projections for the City Burbank that were used in calculating GHG efficiency thresholds for year 2030. As shown in Table 6, the numbers of residents, employees, and service persons are all anticipated to increase between 2019 and 2030.

Table 6 City of Burbank Demographic Projections

Metric	2019 Estimate	2030 Forecast	Net Increase from New Development (2019-2030)
Residents	105,496	109,686	4,190
Employees	132,000	136,275	4,275
Service Population[1]	237,496	245,961	8,465

[1] The service population is equal to the residential population plus the number of employees.

Source: Burbank, City of. 2020. *City of Burbank 2019 Greenhouse Gas Emissions Inventory, Forecast, and Reduction Targets Memorandum*.

5.2 GHG Thresholds and Use

The GHG efficiency thresholds for residential, non-residential, and mixed-use projects built prior to December 31, 2030 are presented in Table 7. If a plan or project's emissions do not exceed the applicable threshold, then it is consistent with the City's GGRP Update and its GHG emissions impacts (both project- and cumulative-level) would not result in a cumulatively considerable impact related to GHG emissions and climate change and would, therefore, be less than significant. If a plan or project's emissions exceed the applicable threshold, then mitigation measures must be identified and respective GHG emissions reduction calculations included within the respective CEQA review document in order to reduce plan or project GHG emissions to at or below the applicable threshold level. These thresholds are applicable to the following plan and project types as identified in Title 10 (Zoning Regulations) Section 10-1-502, Table 10-1-602, and Table 10-1-627 and defined in Burbank Municipal Code Section 10-1-203:

- **Residential.** Single-family dwellings (including mobile homes and manufactured homes), multi-family dwellings, caretaker quarters, residential care home-retirement home, community care facilities, convalescent homes, sober living facilities, supportive housing, and transitional housing or any combination of these uses.
- **Non-residential.** All Retail Sales and Dining uses; all Recreation, Assembly, and Entertainment uses; all Public and Semi-Public Facilities uses, all Professional Offices and Services uses; all Media Services uses; all Medical and Care uses; all Industrial and Manufacturing uses that are not subject to South Coast Air Quality Management District (SCAQMD) stationary source permitting or the State cap-and-trade program; all Vehicle Related uses; all Cannabis uses; hotels; motels; single room occupancy hotels; family day care homes; or any combination of these uses.
- **Mixed-use.** A combination of at least one residential and at least one non-residential land use specified above.

Table 7 City of Burbank Locally Applicable Plan- or Project-Specific CEQA GHG Emissions Thresholds

	2030 New Development Projects
GHG Emissions after Reductions from Measures (MT of CO_2e per year)[1]	767,692
Demographic Metric[2]	245,961 service persons
GHG Efficiency Threshold (MT of CO_2e per year)	3.12 per service person

MT = metric tons; CO_2e = carbon dioxide equivalents

[1] See Table 5.

[2] Demographic estimates are for new plans or projects only and were calculated using the forecasts in Table 6.

5.3 Justification for Thresholds

Per CEQA Guidelines Section 15064(b)(1), "the determination of whether a project may have a significant effect on the environment calls for careful judgment on the part of the public agency involved, based to the extent possible on scientific and factual data." In addition, CEQA Guidelines Section 15064(b)(2) states, "When using a threshold, the lead agency should briefly explain how compliance with the threshold means that the project's impacts are less than significant." Furthermore, CEQA Guidelines Section 15064.7(b) states "Thresholds of significance to be adopted for general use as part of the lead agency's environmental review process must be adopted by ordinance, resolution, rule, or regulation, and developed through a public review process and be supported by substantial evidence." Therefore, the key considerations when developing thresholds of significance are 1) the thresholds' basis on scientific and factual data; 2) demonstration of how compliance with the thresholds reduces project impacts to a less-than-significant level; 3) support of the thresholds by substantial evidence; and 4) adoption of the thresholds by ordinance, resolution, rule, or regulation, and developed through a public review process. The following subsections address these four key considerations.

