

Attachment 2

**Revised Public Draft 2030 Climate Action Plan Update
with Text Changes in ~~Strikethrough~~ and Underline**

This page intentionally left blank.

CITY OF BURLINGAME 2030 CLIMATE ACTION PLAN UPDATE

Revised Public Draft

With text changes in ~~strikethrough~~ and underline

August 8, 2019

This page intentionally left blank.

City of Burlingame 2030 Climate Action Plan Update

Table of Contents

Executive Summary	ES-1
1 Introduction.....	1
Overview of the purpose, development, objectives, and methodology for the 2030 CAP Update.	
2 Climate Change Context	11
Background information on climate change science, state initiatives that reduce GHG emissions, and important changes to the 2009 CAP methodology.	
3 GHG Emission Inventory, Forecasts, and Annual Targets.....	17
The City's GHG emission baseline inventory, forecast of GHG emissions, and GHG emission reduction targets.	
4 Burlingame's GHG Emission Reduction Strategy	41
Review of the GHG emission reduction measures and for reducing GHG emissions within the city.	
5 Preparing for Climate Change.....	71
The City's vulnerability to climate change risks and the approach to adapting to these risks.	
6 Implementation and Monitoring	77
Plan for implementing the 2030 CAP Update's GHG emission reduction strategy and monitoring progress.	

Appendix A, spreadsheets detailing the methodologies and calculations used to estimate the 2005 and 2015 community-wide and municipal GHG emission inventories.

Appendix B, data sources and projection calculations for the community-wide GHG emissions forecast.

Appendix C, calculations for estimating GHG emission reduction from GHG emission reduction measure implementation.

This page intentionally left blank.

Executive Summary

Welcome

Welcome to the City of Burlingame's (City) 2030 Climate Action Plan (CAP) Update – a blueprint for our community's response to the challenges posed by climate change. Scientists, including the United Nations' scientific Intergovernmental Panel on Climate Change, paint a far more dire picture of the immediate consequences of climate change than previously thought¹. Absent aggressive action, many effects once expected decades into the future are likely to arrive by 2040. The U.N.'s latest climate assessment report clearly shows that global warming and other shifts in the climate system observed over the past century are unequivocal, occurring at an unprecedented rate, and are extremely likely to be caused by human activities².

According to new research, unabated greenhouse gas (GHG) emissions could cause sea levels to rise ~~by~~ to ten feet by the end of this century - an outcome that could devastate coastal communities in California and around the world³. California is already feeling the effects of climate change, and projections show that these effects will continue and worsen over time. The impacts of climate change have been documented in California including details of changing temperatures, increasing wildfires and heat waves, decreasing snowpack, and changes in species sightings and food production.

Locally, we can expect future climate impacts in Burlingame to include more storm and flood events near shorelines and streams, extreme hot days, and severe local air quality impacts

¹ IPCC, 2018: Summary for Policymakers. In: Global warming of 1.5°C. An IPCC Special Report on the impacts of global warming of 1.5°C above pre-industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of climate change, sustainable development, and efforts to eradicate poverty [V. Masson-Delmotte, P. Zhai, H. O. Pörtner, D. Roberts, J. Skea, P. R. Shukla, A. Pirani, W. Moufouma-Okia, C. Péan, R. Pidcock, S. Connors, J. B. R. Matthews, Y. Chen, X. Zhou, M. I. Gomis, E. Lonnoy, T. Maycock, M. Tignor, T. Waterfield (eds.)]. World Meteorological Organization, Geneva, Switzerland, 32 pp. <https://report.ipcc.ch/sr15/pdf/sr15_spm_final.pdf>

² IPCC, 2014: *Climate Change 2014: Synthesis Report. Contribution of Working Groups I, II and III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change* [Core Writing Team, R.K. Pachauri and L.A. Meyer (eds.)]. IPCC, Geneva, Switzerland. <<https://www.ipcc.ch/report/ar5/syr/>>

³ Gary Griggs, et al. *Rising Seas in California An Update on Sea-Level Rise Science*. California Ocean Protection Council. <<http://www.opc.ca.gov/webmaster/ftp/pdf/docs/rising-seas-in-california-an-update-on-sea-level-rise-science.pdf>>

caused by regional wildfires. In addition, the anticipated future decrease of snowpack in the Sierras and longer drought conditions will impact the City's fresh water supply.

Burlingame is committed to addressing the climate crisis locally. The City, in coordination with County and State governments, is taking steps to reduce GHG emissions and create new programs and services that will support the community and businesses in doing the same. The 2030 CAP Update presents the City's climate strategy and best estimates of emissions in the community, based on the most current data and methodologies available. Burlingame will update the CAP every five years to ensure the City is on the right track towards addressing climate change and to reflect new technologies, data, and trends in reducing GHG emissions.

Achievements to Date

As a community committed to protecting the environment, Burlingame prepared its first CAP in 2009 to address GHG emissions in the city. Over the last decade, Burlingame has implemented multiple programs and efforts that significantly reduced GHG emissions from City operations and the community and brought other benefits to Burlingame. The City has tracked its GHG emissions and monitored progress toward reducing GHG emissions and is on target to achieve the 2020 GHG reduction goal set by our original 2009 CAP. The substantial achievements realized by the City, its residents, and its businesses are shown ~~on below~~ in Figure 1. These achievements lay a strong foundation for the City's 2030 CAP Update and the City's GHG reduction goals.

FIGURE 1: BURLINGAME CLIMATE ACTION ACHIEVEMENTS

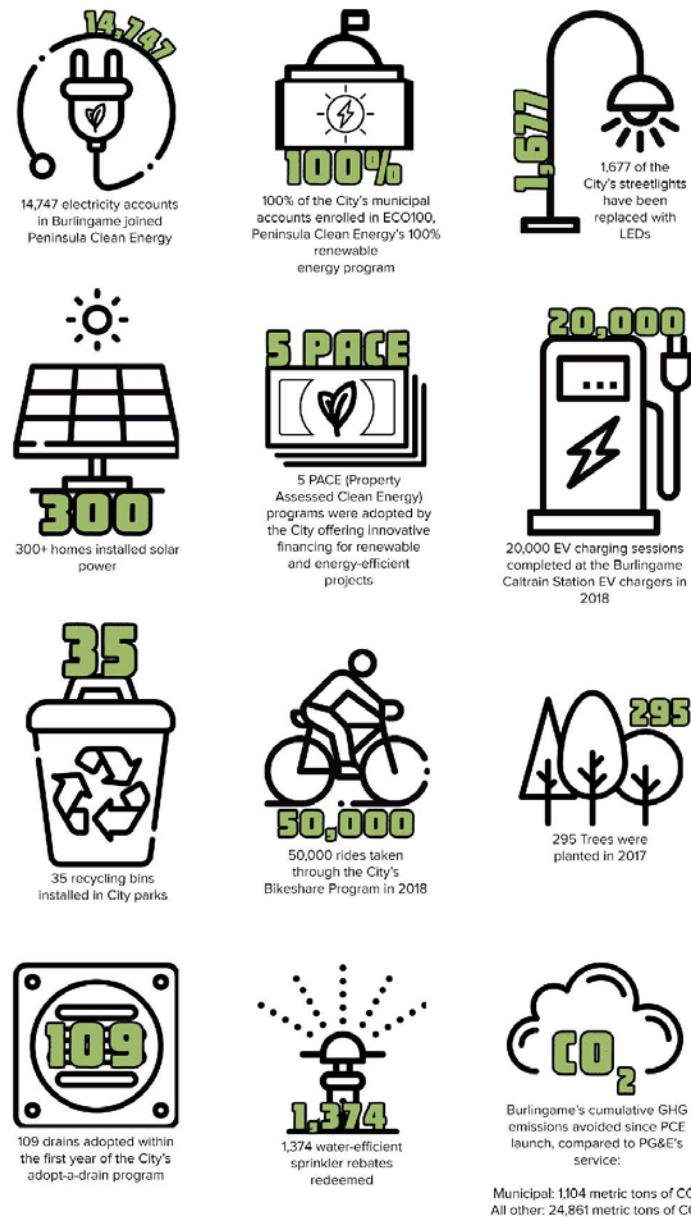


FIGURE 1: BURLINGAME CLIMATE ACTION ACHIEVEMENTS

Our Updated Goals

Since 2006, when California adopted Assembly Bill (AB) 32, the Global Warming Solutions Act, the State has acted as a leader in addressing climate change and has encouraged local cities to follow suit. AB 32 set a first-time GHG emissions target for the State to achieve 1990 GHG emissions levels by 2020. Subsequently, in 2016, the State Legislature passed Senate Bill (SB) 32, which set into law an additional mandated reduction target for GHG emissions of 40% below 1990 levels by 2030. Both of these mandates support the State's long-range goal to reduce GHG emissions 80% below 1990 levels by 2050, which was established by Executive Order S-3-05. These targets are in-line with the scientifically established levels needed to limit global warming below 3.6 degrees Fahrenheit (2 degrees Celsius) in this century, the warming threshold at which scientists say there will likely be major climate disruptions such as super droughts and rising sea level.⁴

California's mandates aim to push the State to respond to climate change more quickly and effectively. The City plays a vital role in implementing on-the-ground solutions needed to support the State's actions, and has updated and aligned its annual GHG emission reduction ~~goals~~ targets to be consistent with State GHG reduction goals.

The 2030 CAP Update specifically focuses on aligning the city's annual GHG emissions with statewide goals for 2020 and 2030, consistent with Bay Area Air Quality Management District (BAAQMD) recommendations. Annual GHG emissions are also estimated for 2040 and 2050; however, it is speculative to demonstrate achievement with longer-term goals for 2040 and 2050 based on the information known today. The City's CAP will undergo updates every five years, and more aggressive goals for 2030, 2040, and 2050 may be established during the update process. Alternatively, goals may be adjusted in future iterations of the CAP based on the City's progress toward reducing GHG emissions and/or newly established annual GHG emissions reduction targets set forth by the State.

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

Vision for the Future

(Bullets for new call-out)

- **GHG Emissions** – Emissions of carbon dioxide, methane, nitrous oxide, chlorofluorocarbons, and hydrofluorocarbons.
- **Annual GHG Emission Inventory** – The total amount of GHG emitted, in metric tons of carbon dioxide equivalents (MTCO₂e), over the course of one calendar year.
- **Annual GHG Emission Target** – The mass GHG emission target (MTCO₂e) for Burlingame over the course of one calendar year; predominantly used for 2020, 2030, 2040, and 2050.
- **GHG Emission Reduction Measures** – An action, plan, or program identified herein the CAP that when executed by the City will reduce GHG emissions; predominantly quantified on an annual GHG emission basis for 2020, 2030, 2040, and 2050.

Achieving our 2030 GHG emission goal~~target~~ calls for large reductions in GHG emissions across all sectors and a mix of many solutions working together. Transformations will occur over the next decades as we decrease our carbon intensity in transportation, energy, waste, and water.

California's Legislature and policies intend to shift the State toward cleaner transportation, efficient buildings, renewable energy, less waste and pollution, and healthier communities. This CAP, and its future updates, is tasked with keeping Burlingame at pace and consistent with the State's climate actions.