Basis on Scientific and Factual Data

As discussed in Section 5.1, *Calculation Methodology*, the quantitative thresholds were developed using data from the City's 2010 and 2019 communitywide GHG inventories and the GHG emissions forecasts for year 2030. These inventories and forecasts were developed by the City in compliance with all relevant protocols and guidance documents, including the U.S. Community Protocol for Accounting and Reporting of Greenhouse Gas Emissions, Local Government Operations Protocol, the Global Protocol for Community Scale GHG Emissions, and the Intergovernmental Panel on Climate Change (IPCC) Guidelines for National GHG Inventories. Furthermore, the inventories and forecasts are based on locally appropriate data for the City of Burbank provided by Burbank Water and Power (BWP), Southern California Gas Company, the City of Burbank's Public Works Department, , the SCAG traffic demand model data, CARB's OFFROAD2007 off-road transportation emissions model, and CalRecycle. Therefore, the emission inventory and forecast data underlying the thresholds is both scientific and factual.

As discussed in Section 2.3, *GHG Emissions Forecast*, implementation of the City's GGRP Update will achieve a 40 percent reduction in 1990 emissions levels by 2030 (49% reduction below 2010).

Therefore, this local target is consistent with the State targets of a 40 percent emission reduction in 1990 levels by 2030 and makes substantial progress toward achieving the State's long-term goal of carbon neutrality by 2045. The quantitative thresholds are tied directly to the level of GHG emissions anticipated for new development in the GGRP Update for year 2030. As a result, because the GGRP Update is consistent with the State's 2030 GHG emission target, the quantitative thresholds are also consistent with the State's long-term goal of carbon neutrality by 2045. The State's GHG emission reduction targets for 2030 and 2045 are set at the levels scientists say are necessary to meet the Paris Agreement goals to reduce GHG emissions and limit global temperature rise below two degrees Celsius by 2100 in order to avoid dangerous climate change (CARB 2017; EO B-55-18). Therefore, the City's emission reduction targets that inform the GGRP Update and the associated quantitative thresholds are based on scientific and factual data on the level of emissions reductions necessary to ensure the City does not have a cumulatively considerable contribution to the cumulative impact of climate change.

Reduction of Plan or Project Impacts to a Less-than-Significant Level

As shown in

Table 5 in Section 5.1, *Calculation Methodology*, implementation of the City's GGRP Update would reduce communitywide emissions by 40 percent below 1990 levels by 2030. The quantitative thresholds are tied directly to the level of GHG emissions anticipated for new development in the GGRP Update for year 2030. Therefore, the thresholds are consistent with the City's local emission reduction target, which is consistent with the State's GHG emission reduction targets. As mentioned in the preceding subsection, the State's GHG emission reduction targets for 2030 and 2045 are set at the levels scientists say are necessary to meet the Paris Agreement goals to reduce GHG emissions and limit global temperature rise below two degrees Celsius by 2100 in order to avoid dangerous climate change (CARB 2017; EO B-55-18). Therefore, the quantitative thresholds are set at the level necessary to ensure the City does not have a cumulatively considerable contribution to the cumulative impact of climate change. As a result, projects with GHG emissions at or below the quantitative thresholds would also not have a cumulatively considerable contribution to the cumulative impacts of climate change, and project impacts would be less than significant.

Support of Substantial Evidence

Substantial evidence regarding the calculation of the quantitative GHG emissions thresholds is provided in Section 5.1, *Calculation Methodology*. The following subsections provide additional evidence of how the GHG emissions thresholds are locally appropriate and plan- or project-specific; how the thresholds distinguish between existing and new development; and why interim year thresholds were developed.

Use of Local Data

The quantitative thresholds were developed using the City's communitywide GHG emissions forecasts for year 2030 and are therefore specific to the City of Burbank. The thresholds are directly tied to the population and employment growth anticipated by the City's (2013) General Plan and SCAG's RHNA allocation for Burbank as well as to the City-specific GHG emission reduction measures that the City has proposed to reduce communitywide emissions. In addition, the magnitude of local GHG emission reductions achieved by State legislation/policies (i.e., vehicle fuel efficiency standards, the Renewable Portfolio Standard, and Title 24) was estimated based on City-specific growth and vehicle miles travelled (VMT) forecasts. As a result, these locally appropriate thresholds

directly address the concerns raised in the *Golden Door Properties, LLC v. County of San Diego/Sierra Club, LLC v. County of San Diego* (2018) case because they are based on local GHG emissions data rather than statewide GHG emissions data.

Disaggregation of Existing versus New Development

The quantitative thresholds were developed by disaggregating the City's business-as-usual GHG emissions forecasts for year 2030 into emissions forecasts for existing and new development, which are shown in

Table 5 in Section 5.1, *Calculation Methodology*. The emissions reductions specific to new development achieved by State legislation/policies and the GGRP Update were then subtracted from the business-as-usual forecast to determine emissions "caps" of emissions from new residential and new non-residential development for year 2030. These "caps" were then divided by the numbers of residents, employees, and service persons forecasts for new development to determine efficiency thresholds for residential, non-residential, and mixed-use development, respectively. Therefore, these thresholds directly address the concerns raised in the *Center for Biological Diversity v. California Department of Fish and Wildlife* (2015) case regarding the different rates of GHG emissions reductions anticipated for new development as compared to existing development in order to meet the specified GHG reduction target.

Selection of Sector-Specific Thresholds

The quantitative thresholds are separated into three categories – residential, non-residential, and mixed-use – which are intended to apply to the three main types of development projects in Burbank. These thresholds were calculated by disaggregating the City's business-as-usual GHG emissions forecasts for new development in year 2030 into emissions forecasts for new residential and new non-residential development, which are shown in

Table 5 in Section 5.1, *Calculation Methodology*. The emissions reductions specific to new residential and new non-residential development achieved by State legislation/policies and the GGRP Update were then subtracted from the business-as-usual forecast to determine "caps" of emissions for new residential and new non-residential development for year 2030. These emissions "caps" were then divided by the numbers of residents and employees forecast for new development in year 2030 to determine efficiency thresholds for residential and non-residential projects, respectively. For mixed-use development, the residential and non-residential emissions "caps" were summed, then divided by the service population forecast for new development in year 2030 to determine an efficiency threshold for mixed-use projects. As a result, these project-specific thresholds directly address the concerns raised in the *Center for Biological Diversity v. California Department of Fish and Wildlife* (2015) case because they are specific to each development project type.

Adoption via Public Review Process

In compliance with CEQA Guidelines Section 15064.7(b), this guidance document and the quantitative thresholds contained herein will be presented to the City Council for formal adoption via resolution through a public review process, which will include an opportunity for public input. The public review process for these City of Burbank CEQA GHG Thresholds and Guidance will specifically occur via public review of and comment on a joint GGRP Update and CEQA GHG Thresholds and Guidance Draft IS-ND. The opportunity for public comment will also be available at a public hearing (i.e., City Council meeting) considering adoption of the GGRP Update and CEQA GHG

Thresholds and Guidance. This process directly addresses the concerns raised in the *Golden Door Properties, LLC v. County of San Diego/Sierra Club, LLC v. County of San Diego* (2018) case regarding formal adoption of new CEQA thresholds and how lead agencies should afford the opportunity for public review and input prior to adoption and use.

6 Quantifying GHG Emissions

There are a variety of analytical tools available to estimate project-level GHG emissions, including the California Emissions Estimator Model (CalEEMod),[22] which is a free, publicly available computer model developed for the California Air Pollution Control Officers Association (CAPCOA) in collaboration with various air quality districts throughout the State. Alternative tools may be used to quantify emissions if they can be substantiated. In general, the most current version of CalEEMod should be used to calculate total emissions for discretionary development projects. The analysis should focus on carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (N_2O) because these are the GHGs that most development projects would generate in the largest quantities. Fluorinated gases, such as hydrofluorocarbons, perfluorocarbons, and sulfur hexafluorides, should also considered for the analysis. Emissions of all GHGs should be converted into their equivalent global warming potential in terms of CO_2 (CO_2e). Calculations should be based on the methodologies recommended by the CAPCOA and the SCAQMD and include the use of guidance published by CARB.[23, 24, 25]

6.1 Construction GHG Emissions

Construction activities emit GHGs primarily though combustion of fuels (mostly diesel) in the engines of off-road construction equipment and in on-road construction vehicles and in the commute vehicles of the construction workers. Smaller amounts of GHGs are emitted indirectly through the energy required for water used for fugitive dust control and lighting for the construction activity. Every phase of the construction process, including demolition, grading, paving, and building, emits GHG emissions in volumes proportional to the quantity and type of construction equipment used. Heavier equipment typically emits more GHGs per hour of than lighter equipment because of its engine design and greater fuel consumption.