Clean Transportation. Cleaner transportation generally means reducing the amount of single occupancy driving, supporting alternative fuels, and implementing stricter fuel efficiency standards. While Burlingame cannot control fuel efficiency standards, it can influence individual and local patterns and modes of driving and support the use of alternative fuels and travel modes. The City, through this CAP and its new Envision Burlingame General Plan, is working on building more housing and jobs near transit, promoting the use of electric vehicles, supporting electrifying Caltrain, and making it easier for people to get around by walking and cycling. Still, changing people's behavior to drive less is one of Burlingame's trickiest challenges in reducing GHG emissions.

As discussed in detail in this document, the City will implement GHG emission reduction measures to help curb the amount of vehicle miles traveled within the city, as well as provide

incentives that encourage residents and employees within the city to utilize non-petroleum powered vehicles (e.g., electric vehicles). These strategies include, but are not limited to: transportation demand management (TDM) programs, improvement of non-vehicular infrastructure (i.e., pedestrian and bicycle pathways), additional electric vehicle infrastructure (e.g., charging stations), and managing parking supply. By 2020, the City will adopt a TDM policy that requires new development demonstrate a 20% reduction in trip generation, compared to standard rates.

Efficient Buildings. In the building and energy sectors, California’s Legislature is pushing the envelope with comprehensive and ambitious goals. Most recently, the State approved a shift to 100% ~~renewable~~ carbon-free electricity energy by 2045 and a mandate requiring certain new residential construction to install solar energy starting in 2020. Burlingame made its own significant contribution to clean energy when it joined Peninsula Clean Energy in 2016. Peninsula Clean Energy is San Mateo County’s new electricity utility charged with purchasing and providing electricity with higher renewable energy content than Pacific Gas and Electric (PG&E). In 2017, the City enrolled all its municipal accounts in ECO100, Peninsula Clean Energy’s 100% renewable energy program, and encourages residents and businesses to do the same. By 2021, Peninsula Clean Energy intends to source all its electricity from 100% GHG emission-free sources, thereby, zeroing out GHG emissions from electricity in Burlingame’s emission inventory⁵. This action undertaken by Peninsula Clean Energy, which is supported by the City, will reduce GHG emissions in Burlingame by more than 24,000 MTCO₂e in 2030.

The larger challenge, and opportunity, for GHG emissions reductions in buildings is natural gas usage in heating and ~~eating~~ cooking. Currently, Burlingame intends to reduce natural gas usage with voluntary energy efficient measures that promote retrofitting natural gas appliances for water heating; however, the City recognizes that stronger policies will be necessary in the future. For example, some cities are exploring fuel switching policies to electrify natural gas uses in new and existing homes and the purchase of renewable energy credits to offset natural

⁵ PCE, 2017. *2018 Integrated Resource Plan*. Peninsula Clean Energy. Approved by Board December 14, 2017. <<https://www.peninsulacleanenergy.com/wp-content/uploads/2018/01/PCE-FINAL-2017-IRP-Updated.pdf>>

gas emissions. Though not quantified for GHG emission reductions in this CAP, the City is currently exploring ways to eliminate natural gas consumption in almost all new development; an action that would be similar to, but not exactly like, an ordinance recently adopted by the City of Berkeley. The implementation of an action such as this in Burlingame would further reduce the GHG emission reductions this CAP, which are on par to meet and exceed the City's annual GHG emission targets for 2020 and 2030.

Zero Waste. Reducing the amount of waste discarded in landfills presents an important strategy for GHG emission reductions and overall sustainability. Emissions from landfills represent a relatively small portion of the City's GHG emission inventory, but the benefits of diverting waste spread far and wide. Waste reduction benefits water and air quality, resource conservation, wildlife habitats, and the principles of a circular economy. The circular economy rethinks how waste is used; rather than being disposed, waste should generate new products of equal or higher quality (not lower). The circular economy requires higher demands on product design, material use, and behavior change. Composting, which takes waste and turns it into usable, rich soil, is a strong element of the circular economy.

With the help of State recycling laws, Burlingame seeks to improve its diversion rate with increased recycling and composting by residents and businesses. The City is examining its own waste practices by striving for zero waste in municipal buildings and public events. Burlingame also anticipates participating in future waste movements, similar to the plastic bag ban movement, to reduce plastic pollution and promote source reduction. To support the goal of transitioning to zero waste, the City will develop a Community Zero Waste Plan by 2025 that guides the community in diverting its waste from landfill disposal, highlights a strategy for managing resources to their highest and best use, and identifies ways to reduce waste at the source.

Water Conservation. GHG emissions associated with the pumping, delivery, and treatment of water make up a small sliver of the City's community-wide GHG emissions. Yet, with respect to California's drought history, water conservation is vital to the State's sustainability and will continue to remain a key priority in Burlingame. The City will continue to pursue innovative

monetary and nonmonetary incentives to motivate businesses and residents to conserve water in landscaping and indoor use. Actions that will be undertaken by the City, as identified in this CAP, include incentives for retrofitting existing business with newer, more water-efficient plumbing, and requiring high-efficiency indoor water fixtures in new development (e.g., energy star washing machines and dish washers).

Urban Forestry. Burlingame is proud of being a designated “Tree City,” due to its canopies of diverse, mature, and expansive trees along public streets, private property, and parks and natural areas. The trees contribute to Burlingame’s walkable nature and community character. Trees are also very good at sequestering carbon and are being utilized more and more as a ~~climate action~~ measure to address the effects of climate change. Burlingame will plant a net positive of 33 new trees annually to maintain its existing urban forests and benefit from the sequestration of carbon.

Municipal Operations. Municipal operations, from vehicle fleets to parks and buildings, generate just one percent of Burlingame’s GHG emissions; however, they have the power to serve as a role model ~~for~~ to the community and demonstrate Burlingame’s leadership in climate action. Burlingame ~~intends to~~ will lower its operational GHG emissions ~~in its operations~~ by investing in electric fleet vehicles, striving for zero net energy in its future building construction, retrofitting existing buildings to be more efficient, and implementing various water conservation measures across buildings and parks.

2030 CAP Update at a Glance

This 2030 CAP Update outlines Burlingame’s strategy for reducing its GHG emissions. The CAP specifically charts the City’s course to achieving its 2020 and 2030 GHG emission ~~reduction~~ targets, and demonstrates ~~continued~~ substantial progress towards achieving ~~an~~ aggressive 2040 and 2050 GHG emission targets ~~reduction goal~~.

The chapters ahead detail and describe the 2030 CAP Update’s background, development process, ~~goals~~ annual GHG emission targets, ~~action strategy~~ GHG emission reduction measures, and implementation plan. The 2030 CAP Update will significantly reduce GHG emissions ~~into~~

the decades to come. Together with the City's General Plan, the 2030 CAP Update will advance and guide the City's sustainability effort.

FIGURE 2: BUSINESS AS USUAL VS CLIMATE ACTION 2030

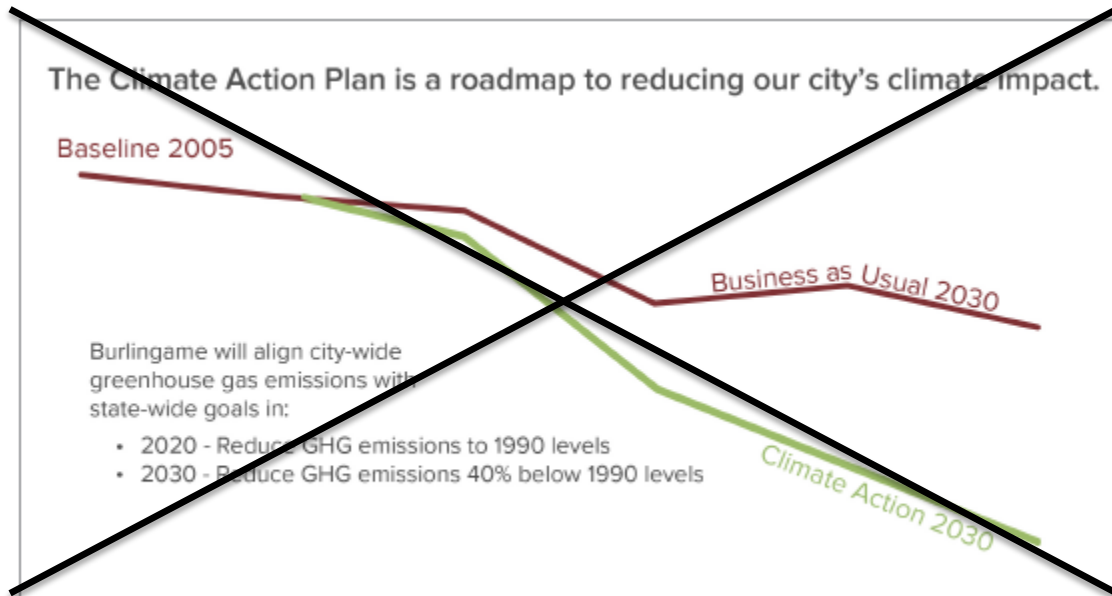


FIGURE 2: BUSINESS AS USUAL VS CLIMATE ACTION 2030

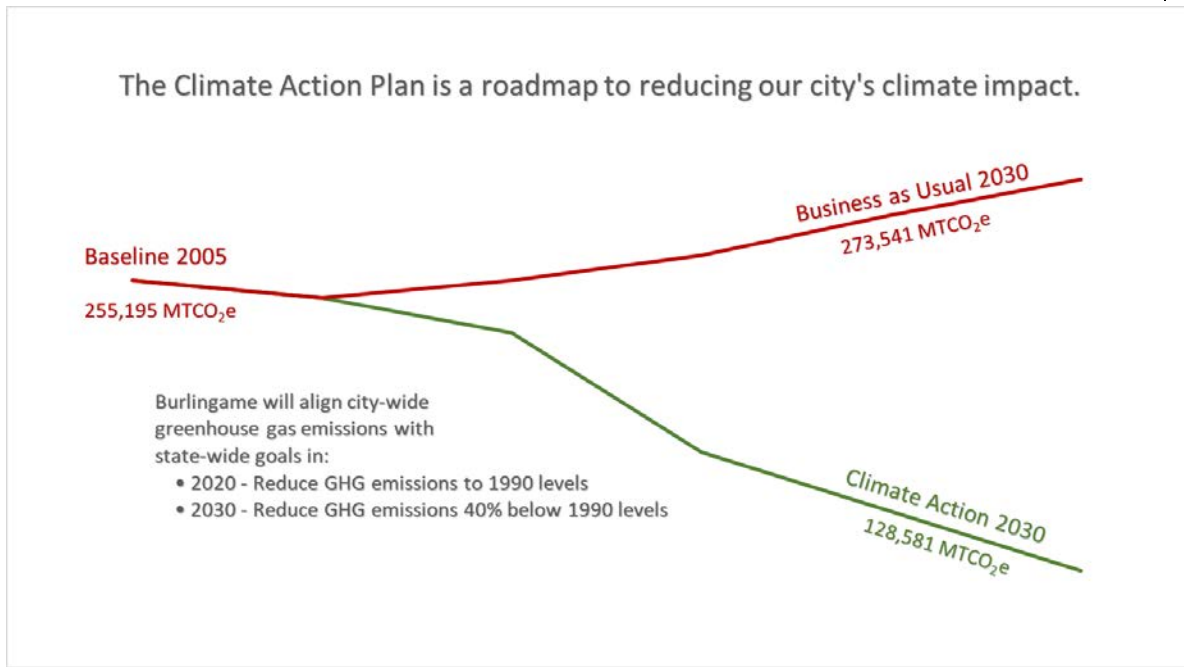


FIGURE 3: 2030 CAP AT A QUICK GLANCE



ES-8 CITY OF BURLINGAME 2030 CLIMATE ACTION PLAN



AT A QUICK GLANCE, THE 2030 CAP UPDATE ACHIEVES THE FOLLOWING:

Presents the city's GHG emission inventory for 2015

Introduces 20 GHG emission reduction measures

Avoids 20,397 MTCO₂e of GHG emissions by 2020

Avoids 50,532 MTCO₂e of GHG emissions by 2030

Procures all electricity from 100% renewable energy sources by 2025

Cuts in transportation emissions by 24% in 2030

Bolsters support for electric vehicles and residential charging stations

Reaches a waste diversion rate of 90% by 2030

Sets the city on the path to achieve long-term goals in 2040 and 2050

Prepares the city for sea level rise

Provides an implementation plan to track progress

FIGURE 3: 2030 CAP AT A QUICK GLANCE

This page intentionally left blank.

1 Introduction

The City of Burlingame's 2030 CAP Update represents a significant step in the City's ongoing efforts to quantify, monitor, and reduce GHG emissions within the city that contribute to global climate change. The 2030 CAP Update builds on and replaces the City's previous CAP, which was prepared in 2009. It includes updated GHG emissions information and annual reduction targets. It also contains the City's new GHG ~~reduction strategy~~ emission reduction measures, addresses the community's potential vulnerability to climate change impacts, and provides clear implementation and monitoring programs to direct climate action in Burlingame.

CAP Development Process

A CAP is a comprehensive roadmap that outlines the activities an agency will take to reduce GHG emissions and address climate change. Although climate change is global in nature, the effects of climate change occur at the local level and will influence local decisions. Since 2006, California has led the way in addressing climate change by preparing plans and adopting regulations to reduce GHG emissions. While the State has provided strong leadership, the California Air Resources Board's (CARB) 2017 Climate Change Scoping Plan acknowledges that local government efforts are critical to achieving the State's long-term GHG reduction goals.

The 2017 Climate Change Scoping Plan and the Governor's Office of Planning and Research's (OPR) General Plan Guidelines include guidance for preparing CAP documents.^{6,7} In general, State guidance recommends CAP documents include: 1) a GHG emission inventory; 2) annual GHG emission reduction targets; 3) forecasted GHG emissions for activities covered by the CAP document; 4) GHG emission reduction measures; 5) mechanisms for implementing and monitoring the CAP; and 6) a process for adopting the CAP in a public process following

⁶ CARB, 2017. *California's 2017 Climate Change Scoping Plan*. California Air Resources Board. Sacramento, CA. November 2017. <https://www.arb.ca.gov/cc/scopingplan/scoping_plan_2017.pdf>

⁷ Sahar Shirazi et al., 2017. *State of California General Plan Guidelines 2017*. Governor's Office of Planning and Research. Sacramento, CA. July 31, 2017. <http://opr.ca.gov/docs/OPR_COMPLETE_7.31.17.pdf>

environmental review. The City has prepared the 2030 CAP Update to be consistent with current guidance and recommendations for CAP document preparation.

The 2030 CAP Update builds on the work performed to prepare the City's 2009 CAP and Envision Burlingame General Plan.

Burlingame 2009 CAP

As a community committed to protecting the environment, Burlingame prepared its first CAP in 2009 to address GHG emissions in the city.⁸ The City's 2009 CAP:

- Quantified community-wide and municipal GHG emissions within the city for 2005
- Established 2005 as the City's baseline GHG emission inventory year
- Set a goal to reduce GHG emissions 15% below 2005 levels by 2020
- Identified 15 GHG emission reduction measures to reach the annual CAP GHG emissions ~~reduction goal~~ target for 2020

Over the last ten years, City staff have worked on implementing and monitoring the 2009 CAP. Table 1, on the next page, details actions taken on the 2009 CAP ~~measures~~ GHG emission.

The City's 2009 CAP, along with aggressive State actions and key regional GHG efforts, have led to significant community-wide GHG reductions in Burlingame. While the City has not quantified the individual, actual reductions realized by each 2009 CAP measure, the City's most recent GHG emission inventory indicates that GHG emissions are decreasing within Burlingame.

This 2030 CAP Update fully replaces the 2009 CAP and is tasked with continuing the City's downhill GHG emissions trajectory for years to come.

⁸ Burlingame, 2009. *Climate Action Plan*. Burlingame, CA. June 2009.
<https://www.burlingame.org/document_center/Sustainability/2009%20Climate%20Action%20Plan.pdf>

Table 1: Summary of 2009 CAP GHG <u>Emission</u> Reduction Measure Implementation	
GHG <u>Emission</u> Reduction Measure	Implementation Status
1. Adopt a Water Efficient Landscape Ordinance.	<i>Implemented.</i> Burlingame is in compliance with AB 1881 and is up to date in adopting a Water Efficient Landscape Ordinance.
2. Adopt a Residential Energy Conservation Policy (voluntary) to offer energy audits to residents at a reduced cost.	<i>Partially Implemented.</i> Burlingame did not adopt a policy but offered and outreached other energy audit programs run by San Mateo County for free and subsidized energy audits and co-hosted energy workshops with the County. The City also adopted five PACE (property assessed clean energy) programs, which provide incentives to residents and businesses for energy efficient retrofits.
3. Research and consider a Solar and Energy Efficiency Financing Program for residents and small businesses.	<i>Implemented.</i> See CAP Measure #2.
4. Adopt a Residential Green Building Ordinance for new construction and major remodel projects and require a minimum number of GreenPoints using the Build It Green Regional Program.	<i>Implemented.</i> Burlingame adopted a Green Building Policy in December 2008 using Build It Green and LEED criteria in 2009; however, in 2011 the policy was superseded by CALGreen - the State's ambitious green building policy.
5. Adopt a Commercial Green Building Ordinance to require new commercial (greater than 10,000 sq. ft.) construction and major remodels to meet a minimum Leadership in Energy and Environmental Design standard.	<i>Implemented.</i> See CAP Measure #4.
6. Develop a Commercial Energy Efficiency Policy to provide energy-efficiency technical assistance to the commercial sector and provide an incentive and Recognition Program. Encourage commercial businesses applying for new or renewal of	<i>Partially Implemented.</i> Burlingame did not adopt a policy; however, the City offered free audits to businesses through PG&E and the County of San Mateo. The City targeted outreach to business sectors including hotels and auto dealerships for audits; created a green business recognition program; and encouraged businesses to join San

Table 1: Summary of 2009 CAP GHG <u>Emission</u> Reduction Measure Implementation	
GHG <u>Emission</u> Reduction Measure	Implementation Status
business licenses to complete a free PG&E energy-efficiency audit. Expand Burlingame's participation in the Bay Area Green Business Program and provide incentives for businesses to achieve Green Business certification.	Mateo County's Green Business Program. Several new businesses have joined annually since the program's revival - including Burlingame's Corp Yard building and Main Library.
7. Establish a policy that requires new large commercial properties (larger than 10,000 sq. ft.) to develop Transportation Demand Management (TDM) strategies that encourage the use of shuttles, carpools, bicycles, and public transportation. Provide TDM guidelines in the permit packet for all commercial developments.	<i>Not implemented.</i> The City did not adopt a TDM policy; however, most of the large new developments in the City have included TDM measures as mitigation in the environmental review process. A TDM policy is included in the City's Envision Burlingame General Plan and as a measure in this 2030 CAP Update.
8. Adopt a policy to provide prioritized parking for hybrid or alternative fuel cars on city streets, in garages, and in lots. Expand the policy as technology advances to increase accommodation of hybrids and/or alternative-fuel vehicles.	<i>Not implemented.</i> The City did not implement this measure mostly due to existing parking pressure in downtown areas. Also, hybrid purchases have grown significantly in the region, and electric vehicles are increasing in popularity as well.
9. Incorporate bicycle friendly intersections in street design and modifications. Ensure new developments provide safe and convenient travel by walking, bicycling, or public transportation.	<i>Implemented.</i> The City is continually working to improve its bicycle network. The City has applied for and received grants from the Metropolitan Transportation Commission for bicycle network improvements, new bike parking, and new bike lanes.
10. Research methods to increase ridership and expand shuttle service and partner with local groups to increase public transportation alternatives.	<i>Implemented.</i> The City is currently exploring the possibility of a new west side shuttle route to service residents on the hillsides of Burlingame. To increase ridership, the City posted new signs with schedules at stops; created a website with detailed and user-friendly route schedules; and continually outreaches to increase shuttle

Table 1: Summary of 2009 CAP GHG <u>Emission</u> Reduction Measure Implementation	
GHG <u>Emission</u> Reduction Measure	Implementation Status
	ridership.
11. Provide new residential and commercial recycling service that includes single stream recycling collection for residential and commercial and organics/food collection.	<i>Implemented.</i> Under the City's contract with Recology - the City's waste hauler - Recology collects single stream recycling and organics from residents. In order to meet State requirements, Recology will be phasing in its recycling and organics program to commercial businesses as well.
12. Adopt a Commercial Recycling Ordinance that requires businesses to divert recyclable organics, containers, cardboard, and paper.	<i>Implemented.</i> The City is in compliance with State recycling regulations for the phasing in of all businesses to recycle and compost (currently applicable to businesses that generate more than four cubic yards of solid waste a week).
13. Encourage the development of a community group "Burlingame Green," to promote and educate the community about climate action programs.	<i>Implemented.</i> The City works closely with the Citizens Environmental Council - a voluntary community group that emerged from the City's Green Ribbon Task Force that spearheaded the 2009 CAP.
14. Dedicate a part-time Sustainability Coordinator to implement and coordinate climate action programs.	<i>Implemented.</i> The City hired a part-time Sustainability Coordinator in December 2014. The coordinator has carried through numerous initiatives in the City from new electric vehicle charging stations and a bike sharing program to adoption of PACE programs and Peninsula Clean Energy.
15. Develop "City Green Team" composed of staff to promote and expand sustainable programs within the City and community.	<i>Implemented.</i> The City's Sustainability Coordinator organized a Green Purchasing group to help the City purchase environmentally preferred options. The Sustainability Coordinator meets frequently with staff from different departments to expand sustainable programs.

“Envision Burlingame” General Plan

In 2015, the City began updating its General Plan for the first time in 40 years. The resulting effort, known as Envision Burlingame, established a long-range policy document to guide future development in the city. Through a robust community outreach process, the Envision Burlingame General Plan identified guiding principles and contains numerous goals, measures, and actions to achieve those principles.

An underlying theme of the Envision Burlingame General Plan and its principles is sustainability through smart growth, resource conservation, green design, urban forest protection, pedestrian and bicycle accessibility, and transit oriented development (TOD). The General Plan contains numerous policies and measures that will reduce GHG emissions by conserving resources, promoting alternative transportation, and reducing waste.

The Envision Burlingame General Plan was released for public review in August 2017. The City prepared a Draft Environmental Impact Report (DEIR) that analyzed the potential environmental impacts associated with the adoption and implementation of the Envision Burlingame General Plan, including potential impacts from GHG emissions, energy use, and other effects of global climate change, in June 2018 (State Clearinghouse No. 2017082018)⁹.