The SCAQMD recommends amortizing construction-related GHG emissions over the life of the plan/project and adding amortized construction emissions to annual operational emissions for the purpose of providing a mechanism for the plan/project to mitigate these impacts alongside operational impacts. The SCQAMD recommends an amortization period of 30 years for all projects.[26]

CalEEMod generates a default construction schedule and equipment list based on the plan-/project-specific information, including land use, project size, location, and construction timeline.[27] In

[22] The most current available version of CalEEMod should be used. As of January 2020, CalEEMod version 2016.3.2 is the most current version and should be used to quantify project-level emissions.

[23] California Air Pollution Control Officers Association. 2008. *CEQA and Climate Change: Addressing Climate Change through California Environmental Quality Act (CEQA)*. January 2008.

[24] SCAQMD. 2008. Draft Guidance Document – Interim CEQA Greenhouse Gas (GHG) Significance Threshold .October 2008. https://www.google.com/search?q=scaqmd+interim+ghg+guidance&rlz=1C1GCEU_enUS820US820&oq=scaqmd+interim+ghg+guidance&aqs=chrome..69i57j0.2752j0j9&sourceid=chrome&ie=UTF-8 (accessed March 2021).

[25] CARB. 2018. EMFAC2017 Volume III – Technical Documentation v.1.0.2. July 20, 2018. https://ww3.arb.ca.gov/msei/downloads/emfac2017-volume-iii-technical-documentation.pdf (accessed January 2020).

[26] SCAQMD. 1993. CEQA Air Quality Handbook. November 1993. http://www.aqmd.gov/home/rules-compliance/ceqa/air-quality-analysis-handbook/ceqa-air-quality-handbook-(1993) (accessed January 2021).

[27] CAPCOA. 2017. California Emissions Estimator Model User Guide: Version 2016.3.2. Prepared by BREEZE Software, A Division of Trinity Consultants in collaboration with South Coast Air Quality Management District and the California Air Districts. http://www.aqmd.gov/caleemod/user's-guide (accessed January 2020).

general, if specific applicant-provided information is unknown, the default construction equipment list and phase lengths are the most appropriate inputs. However, if more detailed site-specific equipment and phase information (i.e., data from the project applicant) is available, the model's default values can (and should) be overridden.[28]

6.2 Operational GHG Emissions

CalEEMod estimates operational emissions of CO_2, N_2O, and CH_4 generated by area sources, energy use, waste generation, and water use and conveyance as well as CO_2 and CH_4 generated by project-generated vehicle trips (i.e., mobile sources). Operational emissions should be calculated for year 2030, rather than the plan/project buildout year, in order to provide an appropriate comparison of project emissions to the year 2030 threshold.

Area Source Emissions

Area sources include GHG emissions that would occur from the use of landscaping equipment, hearths, and woodstoves, which emit GHGs associated with the equipment's fuel combustion. The landscaping equipment emission values in CalEEMod are derived from the 2011 Off-Road Equipment Inventory Model.[29] Emission rates for combustion of wood and natural gas for wood stoves and fireplaces are based on those published by the U.S. EPA in Chapter 1.9 of AP-42. Typically, no adjustments to landscaping equipment inputs are necessary. The number of hearths and woodstoves should be adjusted to reflect the project design and compliance with SCAQMD Rule 445.

Energy Use Emissions

GHGs are emitted on-site during the combustion of natural gas for cooking, space and water heating, and decorative uses and off-site during the generation of electricity from fossil fuels in power plants. CalEEMod estimates GHG emissions from energy use by multiplying average rates of residential and non-residential energy consumption by the quantities of residential units and non-residential square footage entered in the land use module to obtain total projected energy use. This value is then multiplied by electricity and natural gas GHG emission factors applicable to the plan/project location and utility provider. Building energy use is typically divided into energy consumed by the built environment and energy consumed by uses that are independent of the building, such as plug-in appliances. Non-building energy use, or "plug-in energy use," can be further subdivided by specific end-use (refrigeration, cooking, office equipment, etc.). In California, Title 24 governs energy consumed by the built environment, mechanical systems, and some types of fixed lighting.