The DEIR analysis indicated adoption of the General Plan and the implementation of the policies contained therein, as written at the time of the DEIR’s release, would not reduce the City’s GHG emissions to levels consistent with State GHG emission goals and would therefore have a significant impact on global climate change and GHG emissions. The DEIR acknowledged the 2030 CAP Update was underway, and introduced three, new policies in the General Plan as mitigation measures to help reduce GHG emissions. These three policies were: M-3.10: Bicycle Sharing, M-4.7: Shuttle Service, and IF-6.9: ECO100. The City adopted the Envision Burlingame General Plan and certified the General Plan EIR in January 2019.

⁹ Burlingame, 2018. *Envision Burlingame Draft Environmental Impact Report*. SCH#2017082018. June 28, 2018. <https://www.envisionburlingame.org/files/managed/Document/378/BurlingameGP_DEIR_FullDocument_06-28-2018.pdf>

This 2030 CAP Update updates the methodology, data sources, and GHG emissions information presented in Chapter 10 of the City's DEIR.

2030 CAP Update

The 2030 CAP Update achieves several objectives for the City:

- 1) The 2030 CAP Update replaces the City's 2009 CAP and provides a strategic plan for reducing GHG emissions in the near-term to achieve the established, annual reduction targets for 2020 and 2030. The document also identifies long-term GHG emission reduction ~~strategies-measures~~ to keep the City's GHG emissions on the necessary downward slope to reach 2040 and 2050 GHG emission reduction targets. It provides the City's most current information on its GHG emission baseline, future emission projections, strategy for reducing GHG emissions, and ~~addressing~~ addressing vulnerability to climate change, and how the City will implement, ~~and~~ regularly monitor, and evaluate the City's progress towards achieving CAP goals.
- 2) The 2030 CAP Update fully integrates with and supports the growth, vision, and principles set forth in the Envision Burlingame General Plan. The Envision Burlingame General Plan identifies health and sustainability as topics deserving particular attention and references the preparation of the City's 2030 CAP Update. The GHG emissions information contained in the 2030 CAP Update replaces the GHG emissions information presented in the City's Envision Burlingame General Plan EIR.
- 3) The 2030 CAP Update analyzes and mitigates the City's community-wide GHG emissions at a programmatic level. The City has structured the 2030 CAP Update to align with the GHG emission reduction mandates established by the State Legislature for 2020, 2030, and 2050 and has prepared the 2030 CAP Update to satisfy all of the requirements set forth in CEQA Guidelines Section 15813.5, Tiering and Streamlining the Analysis of the Greenhouse Gas Emissions. Once adopted by the City following the necessary public review process, the 2030 CAP Update may streamline the future environmental review of development projects in the city.

The 2030 CAP Update employs the best currently available information, research, and methodologies for planning for and reducing GHG emissions. The 2030 CAP Update was developed using the land use and growth assumptions developed by the City's Envision Burlingame General Plan. During the development of the General Plan EIR and the 2030 CAP Update, the City contacted the Bay Area Air Quality Management District (BAAQMD) and the Metropolitan Transportation Commission (MTC) for guidance regarding the methodology and data sources used to prepare the 2030 CAP Update.

Key Updates to 2009 CAP Methodology

The development of the 2030 CAP Update began with understanding the historical sources and amounts of GHG emissions generated by activities within the city. The International Council for Local Environmental Initiatives (ICLEI) U.S. Community Protocol for Accounting and Reporting of Greenhouse Gas Emissions and ICLEI Local Government Operations Protocol were used to develop community-wide and municipal GHG emission inventories, respectively.^{10,11}

As part of the 2030 CAP Update development, the City coordinated with the BAAQMD on the methodologies used to prepare a GHG emission inventory, GHG emissions forecast, scope of the GHG emissions, annual GHG emissions reduction targets, and GHG emission reduction measures. This coordination led to several key changes in methodology between the 2009 CAP and the 2030 CAP Update. These changes are summarized below. Due to these changes, GHG emissions inventories and forecasts contained in this 2030 CAP Update are not comparable to those presented in the 2009 CAP.

Global Warming Potential (GWP) Values

The potential for a particular GHG to absorb and trap heat in the atmosphere is considered its global warming potential (GWP). The reference gas for measuring GWP is CO₂, which has a GWP of one. By comparison, methane has a GWP of 28, which means that one molecule of

¹⁰ ICLEI, 2013. *U.S. Community Protocol for Accounting and Reporting of Greenhouse Gas Emissions (Version 1.1)*. ICLEI – Local Governments for Sustainability. July 2013.

¹¹ ICLEI, 2010. *Local Government Operations Protocol For the quantification and reporting of greenhouse gas emissions inventories (Version 1.1)*. ICLEI – Local Governments for Sustainability. May 2010.

methane has 28 times the effect on global warming as one molecule of CO₂. Multiplying the estimated emissions for non-CO₂ GHG by their GWP determines their carbon dioxide equivalent (CO₂e), which enables a project's combined GWP to be expressed in terms of mass CO₂ emissions equivalents. The City's 2009 CAP applied GWP values from the U.N. IPCC's 1996 Second Assessment Report; however, as recommended by the BAAQMD, the 2030 CAP Update uses GWP values from the U.N. IPCC's Fifth Assessment Report (AR5).¹² The GWP values identified in the AR5 generally produce higher estimates of GHG emissions due to a change in the GWP value for methane. The GWPs for the GHG evaluated in the 2030 Cap Update are shown in Table 2.

Table 2: Comparison of 2009 and 2030 CAP Update GWP Values		
GHG	Second Assessment Report GWP	Fifth Assessment Report GWP
Carbon Dioxide	1	1
Methane	21	28
Nitrous Oxide	310	265
IPCC, 2014. Fifth Assessment Report.		

Vehicle Miles Travelled (VMT)

The key data used to estimate emissions from on-road transportation is vehicle miles travelled, or VMT. Whereas the City's 2009 CAP used the in-boundary method to estimate on-road transportation emissions, the 2030 CAP Update uses the origin-destination method. Though both approaches are allowed for in the ICLEI U.S. Community Protocol, the latest update to the protocol in 2013 gives preference to the origin-destination, since it, "better captures a local government's ability to affect passenger vehicle emissions than the alternative [origin-

¹² BAAQMD, 2018. Personal Communication. Email. Abby Young, BAAQMD, to Phil Gleason, MIG. "RE: Additional Questions Re: Climate Action Plan and Baseline Inventory." March 15, 2018.

destination] method...”.¹³ The VMT data source used to estimate on-road emissions in this CAP is also different than those used for the 2009 CAP. Previously, VMT estimates were obtained from the Caltrans Highway Performance Monitoring System.¹⁴ This CAP uses the same VMT data source as Plan Bay Area 2040, the Bay Area’s Regional Transportation Plan / Sustainable Communities Strategy (RTP/SCS), which was developed by the MTC and is supported by the BAAQMD.¹⁵

¹³ ICLEI, 2013. *U.S. Community Protocol for Accounting and Reporting of Greenhouse Gas Emissions (Version 1.1)*. Appendix D: Transportation and Other Mobile Emission Activities and Sources. ICLEI – Local Governments for Sustainability. July 2013.

¹⁴ Burlingame, 2009. *Climate Action Plan*. Burlingame, CA. June 2009.

<https://www.burlingame.org/document_center/Sustainability/2009%20Climate%20Action%20Plan.pdf>

¹⁵ BAAQMD, 2019. “Vehicle Miles Travel Data Portal”. Climate Action Plan VMT Data. Web. <<http://capvmt.us-west-2.elasticbeanstalk.com/data>>

2 Climate Change Context

This Chapter provides a brief background on current climate change science and the State's initiatives to address climate change.

Current State of Climate Change

While some progress has been made over the last decade to reduce GHG emissions globally, climate change poses a serious risk to communities around the world. The United Nations (U.N.) Intergovernmental Panel on Climate Change (IPCC) prepares regular assessments of the scientific basis of climate change, its impacts and future risks, and options for adaptation and mitigation. The objective of the IPCC is to provide governments at all levels with scientific information that they may use to develop climate policies. The U.N. IPCC's 2014 Fifth Assessment Report (AR5) represents the organization's most current comprehensive study of climate change. The Report finds that the global average temperature has increased by 1.5 °F between 1880 and 2012, and that the period from 1983 to 2012 was likely the warmest 30-year period in the Northern Hemisphere over the last 1,400 years. Climate change forecasts contained in the AR5 conclude that the global average temperature could rise by 2.7 to 14 °F by the year 2100, depending on the level of action taken to reduce GHG emissions and climate change risks.¹⁶

The AR5 affirms that substantial GHG emissions reductions are needed to limit global GHG concentrations to 450 parts per million or less, which would likely limit global temperature increases to 3.6 °F (2 degrees Celsius) or less over the 21st century, as compared to pre-industrial levels. To achieve this goal, global GHG emissions reductions would need to be reduced between 41% and 72% by 2050, and between 78% and 118% by 2100 (compared to 2010 global GHG emissions levels).

¹⁶ IPCC, 2013: *Climate Change 2013: The Physical Science Basis. Contribution of Working Group I to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change* [Stocker, T.F., D. Qin, G.-K. Plattner, M. Tignor, S.K. Allen, J. Boschung, A. Nauels, Y. Xia, V. Bex and P.M. Midgley (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA, 1535 pp.

California has been an active leader in addressing climate change for more than a decade. The State's current comprehensive plan for addressing climate change is the 2017 Climate Change Scoping Plan. According to the 2017 Scoping Plan, "The evidence that the climate is changing is undeniable. As evidence mounts, the scientific record only becomes more definitive – and makes clear the need to take additional action now."¹⁷ The 2017 Climate Change Scoping Plan sets the State's 2030 GHG reduction target emissions level (260 million metric tons of carbon dioxide equivalents), and identifies the strategies, programs, and actions that will achieve this emissions target. The State's 2030 GHG reduction target reflects the same science that informs the U.N. IPCC climate change assessment reports, and is intended to keep the global temperature increase below 3.6 °F (2 °C).

State Climate Actions

California, as a leader in the fight against climate change, has taken many actions at the State level to curtail the amount of GHG emissions emitted into the atmosphere. Although these actions were enacted at the State level, they result in GHG emissions reductions at the local level. The State policies and regulations most relevant to the City's 2030 CAP Update are briefly described below. The first three bullet points present the major milestones that have driven all climate change planning efforts across California.

Executive Order S-3-05 9 (2005): In June 2005, Governor Arnold Schwarzenegger issued Executive Order (EO) S-3-05 establishing the State's GHG emission targets for 2010 (reduce GHG emissions to 2000 levels), 2020 (reduce GHG emissions to 1990 levels), and 2050 (reduce GHG emissions to 80% below 1990 levels).

Assembly Bill 32 (2006): Governor Schwarzenegger signed AB 32, the California Climate Solutions Act of 2006, mandating caps on Statewide GHG emissions, a deadline of December 31, 2020 for achieving GHG reduction levels, and the requirement for the State to prepare a Scoping Plan with the State's GHG strategy to achieve such reductions by such date.

¹⁷ CARB, 2017. *California's 2017 Climate Change Scoping Plan*. California Air Resources Board. Sacramento, CA. November 2017. <https://www.arb.ca.gov/cc/scopingplan/scoping_plan_2017.pdf>

Executive Order B-30-15 (2015): Governor Edmund Brown issued EO B-30-15 to set a GHG emissions target for 2030 (reduce GHG emissions 40% below 1990 levels) and to require the State's climate adaptation strategy to be updated every three years.