Electricity emissions are calculated by multiplying the energy use by the carbon intensity of the utility district per kilowatt hour.[30] The specific energy intensity factors (i.e., the amount of CO_2, CH_4, and N_2O per kilowatt-hour) for BWP should be used in the calculations of GHG emissions. However, the energy intensity factors included in CalEEMod are based on 2007 data by default at which time BWP had only achieved a one percent procurement of renewable energy.[31] Per SB 100, the

[28] Ibid.

[29] Ibid.

[30] Ibid.

[31] Burbank Water and Power. 2008. Currents – June 2008. https://www.burbankwaterandpower.com/images/administrative/downloads/2007WaterQualityReport.pdf (accessed March 2021).

Statewide Renewable Portfolio Standard (RPS) Program requires electricity providers to increase procurement from eligible renewable energy sources to 33 percent by 2020 and 60 percent by 2030. Users should visit Burbank Water and Power's website for the most recent energy intensity factors for BWP.

Energy emissions should also be adjusted to account for the effects of new iterations of Title 24. For examples, CalEEMod version 2016.3.2 does not account for the requirements of the 2019 Title 24 standards, which went into effect on January 1, 2020. According to the California Energy Commission, single-family homes and nonresidential buildings built to the 2019 Title 24 standards will use approximately 7 percent and 30 percent less energy, respectively, due to more stringent energy efficiency measures and lighting upgrades. Therefore, energy usage from single-family residential usage should be reduced by 7 percent, and non-residential energy usage should be reduced by 30 percent to account for the requirements of 2019 Title 24 standards.[32]

In accordance with Section 150.1(b)14 of the 2019 Building Energy Efficiency Standards, all new residential uses three stories or less must install photovoltaic (PV) solar panels that generate an amount of electricity equal to expected electricity usage. The calculation method contained in Section 150.1(b)14 of the 2019 Building Energy Efficiency Standards should be utilized to estimate the number of kilowatts of PV solar panels that would be required for a residential project three stories or less. In addition, modeling should account for local regulations pertaining to mandatory solar provisions.[33] Online resources can be used to determine the amount of kilowatt-hours that would be generated per year by the required solar PV system.[34] The energy reduction achieved by on-site PV solar panels should be included in CalEEMod.

Mobile Source Emissions

CalEEMod quantifies mobile source emissions of CO_2, and CH_4. If available, project-specific trip generation rates or VMT data should be input in CalEEMod. To calculate mobile source emissions, CalEEMod uses CO_2 emission factors from the EMFAC2014 Emissions Inventory based on the aggregated model year and aggregated speed and CH_4 emission factors provided by CARB for the plan/project's first year of full operations.[35] Because CalEEMod does not calculate N_2O emissions from mobile sources, N_2O emissions should be quantified using guidance from CARB and the EMFAC2017 Emissions Inventory. [36, 37]

Water and Wastewater Emissions

The amount of water used, and the amount of wastewater generated by a plan/project generate indirect GHG emissions. These emissions are a result of the energy used to supply, convey, and treat

[32] California Energy Commission. 2019. "2019 Building Energy Efficiency Standards." March 2018. https://ww2.energy.ca.gov/title24/2019standards/documents/2018_Title_24_2019_Building_Standards_FAQ.pdf (accessed January 2020).

[33] In 2020, the City Council will consider adoption of the Clean Energy Choice Program for New Buildings, which may include solar requirements for other types of land uses.

[34] Zientara, Ben. 2019. "How much electricity odes a solar panel produce?" Last updated: November 6, 2019. https://www.solarpowerrocks.com/solar-basics/how-much-electricity-does-a-solar-panel-produce/ (accessed March 2020).

[35] CAPCOA. 2017. California Emissions Estimator Model User Guide: Version 2016.3.2. Prepared by BREEZE Software, A Division of Trinity Consultants in collaboration with South Coast Air Quality Management District and the California Air Districts. http://www.aqmd.gov/caleemod/user's-guide (accessed January 2020).