SB 375 - Sustainable Communities and Climate Protection Act (2008): The intent of SB 375 is to better integrate regional planning related to transportation, land use, and housing to reduce sprawl and ultimately reduce GHG emissions and other air pollutants. SB 375 tasks CARB with setting GHG reduction targets for each of California's 18 regional Metropolitan Planning Organizations (MPOs). In 2010, CARB adopted GHG reduction targets for the San Francisco Bay region. The targets were set as 7% and 15% reduction in per capita passenger vehicle GHG reductions by 2020 and 2035 (relative to 2005). The regional strategy for achieving VMT goals mandated under SB 375 is presented in Plan Bay Area 2040. In March 2018, CARB established new regional GHG reduction targets for the San Francisco Bay region.¹⁸ The new targets are a 10% reduction in per capita passenger vehicle GHG reductions by 2020 and a 19% reduction by 2035 (relative to 2005).

AB 341 - Mandatory Commercial Recycling (2012): AB 341 requires that at least 75% of solid waste generated be source reduced, recycled, or composted by the year 2020. AB 341 works in conjunction with SB 1018, which included an amendment that requires businesses that generate four (4) cubic yards or more of commercial solid waste per week arrange for recycling services.

Advanced Clean Cars Program (2012): In January 2012, CARB approved the Advanced Clean Cars (ACC) Program (formerly known as Pavley II) for model years 2017 through 2025. The components of the ACC program are the Low-Emission Vehicle (LEV) regulation and the Zero-Emission Vehicle (ZEV) regulation. The Program combines the control of smog, soot, and global warming gases and requirements for greater numbers of zero-emission vehicles into a single

¹⁸ CARB, 2018. "SB 375 Regional Greenhouse Gas Emissions Reduction Targets" California Air Resources Board. Sacramento, CA. March 22, 2018.
<https://www.arb.ca.gov/cc/sb375/finaltargets2018.pdf?_ga=2.116102214.1971771227.1549478758-1507730002.1452616621>

package of standards. By 2025, new automobiles under California's Advanced Clean Car program will emit 34% less global warming gases and 75% less smog-forming emissions.

Low Carbon Fuel Standard (2018): CARB initially approved the Low Carbon Fuel Standard (LCFS) regulation in 2009. Originally, the LCFS regulation required at least a 10% reduction in the carbon intensity of California's transportation fuels by 2020 (compared to 2010). In 2018, CARB approved changes to the LCFS regulation that require a 20% reduction in carbon intensity by 2030. These regulatory changes exceed the assumption in CARB's 2017 Climate Change Scoping Plan, which targeted an 18% reduction in transportation fuel carbon intensity by 2030 as one of the primary measures for achieving the State's GHG 2030 target.

SB 100 - California Renewables Portfolio Standard Program (2018): SB 100 revised the State's Renewables Portfolio Standard (RPS) Program to require retail sellers of electricity to serve 50% and 60% of the total kilowatt-hours sold to retail end-use customers be served by renewable energy sources by 2026 and 2030, respectively, and requires 100% of all electricity supplied come from renewable-carbon-free sources by 2045.

Executive Order B-48-18 - Zero Emission Vehicles (2018): EO B-48-18 establishes a target to have five million ZEVs on the road in California by 2030. The executive order is supported by the State's 2018 ZEV Action Plan Priorities Update, which expands upon the State's 2016 ZEV Action Plan. While the 2016 plan remains in effect, the 2018 update functions as an addendum, highlighting the most important actions State agencies are taking in 2018 to implement the directives of EO B-48-18.

Title 24 Energy Standards (2019): The California Energy Commission (CEC) first adopted Energy Efficiency Standards for Residential and Nonresidential Buildings in 1978 in response to a legislative mandate to reduce energy consumption in the state. Part 11 of the Title 24 Building Standards Code is referred to as the California Green Building Standards Code (CALGreen Code). California's Building Energy Efficiency Standards are updated on an approximately three-year cycle. The 2019 standards will go into effect on January 1, 2020, and improve upon existing standards. The 2019 standards include new requirements for installation of solar photovoltaics for newly constructed low-rise residential buildings and also propose several smaller

improvements in energy efficiency. The 2019 Building Energy Efficiency Standards are approximately 53% more efficient than the 2016 Title 24 Energy Efficiency Standards for residential development, and approximately 30% more efficient for non-residential development.¹⁹

Executive Order B-55-18: Governor Edmund Brown issued EO B-55-18 on September 10, 2018, which directs the State to achieve carbon neutrality as soon as possible and no later than 2045, and achieve and maintain net negative emissions thereafter.

The actions enumerated above affect the GHG emissions produced in Burlingame. Accordingly, the City has incorporated the expected level of emissions reductions associated with these State initiatives into its GHG Emission Inventory presented in Chapter 3.

Regional and San Mateo County Climate Action Program

The San Francisco Bay Area and San Mateo County, as leaders in the fight against climate change, have taken many actions at the regional and county level to curtail the amount of GHG emitted into the atmosphere. Although these actions are implemented at the regional and county level, they result in some GHG emission reductions within the City of Burlingame. The regional and county-based programs most relevant to the City's 2030 CAP Update are briefly described below.

Peninsula Clean Energy: Peninsula Clean Energy is a community choice energy (CCE) program. A CCE is a locally controlled community organization that enables local residents and businesses to have a choice regarding where their energy comes from. Peninsula Clean Energy specifically serves San Mateo County, and has strategic goals of supplying 100% GHG-free electricity by 2021 and sourcing 100% California RPS eligible renewable energy by 2025.

San Mateo County Energy Watch: The San Mateo County Energy Watch (SMCEW) is a local government partnership between PG&E and the City/County Association of Governments of San Mateo County, and is administered by the County of San Mateo's Office of Sustainability.

¹⁹ CEC, 2018. *2019 Building Energy Efficiency Standards Fact Sheet*. California Energy Commission. March 2018. <<https://www.energy.ca.gov/title24/2019standards/>>

The SMCEW partners with Ecology Action, a non-profit organization, to provide no-cost technical services to local governments, schools, non-profits, and businesses that helps increase building energy efficiency.

Bay Area Regional Energy Network: The Bay Area Regional Energy Network (BayREN) is a collaboration of the nine San Francisco Bay Area counties. BayREN provides regional-scale energy efficiency programs, services, and resources.

Sustainability Academy: The San Mateo County Sustainability Academy is free education and outreach program administered by the County of San Mateo's Office of Sustainability designed to raise awareness around sustainability and empower San Mateo County community members with knowledge and skills to promote sustainability.

3 GHG Emission Inventory, Forecasts, and ~~Reduction~~ Annual Targets

This Chapter summarizes the City's GHG emission inventory, forecasts the changes in City GHG emissions levels that will occur over time, and establishes the City's annual GHG emissions targets to demonstrate consistency with and substantial progress towards the State's 2030 and 2050 GHG emission reduction ~~goals~~ targets, respectively.

Burlingame's Annual GHG Emission Inventory

An annual GHG emission inventory identifies and quantifies the key sources of GHG emissions within the city for a given calendar year. ~~The~~ An inventory can also provides a baseline scenario that is used to forecast future changes in emissions, estimate GHG emissions targets, and identify the amount of GHG emissions reductions needed to reach GHG emission ~~reduction~~ targets. By understanding the key sources of emissions in Burlingame and how they change over time, the inventory allows the City to evaluate and implement strategies necessary to reach annual GHG emission ~~reduction~~ targets.

2005 and 2015 Community-Wide GHG Emission Inventory

The City prepared two community-wide annual GHG emissions inventories as part of the 2030 CAP Update:

Year 2005: The 2005 community-wide GHG emission inventory was originally prepared for the City's 2009 CAP. The City updated the 2005 community-wide GHG emission inventory as part of the 2030 CAP Update to reflect updated GWP values and VMT calculation methodologies consistent with the latest guidance and recommendations from ICLEI and the BAAQMD. The updated 2005 community-wide GHG emission inventory serves as the City's baseline year for establishing the City's annual GHG emissions targets for the 2030 CAP Update.

Year 2015: The 2015 community-wide GHG emission inventory represents the most current snapshot of community-wide GHG emissions in Burlingame. The 2015 inventory reflects the best available information for actual GHG emissions levels within the city. The City's GHG

emissions projections for 2020, 2030, 2040, and 2050 are based on the growth projections from 2015 as envisioned by, and consistent with, the Envision Burlingame General Plan.

Key findings of the 2005 and 2015 community-wide GHG emission inventories include:

- GHG emissions levels fell by approximately 12,672 MTCO₂e, approximately five percent, from 2005 to 2015.
- Most of the GHG emission reductions are due to increased electricity supplied from renewable sources (e.g., solar and wind power), as required under the State's RPS Programs.
- Transportation is the largest contributor to GHG emissions at 53%, followed by energy use in buildings (primarily from heating and cooling) at 44%.
- GHG emission increases in the transportation sector are from additional off-road equipment operation (e.g., construction and yard and garden equipment); on-road emissions have decreased.
- The transportation and wastewater sectors are the only areas where emissions grew over the last decade.

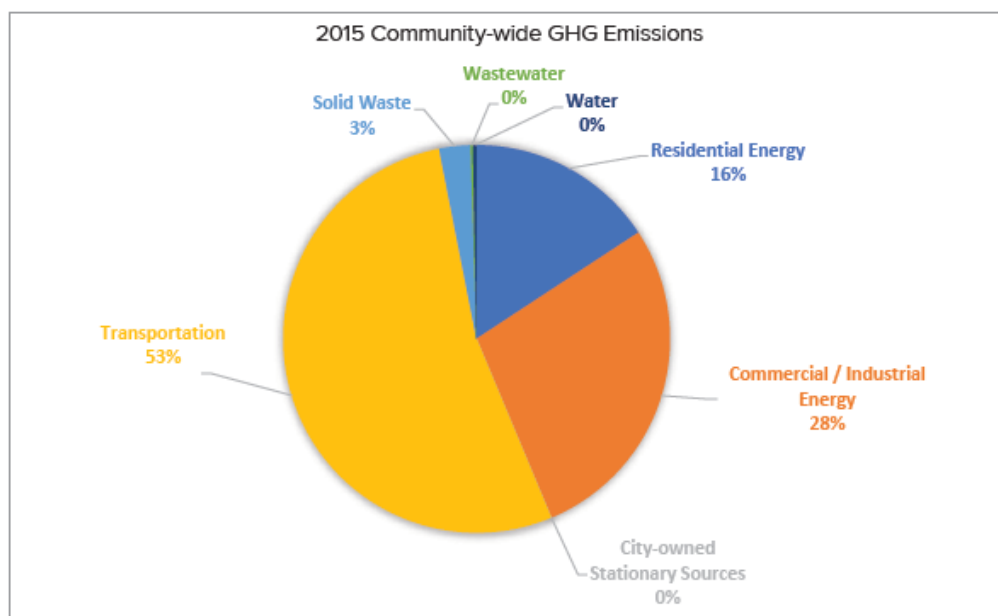
FIGURE 4: 2015 COMMUNITY-WIDE GHG EMISSIONS*FIGURE 4: SECTOR CONTRIBUTIONS TO BURLINGAME 2015 COMMUNITY-WIDE INVENTORY*