[36] CARB. 2018. EMFAC2017 Volume III – Technical Documentation v.1.0.2. July 20, 2018. https://ww3.arb.ca.gov/msei/downloads/emfac2017-volume-iii-technical-documentation.pdf (accessed January 2020).

[37] CARB. 2019. EMFAC2017 Web Database. https://www.arb.ca.gov/emfac/2017 (accessed January 2020).

water and wastewater. In addition to the indirect GHG emissions associated with energy use, the wastewater treatment process itself can directly emit both CH_4 and N_2O.

The indoor and outdoor water use consumption data for each land use subtype comes from the Pacific Institute's (2003) *Waste Not, Want Not: The Potential for Urban Water Conservation in California*.[38] Based on that report, a percentage of total water consumption is dedicated to landscape irrigation, which is used to determine outdoor water use. Wastewater generation is similarly based on a reported percentage of total indoor water use.

New development will be subject to CalGreen, which requires a 20 percent increase in indoor water use efficiency. Thus, in order to account for compliance with CalGreen, a 20 percent reduction in indoor water use should be included in the water consumption calculations for new residential, non-residential, and mixed-use development. In addition to water reductions associated with building code compliance and project design features, the GHG emissions from the energy used to transport the water for development should also account for compliance with the RPS using the guidance provided under "Energy Use Emissions."

Solid Waste Emissions

The disposal of solid waste produces GHG emissions from the transportation of waste, anaerobic decomposition in landfills, and incineration. To calculate the GHG emissions generated by solid waste disposal, the total volume of solid waste is calculated using waste disposal rates identified by the California Department of Resources Recycling and Recovery (CalRecycle). The methods for quantifying GHG emissions from solid waste are based on the IPCC method, using the degradable organic content of waste. Users should contact the City's Public Works Department to obtain the most recent solid rate diversion rate to be included in the calculation of solid waste GHG emissions.

Plan or Project Design Features

Users should use the "Mitigation" tabs to include project design features applicable to the plan/project.[39] These features often include increased density, improved destination accessibility, proximity to transit, integration of below market rate housing, unbundling of parking costs, provision of transit subsidies, implementation of alternative work schedules, use of energy- and/or water-efficient appliances, use of reclaimed and/or grey water, and installation of water-efficient irrigation system. Users should consider the applicability of these features to the plan/project and review the CAPCOA *Quantifying Greenhouse Gas Mitigation Measures* (2010) publication to ensure that the chosen features are relevant and feasible in light of the plan/project.[40]

Residents, Employees, and Service Populations

The quantitative thresholds presented in Section 5, *Utilizing Quantitative CEQA GHG* Thresholds, are expressed in terms of per resident for residential projects, per employee for non-residential projects, and per service person for mixed-use projects. Estimates of the resident, employee, or service population for a plan/project should be based on substantial evidence. The City of Burbank

[38] CAPCOA. 2017. California Emissions Estimator Model User Guide: Version 2016.3.2. Prepared by BREEZE Software, A Division of Trinity Consultants in collaboration with South Coast Air Quality Management District and the California Air Districts. http://www.aqmd.gov/caleemod/user's-guide (accessed January 2020).

[39] "Mitigation" is a term of art for the modeling input and is not equivalent to mitigation measures that may apply to the CEQA impact analysis.

[40] CAPCOA. 2010. Quantifying Greenhouse Gas Mitigation Measures. August 2010. http://www.capcoa.org/wp-content/uploads/2010/11/CAPCOA-Quantification-Report-9-14-Final.pdf (accessed January 2020).

defines service population as defined as the number of residents plus the number of employees for a given project. Data provided by the applicant as well as the following resources may be utilized in estimating resident and employee populations:

- **California Department of Finance.** For plans/projects with a residential component, household size data for the city of Burbank provided by the California Department of Finance (available at: https://www.dof.ca.gov/Forecasting/Demographics/Estimates/E-5/) can used to estimate the number of residents a plan/project would accommodate.
- **Proposed Number of Beds.** For plans/projects such as group homes, assisted living facilities, nursing homes, or similar uses, the number of beds can be used to determine the resident population.
- **United States Green Building Council.** The United States Green Building Council has published a summary of building area per employee by business type. These rates, which are expressed in terms of square feet per employee, can be utilized to estimate the number of employees a plan/project would require. This document is included as Appendix D.