Table 3: Burlingame 2005 and 2015 Community-wide GHG Emission Inventories²⁰ (MTCO₂e)				
GHG Emission Sector	GHG Emission Inventory (MTCO₂e)		Change from 2005	
	2005	2015	MTCO₂e	% Change
Residential Energy	47,344	38,249	-9,095	-19.2%
Commercial/Industrial Energy	78,215	67,669	-10,546	-13.5%
Transportation	118,556	129,041	+10,485	+8.8%
Solid Waste	9,333	6,321	-3,012	-32.3%
Water	1,376	707	-636	-48.7%
Wastewater	343	497	+154	+44.8%
City-owned Stationary Sources	28	6	-22	-77.9%
Total Inventory	255,195	242,489	-12,706	-5.0%
<i>Large Industrial Sources</i>	<i>4,593</i>	<i>31,967</i>	<i>+27,374</i>	<i>+596.0%</i>
<i>Total with Large Industrial Sources</i>	<i>259,788</i>	<i>274,456</i>	<i>+14,688</i>	<i>+5.0%</i>

Consistent with BAAQMD guidance, the community-wide inventories show GHG emissions from the sectors presented above, plus emissions from large industrial sources.²⁰ Large industrial sources are regulated by CARB and are part of California's Cap-and-Trade Program. Since the City does not have control over the emissions from large industrial sources, these emissions are presented for informational purposes only, since the City does not have direct control over them. However, the City is open to working with industrial facilities within the city, as well as CARB, the BAAQMD, and Peninsula Clean Energy, to find ways of reducing existing GHG emissions through Cap-and-Trade and other financing/funding mechanisms. Refer to Appendix

²⁰ BAAQMD, 2011. *GHG Plan Level Guidance*. Bay Area Air Quality Management District. November 3, 2011. <http://www.baaqmd.gov/~media/files/planning_and_research/ceqa/ghg-plan-level-guidance.pdf>

A for detailed emissions assumptions and methodology information on the 2005 and 2015 GHG emissions inventories.

Residential and Commercial/Industrial Energy

The energy sector identifies emissions generated by natural gas and electricity consumption in single- and multi-family residential developments and in commercial and industrial land uses. As is common in most cities, energy consumption is one of the largest contributors to GHG emissions in Burlingame. Energy, comprised of electricity and natural gas consumption, made up approximately 50% of the community-wide GHG emissions in 2005 and 44% in 2015. Most energy use occurs in lighting, heating, and cooling buildings; and some in outdoor lighting, traffic control signals, and other equipment.

The energy sector includes energy use as reported by PG&E and Peninsula Clean Energy, and Direct Access energy. Direct Access energy is purchased on the wholesale market, rather than from PG&E or Peninsula Clean Energy. Direct Access energy is used by large commercial and industrial customers. Data on Direct Access energy use was provided by the CEC for all of San Mateo County, and this energy use was estimated for Burlingame based on the ratio of Direct Access energy use to other commercial/industrial energy use in the county.²¹

A comparison of GHG emissions generated by each energy subsector for 2005 and 2015 is presented in Table 4.

²¹ CEC, 2018. Personal Communication. Email. Steven Mac, CEC, to Phil Gleason, MIG. "RE: Request for Historic Electricity Consumption in San Mateo County." March 2, 2018.

Table 4: 2005 and 2015 Residential and Commercial/Industrial Energy Sector <u>GHG</u> Emissions				
GHG Emission Sector	GHG Emissions (MTCO₂e)		Change from 2005	
	2005	2015	MTCO₂e	% Change
Residential				
Electricity	14,898	11,343	-3,555	-23.9%
Natural Gas	32,446	26,906	-5,540	-17.1%
<i>Residential Subtotal</i>	<i>47,344</i>	<i>38,249</i>	<i>-9,095</i>	<i>-19.2%</i>
Commercial/Industrial				
Electricity	45,716 ^(A)	38,315 ^(B)	-7,400	-16.2%
Natural Gas	32,499	29,353	-3,146	-9.7%
<i>Commercial/Industrial Subtotal</i>	<i>78,215</i>	<i>67,669</i>	<i>-10,546</i>	<i>-13.5%</i>
Total	125,559	105,918	-19,641	-15.6%
(A) Approximately 10,840 MTCO ₂ e of these emissions are from direct access electricity consumption.				
(B) Approximately 8,837 MTCO ₂ e of the emissions are from direct access electricity consumption.				

Emissions from electricity are anticipated to zero out in the future as the State and Burlingame pursue renewable energy goals. Emissions from natural gas will be tougher to reduce since the cost of natural gas remains relatively low and electrifying natural gas appliances and processes can be expensive and infeasible. Most of the opportunity for natural gas reductions lies in Burlingame's existing building stock. Stringent energy efficiency measures and green building standards apply to all new construction, but new buildings make up a small portion of the city's inventory. The City's General Plan Housing Element, adopted in 2015, reported there were about 13,027 housing units in Burlingame, and 87% of them were built prior to 1980, before

~~energy efficiency requirements existed.²² Over the past few decades only, a small number of new buildings have been constructed annually (the City's Housing Element reports that between 2007 and 2013, 77 new housing units were added.²³) The City does not keep data on the number of homes retrofitted with energy efficient upgrades, but it can be assumed that most housing units in Burlingame would benefit from energy efficiency upgrades.~~

Transportation

Transportation emissions are found in vehicle trips occurring within Burlingame on local roads and highways ~~and vehicles~~ (on-road transportation); construction, landscape equipment, and other pieces of off-road equipment (off-road transportation); Caltrain; and freight trains.

Vehicle travel on roads includes emissions from private, commercial, and fleet vehicles driven within the city's geographical boundaries, as well as the emissions from transit vehicles and City-owned fleet and other public sector fleets. The key data used to estimate emissions from on-road transportation is VMT. This CAP uses the same VMT data source as Plan Bay Area 2040, the Bay Area's RTP/SCS, which was developed by the MTC and is supported by the BAAQMD. ~~The challenge of the transportation sector is well recognized. The City's planning vision in the Envision Burlingame General Plan is centered around getting people to drive less and use alternative fuels.~~

Off-road transportation emissions from the operation of lawnmowers, garden equipment, construction equipment, light commercial equipment, and mobile industrial equipment were estimated using CARB's OFFROAD2007 model. ~~Off-road transportation, while only 14% of transportation emissions, represents an opportunity for emission reductions that local governments can take on. Local governments may limit the use of off-road equipment by requiring construction best practices and electric alternatives to gas-powered equipment.~~

²² Burlingame, 2015. *City of Burlingame 2015-2023 Housing Element*. City of Burlingame. Adopted January 5, 2015. <https://www.burlingame.org/document_center/Planning/1-Burlingame_2015-2023-HE_Adopted_01.05.15_Final_01.29.pdf>

²³ Burlingame, 2015. *City of Burlingame 2015-2023 Housing Element*. City of Burlingame. Adopted January 5, 2015. <https://www.burlingame.org/document_center/Planning/1-Burlingame_2015-2023-HE_Adopted_01.05.15_Final_01.29.pdf>

Caltrain operates seven days a week and provides commuter train service from San Francisco to San Jose. The City of Burlingame has two Caltrain stations: Burlingame station and Broadway station. For Caltrain operations, the City calculated the total countywide emissions and then allocated the miles of track within Burlingame to estimate emissions.

Freight trains also operate on the Caltrain tracks in the evenings, after Caltrain operations are done. These trains do not stop in Burlingame, but just pass through the city on the rail track.²⁴ For this reason, and because the City has no control or influence over freight train usage, the freight train emissions are shown for informational purposes only and are not included in the estimated emissions. A breakdown of transportation emissions between 2005 and 2015 is provided in Table 5.

Table 5: 2005 and 2015 Transportation Sector <u>GHG</u> Emissions				
GHG Emission Sector	GHG Emissions (MTCO₂e)		Change from 2005	
	2005	2015	MTCO₂e	% Change
On-Road	102,768	102,465	-303	-0.3%
Off-Road	15,788	24,105	+8,317	52.7%
Caltrain	N/A	2,471	+2,471	N/A
Total	118,556	129,041	+10,485	+8.8%
<i>Freight Rail</i>	<i>N/A</i>	<i>2,577</i>	<i>+2,577</i>	<i>N/A</i>
<i>Total with Freight Rail</i>	<i>118,556</i>	<i>131,618</i>	<i>+13,062</i>	<i>+11.0%</i>

Solid Waste

The Solid Waste Sector is comprised of two separate categories: landfills and generated solid waste. There is one landfill located in the Burlingame city limits, the Burlingame Landfill, which

²⁴ Burlingame, 2014. *Final City of Burlingame 2010 Community Greenhouse Gas Inventory Report*. City of Burlingame. June 11, 2014. <https://www.burlingame.org/document_center/Planning/1-Burlingame_2015-2023-HE_Adopted_01.05.15_Final_01.29.pdf>

was closed in 1992. The site is owned by the City and has since been turned into Bayside Park. Organic material deposited at the site while the landfill was in operation is in the process of decomposing and generates emissions of methane. The reported emissions from the landfill are based on the methane collected by the onsite landfill gas collection system. Since this landfill is closed, emissions from this source will decrease over time, as the amount of organic material decomposing decreases.

Solid waste is generated by residents and visitors, businesses, public entities, and other organizations in the community. Emissions from waste result from organic materials decomposing in the anaerobic (non-oxygen) environment of a landfill and producing methane. Organic materials (e.g., paper, plant debris, food waste) generate methane, while non-organic materials (e.g., metal, glass) do not. The majority of solid waste is disposed of at the Ox Mountain Landfill in Half Moon Bay; small amounts of waste are disposed of at the Potrero Hills Landfill in Suisun City, the Zanker Materials Processing facility in San Jose, the Monterey Peninsula Landfill in Marina, and additional landfills in the region. In addition to solid waste disposal, this category includes alternative daily cover, which is used to cover the landfill each day in order to control vectors, odors, fires, blowing litter, and scavenging. The total amount of solid waste generated and alternative daily cover is taken from the CalRecycle jurisdictional database for the 2005 and 2015 calendar years. A comparison of GHG emissions in 2005 and 2015 from the inactive Burlingame Landfill, landfilled solid waste, and alternative daily cover are presented in Table 6.

Table 6: 2005 and 2015 Solid Waste Sector <u>GHG</u> Emissions				
GHG Emission Sector	GHG Emissions (MTCO₂e)		Change from 2005	
	2005	2015	MTCO₂e	% Change
Disposed Waste	8,526	5,773	-2,753	-32.3%
Alternative Daily Cover	454	271	-183	-40.4%
Landfill (Inactive)	354	277	-77	-21.6%
Total	9,333	6,321	-3,012	-32.3%

Water

Consumption of water is associated with GHG emissions produced from the energy and fuel used to extract, treat, convey, and distribute potable water. In Burlingame, water is provided by the City, which serves as the local water utility. The City of Burlingame purchases all of its water from the San Francisco Public Utilities Commission (SFPUC), which owns and operates the San Francisco Regional Water System with water originating from spring snowmelt flowing down the Tuolumne River to storage in Hetch Hetchy Reservoir. This water is mostly transported in a gravity-based system, although a modest amount of energy is needed for water transportation, treatment, and distribution.

Historical water information is known for 2005 and 2015. For 2005, consumption data was sourced from the Burlingame 2005 Urban Water Management Plan.²⁵ For 2015, water consumption data was obtained by evaluating the amount of water sold by the City of Burlingame and subtracting customers outside the city limits (e.g., Hillsborough residents).

²⁵ Burlingame, 2005. *City of Burlingame Urban Water Management Plan*. City of Burlingame. November 2005. <<https://water.ca.gov/LegacyFiles/urbanwatermanagement/2005uwmps/Burlingame/City%20of%20Burlingame%20-%20Urban%20Water%20Management%20Plan%20-%202005.pdf>>

Wastewater

The treatment of wastewater generates GHG emissions. The City of Burlingame owns and operates a wastewater treatment plant. This plant serves all of Burlingame, and also serves portions of Hillsborough and portions of unincorporated San Mateo County. Emissions from the wastewater treatment plant are based on stationary fuel use other than natural gas (such as diesel), and the types of treatment in place for the wastewater. Wastewater treatment leads to process and fugitive emissions of methane and/or nitrous oxide. Natural gas and electricity used at the wastewater treatment plant are included in the energy sector.

Since the wastewater treatment plant serves multiple jurisdictions, this inventory includes an estimate of wastewater emissions allocated to Burlingame based on population.

Stationary Sources

Stationary sources include boilers, generators, co-generation, and industrial processing equipment and may include a number of fuel types, including natural gas, propane, and diesel. Stationary source data is provided by the BAAQMD since facilities receive a permit from, or must otherwise report emissions to, the BAAQMD.

Stationary sources owned by the City of Burlingame, such as back-up generators and gas pumps, are included in the inventory, because the City has control over them. Stationary sources outside of the City's control are listed for informational purposes only.

2005 and 2015 Municipal GHG Emission Inventory

The municipal inventory represents GHG emissions from City operations alone. This data is folded into the community-wide inventory above; however, it is helpful to analyze these GHG emissions separately to see how City-generated emissions contribute to overall emissions ~~and to identify reduction opportunities~~. As shown in Table 7, municipal GHG emissions made up approximately 1% of the community-wide GHG emissions in 2005 and 2015.

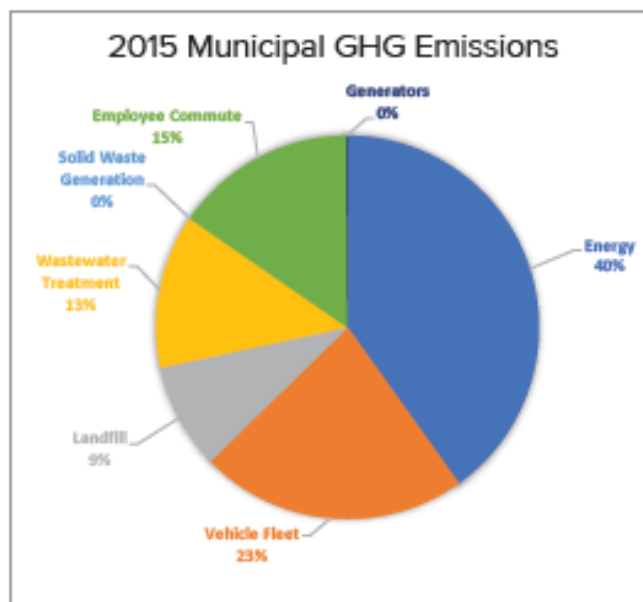
Emissions in City operations decreased across all sectors except refrigerants, which were not estimated in 2005, and in the City's vehicle fleet. It is unclear why GHG emissions from the City's vehicle fleet have gone up; however, it may be a result of growth occurring in Burlingame

and the additional resources used to serve the community (e.g., larger city vehicle fleet size and more miles being driven).

Overall, the City reduced its emissions by approximately 11.5% due to various measures implemented across its departments, including:

- Retrofitted lights in municipal buildings, parks, and streets
- Upgraded HVAC equipment in municipal buildings
- Converted City-owned lawns to water efficient landscapes, and reduced water usage throughout parks
- Introduced composting in municipal buildings and improved recycling
- Certified the Corporation Yard and Main Library as green businesses with San Mateo County
- Increased water efficiency by replacing old water fixtures, such as toilets and aerators
- Conserved water during the drought, which reduces the flow of wastewater to the treatment plant.

FIGURE 5: BURLINGAME 2015 MUNICIPAL GHG EMISSION INVENTORIES



*FIGURE 5: BURLINGAME 2015
MUNICIPAL GHG INVENTORY*

Table 7: Burlingame 2005 and 2015 Municipal GHG <u>Emission</u> Inventoriesy				
GHG Emission Sector	GHG Emission Inventory (MTCO₂e)		Change from 2005	
	2005	2015	MTCO₂e	% Change
Energy	1,563	1,250	-313	-20.0%
Vehicle Fleet	604	703	+99	+16.4%
Landfill	354	277	-76	-21.6%
Wastewater Treatment	431	405	-26	-6.0%
Solid Waste Generation	39	16	-23	-58.4%
Employee Commute	537	475	-61	-11.4%
Generators	11	4	-8	-67.5%
Refrigerants	0	3	+3	N/A
Total	3,539	3,133	-406	-11.5%
<i>Percent of Community Inventory</i>	<i>1.4%</i>	<i>1.3%</i>	<i>--</i>	<i>--</i>

Burlingame's GHG Emission Projections for 2020 to 2050

This section summarizes the City's projections of how community-wide GHG emissions will change in the future. Projections are provided for 2020, 2030, 2040, and 2050. These years were selected to align with State GHG emission reduction ~~goals~~ targets and the Envision Burlingame General Plan build out year of 2040.

A GHG emissions projection forecasts emissions levels based on the continuation of current trends and activities in GHG emissions sectors and ~~accounting~~ accounts for population and employment growth. GHG emissions projections provide a basis for determining the amount of GHG emissions reductions needed to achieve annual GHG emission reduction targets.

The 2030 CAP Update contains two different GHG emissions projections:

The “Business As Usual” (BAU) Projection – This forecast estimates what GHG emissions would be if the Burlingame community continued to act as it currently does as it grows and takes no actions to reduce emissions. The CAP BAU projection assumes population, housing, and employment will increase over time from 2015, reaching General Plan buildout levels by 2040, and result in a corresponding increase in GHG emissions from the various GHG emissions sectors (e.g., energy, transportation, water, etc.). The CAP BAU projection assumes GHG emission reduction policies, regulations, etc. in place in 2015 would remain unchanged over time. The BAU projection does not account for GHG emissions reductions associated with State or regional GHG emission reduction programs implemented after 2015, nor does it account for emissions reductions associated with ~~actions~~ GHG emission reduction measures presented in this CAP.

The “Adjusted Business As Usual” (ABAU) ~~P~~projection – Fortunately, California is taking a leadership role in climate action and adopting significant regulations to reduce emissions and move the State toward a less carbon-intensive economy. The ABAU forecast accounts for legislative actions adopted after 2015 (or resulting in GHG emissions reductions after 2015) that would reduce future GHG emissions. These actions include:

- The 2019 Revised Energy Code and 2019 Building Energy Efficiency Standards, which improve electricity and natural gas efficiency in residential and non-residential buildings
- The State Renewable Energy Portfolio Program, as modified by SB 100, which increases the percentage of renewable energy serving the state
- Increased electric vehicle mode share pursuant to Executive Order B-48-18 and the State’s 2016 ZEV Action Plan
- Increases in transportation fuel efficiency resulting from legislatively mandated emissions standards
- The State Low Carbon Fuel Standard, which decreases the carbon content in fuel sold in California
- Assembly Bill 341, which reduces landfilled solid waste

Appendix B details how the projections were developed, the indicators used to estimate emissions in each sector, and the data sources used.

Demographic Trends and VMT Data

The BAU and ABAU forecasts were developed using the housing units, population, and employment projections identified in the Envision Burlingame General Plan and VMT data from Plan Bay Area 2040. The values are based on the land use diagram contained in the General Plan and build-out estimates for 2040, the General Plan's horizon year.²⁶ Population and employment estimates for 2020, 2030, and 2050 were linearly interpolated based on the average rate of growth between 2015 and General Plan build-out year 2040; this average rate of growth was also applied to the 2040 to 2050 timeframe.

The annual VMT estimates used for all forecast years were derived using the origin-destination method. Table 8, below, summarizes the housing units, population, employment, and VMT values used to develop the BAU and ABAU forecasts.

Table 8: Demographic and VMT Growth in Burlingame, 2015 to 2050					
Demographic Variable	2015	2020	2030	2040	2050
Housing Units	13,144	13,728	14,897	16,065	17,233
Population	29,724	31,099	33,850	36,600	39,350
Employment	29,879	31,825	35,718	39,610	43,502
Annual VMT	254,793,946	264,495,198	271,492,453	307,367,222	332,725,017

²⁶ Although Table CX-1 of the General Plan identifies 2016 as its baseline, this CAP uses those values for 2015, this CAP's "existing conditions," since they are the most accurate metrics available.

BAU and ABAU GHG Emissions Forecasts

Table 9 summarizes Burlingame's BAU and ABAU GHG emissions projections by sector.

Table 9: Burlingame BAU / ABAU GHG Emissions Projections - 2020, 2030, 2040, and 2050				
Projection / GHG Emission Sector	<u>GHG Emissions (MTCO₂e)</u>			
	2020	2030	2040	2050
BAU GHG Emissions Projection				
Residential Energy	39,949	43,349	46,749	50,149
Commercial/Industrial Energy	72,076	80,892	89,707	98,522
Transportation	135,315	140,643	157,585	170,297
Solid Waste	6,631	7,259	7,895	8,538
Water	746	825	903	982
Wastewater	520	566	612	658
City-owned Stationary Sources	7	7	8	9
Total BAU GHG Emissions	255,244	273,541	303,460	329,155
ABAU GHG Emissions Projection				
Residential Energy	38,579	34,463	35,216	29,030
Commercial/Industrial Energy	67,712	55,906	59,452	36,554
Transportation	119,539	84,930	86,250	92,102
Solid Waste	6,580	7,106	7,640	8,181
Water	708	468	512	0
Wastewater	520	566	612	658
City-owned Stationary Sources	7	7	8	9
Total ABAU GHG Emissions	233,646	180,493	189,690	166,534

Another common methodology to presenting GHG emissions is to evaluate how efficiently a project or community emits GHG. Under this methodology, a project's or a community's GHG

emissions are divided by its population (i.e., per capita) and compared to a regional or statewide average per capita GHG emissions. This methodology is consistent with guidance from the California Air Pollution Control Officers Association.²⁷ The California Supreme Court recently indicated that evaluating GHG emissions on an efficiency basis may provide a better indicator for evaluating consistency with State GHG reduction goals.²⁸ For projects designed to accommodate long-term growth, such as a General Plan, the issue is not whether growth will increase emissions (California's population and economic activity are forecasted to increase under the 2017 Climate Change Scoping Plan), but whether the growth is occurring in an efficient manner consistent with State goals. Table 10 presents the City's BAU and ABAU GHG emissions efficiency on a per capita basis.