6.3 Modeling GHG Emissions from Existing Land Use

For a plan/project that would result in a change in the plan area/project's site General Plan land use designation, emissions anticipated for the existing (2013) General Plan land use designation must be calculated in conjunction with emissions for the proposed plan/project to demonstrate whether the plan/project would be more or less GHG-intensive than development anticipated for the existing (2013) General Plan land use designation for the site. In this case, GHG emissions should be reported for both the existing and proposed scenarios. Emissions anticipated for the existing land use should be quantified using the methods described in Section 6.1, *Construction Emissions*, and Section 6.2, *Operational Emissions* with consistent assumptions between the two scenarios as applicable. Any emission reduction credits applied to the proposed plan/project scenario that are related to State legislation/policies (e.g., the RPS, vehicle standards, Title 24) or the plan area/project site location (e.g., proximity to transit, destination accessibility, etc.) should also be applied to the existing scenario. Emission reduction credits that are specific to the proposed plan/project (e.g., use of recycled water, increased density, installation of energy and/or water-efficient appliances, integration of below market rate housing, etc.) should only be included for the proposed plan/project scenario. In addition, care should be taken to identify any emission reduction credits that might be unique to the existing land use designation that would not apply to the proposed plan/project. For example, if the existing land use designation allows for single-family residences and the proposed land use designation would allow for only commercial uses, then the existing scenario should include the emission reduction credit associated with the 2019 Building Energy Efficiency Standards requirements for PV solar panels on residential uses that are three stories or less whereas the proposed plan/project scenario should not include this credit unless PV solar panels are included as a plan/project design feature.

7 Moving into the Future

Full implementation of the City's GGRP Update will reduce communitywide GHG emissions by approximately 40 percent below 1990 levels by 2030, which would leave a gap of approximately 767,692 MT of CO_2e per year that will need to be addressed to achieve carbon neutrality. This gap represents emissions that could be addressed by laws, regulations, policies, programs, and ordinances set forth by the federal and State governments, regional agencies, and local partners. The gap also represents the uncertainty that the City faces in taking a leadership role in addressing a challenge that has not been solved before. The City is committed to embracing that uncertainty, committing to constant learning, engaging in systemic change using the tools and actions that local governments are uniquely suited to carry out, and positioning itself to take full advantage of future innovations, technologies, and policies and legislation that may be undertaken at the State and federal level. Technological innovation, clean-tech innovation, and changes to climate related policy and regulation occur rapidly. Several of the State's most successful environmental policy initiatives, including the RPS, also had a gap between what was known at the time of adoption and eventual successful implementation. By committing to the target of carbon neutrality by 2045, the City intends to catalyze innovation, invite resources from funding sources and partners, and provide climate leadership.

The GGRP Update acknowledges that additional actions beyond those identified in the plan will be necessary to achieve carbon neutrality and therefore provides a mechanism for updating the GGRP every three years in order to incorporate new measures and innovative technologies that will further the City toward meeting its goal of carbon neutrality. As the GGRP Update is updated, the associated GGRP Update Project Review Checklist will also be updated as needed to incorporate new strategies, measures, and/or foundational actions that discretionary development projects will need to incorporate, as applicable, to demonstrate consistency with the GGRP Update. At the time at which the City identifies measures to achieve its 2045 targets in totality, the City will adopt those measures in a public process following CEQA review, at which time the GGRP Update will become a qualified GHG emission reduction plan for projects with post-2030 buildout years. At that time, the quantitative thresholds included in this guidance document would also need to be updated for residential, non-residential, and mixed-use projects with post-2030 buildout years.

In addition, if future amendments or updates of the City's General Plan occur, then these amendments or updates will be incorporated into future updates of the GGRP to ensure that project applicants can continue to utilize the streamlining process, which is partly dependent on a plan/project's consistency with the demographic forecasts and land use assumptions based on the General Plan, to the greatest extent practicable.

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