Table 10: Burlingame BAU / ABAU GHG Emissions Efficiency - 2020, 2030, 2040, and 2050				
Projection / GHG Efficiency	2020	2030	2040	2050
City Population	31,099	33,850	36,600	39,350
BAU Total GHG Emissions (MTCO ₂ e)	255,244	273,541	303,460	329,155
Capita BAU GHG Efficiency (MTCO₂e/Capita)	8.2	8.1	8.3	8.4
ABAU Total GHG Emissions (MTCO ₂ e)	233,646	180,493	189,690	166,534
Capita ABAU GHG Efficiency (MTCO₂e/Capita)	7.5	5.3	5.2	4.2

Table 11 provides the future GHG emissions reductions associated with executive and legislative actions included in the ABAU forecast. For a full, detailed breakdown of the BAU and ABAU forecasts, see Appendix B.

²⁷ CAPCOA, 2010. *Quantifying Greenhouse Gas Mitigation Measures*. A Resource for Local Government to Assess Emission Reductions from Greenhouse Gas Mitigation Measures. California Air Pollution Control Officers Association. August 2010.

²⁸ *CENTER FOR BIOLOGICAL DIVERSITY v. The Newhall Land and Farming Company, Real Party in Interest*. Supreme Court of California. No. S217763. Decided November 30, 2015.

Table 11: Summary of ABAU GHG Emissions Reductions				
GHG Reduction Action	GHG Emissions Reductions (MTCO₂e Per Year)			
	2020	2030	2040	2050
2019 Revised Energy Code / Building Energy Efficiency Standards	2,281	9,915	16,525	23,134
Renewable Portfolio Standard	3,491	24,314	25,656	60,935
Executive Order B-48-18 / 2016 ZEV Action Plan	-	9,080	9,573	10,528
Advanced Clean Cars Program	9,752	29,831	41,018	45,542
Low Carbon Fuel Standard	6,024	19,756	20,744	22,126
Mandatory Commercial Recycling (AB 341)	51	153	255	357
Total	21,598	93,048	113,770	162,621

Burlingame's Annual GHG Emission Reduction Targets

This 2030 CAP Update primarily focuses on reducing annual GHG emissions for 2020 and 2030, consistent with legislatively-adopted State ~~targets~~ goals for those years. Although emissions forecasts and reductions are included for 2040 and 2050, it is speculative to demonstrate achievement with these longer-term goals with the information known today. As has been the case over the last decade, it is anticipated that technological advances and future federal and State law will assist Burlingame in reducing its emissions in line with State goals.

The State's GHG ~~emission-reduction targets~~ goals are:

- 2020: Reduce annual GHG emissions to 1990 levels (AB 32, 2006)
- 2030: Reduce annual GHG emissions by 40% below 1990 levels (SB 32, 2016)
- 2050: Reduce annual GHG emissions by 80% below 1990 levels (SB 32, 2016)

While the State uses 1990 as its baseline year, local governments tend to not have reliable GHG emission data prior to 2005. According to CARB, an annual GHG emission ~~reduction target~~ goal

of 15% below 2005 levels is comparable to a return to 1990 levels. Burlingame, therefore, has used data from 2005 to derive its 2020 ~~goal~~ GHG emission target, which is considered representative of 1990 levels. The City also selected annual GHG emission reduction targets for 2030 and 2050 that align with the State's GHG emission reduction targets goals, and a GHG emission reduction target for 2040 to coincide with the Envision Burlingame General Plan buildout year. The GHG emission reduction target for 2040 is based on the linear trend from 2030 to 2050 necessary to maintain progress towards the State's GHG emission reduction target goal.

The 2030 CAP Update GHG emission ~~R~~reduction targets are:

- 2020: Reduce annual GHG emissions by 15% below the City's 2005 GHG emission ~~B~~baseline ~~I~~inventory (comparable to 1990 levels)
- 2030: Reduce GHG emissions by 40% below 1990 levels
- 2040: Reduce GHG emissions by 60% below 1990 levels
- 2050: Reduce GHG emissions by 80% below 1990 levels

Table 12 summarizes the City's annual GHG emission reduction targets for 2020, 2030, 2040, and 2050, and the emissions gap between the ABAU forecast and the City's annual GHG emission reduction target. Figure ~~63-5~~ presents this information graphically.

Table 12: Burlingame GHG <u>Emission</u> Reduction Targets and Reductions Needed				
CAP GHG <u>Emission</u> Scenario	<u>Annual</u> GHG Emissions Level (MTCO₂e)			
	2020	2030	2040	2050
ABAU GHG Emissions	233,646	180,493	189,690	166,534
GHG <u>Emission</u> Reduction Targets	216,916 ^(A)	130,315 ^(B)	86,766 ^(C)	43,383 ^(D)
Additional GHG <u>Emission</u> Reductions Needed	16,730	50,343	102,923	123,151
(A) 216,916 MTCO₂e is 15% below the City's 2005 GHG <u>emission</u> baseline inventory (255,195 MTCO₂e; see Table 3). (B) 130,1350 MTCO₂e is 40% below the City's estimated 1990 emissions level (216,916 MTCO₂e). (C) 86,766 MTCO₂e is 60% below the City's estimated 1990 emissions level (216,916 MTCO₂e). (D) 43,383 MTCO₂e is 80% below the City's estimated 1990 emissions level (216,916 MTCO₂e).				

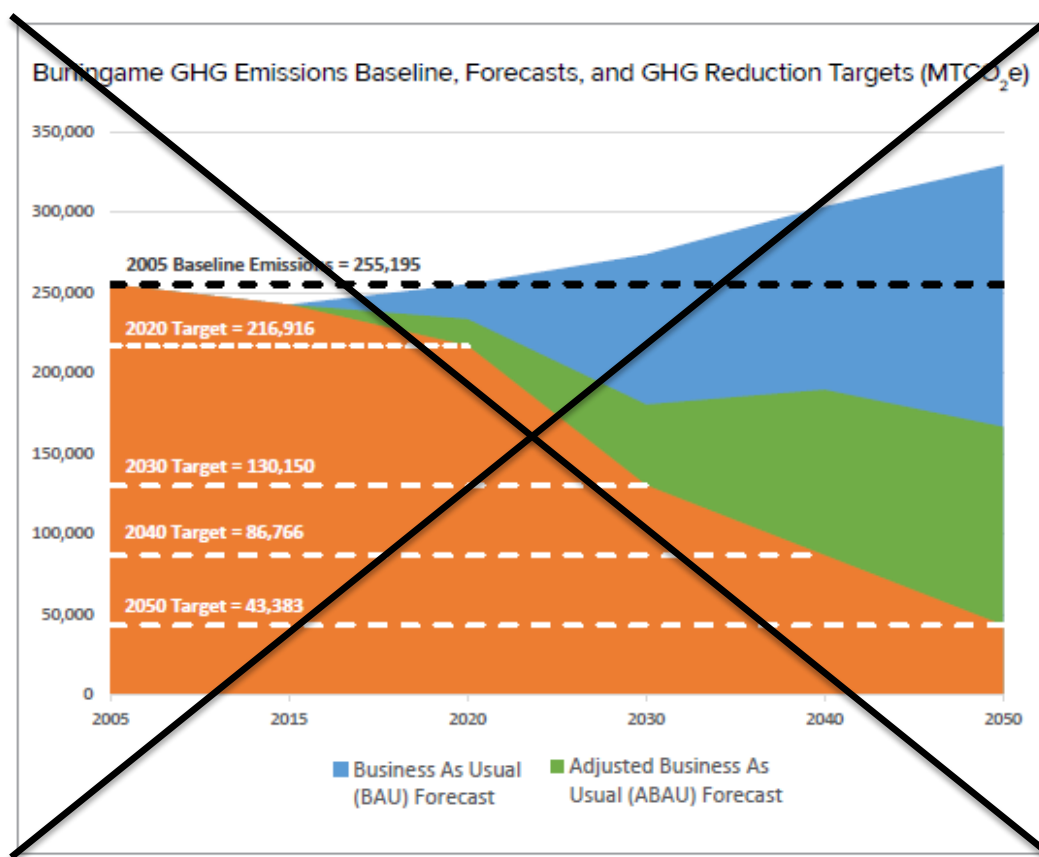
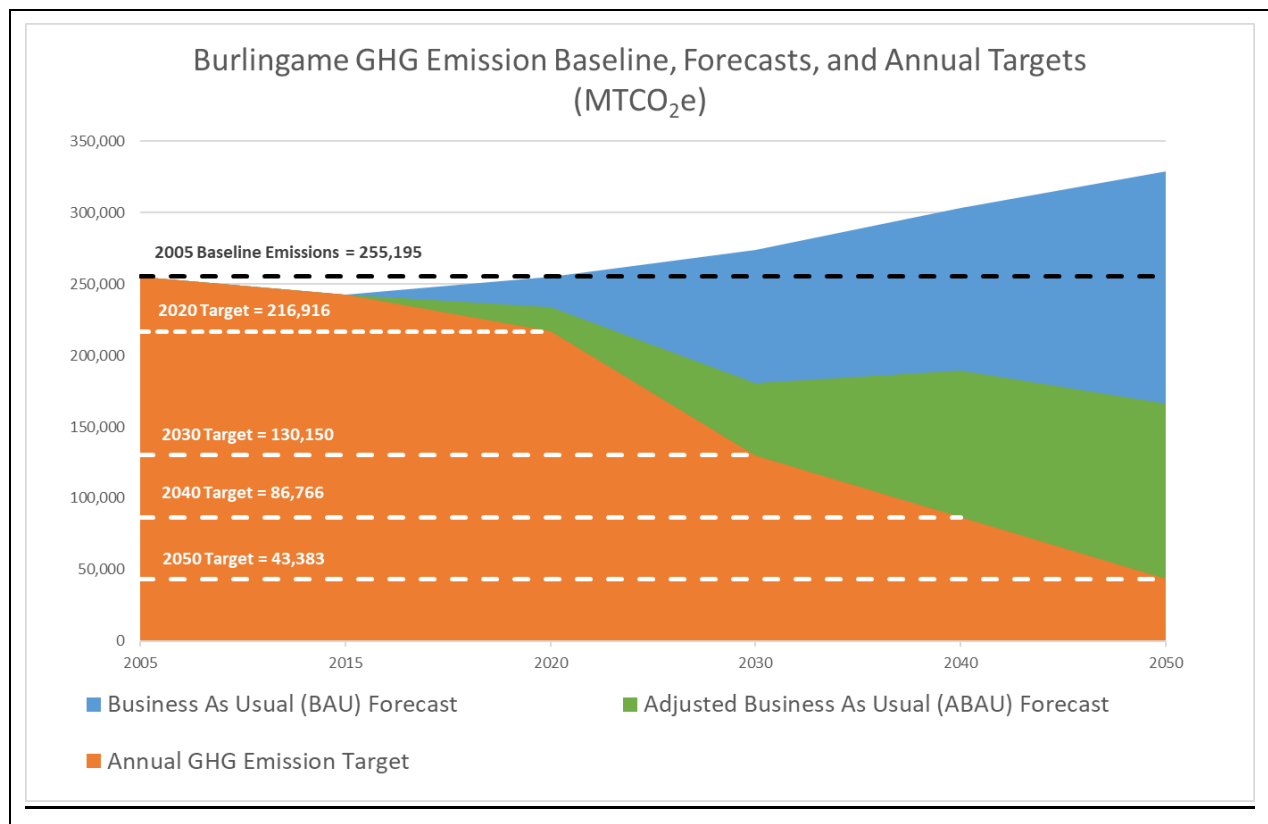
FIGURE 6: BURLINGAME GHG EMISSIONS BASELINE, FORECASTS, AND GHG ANNUAL REDUCTION TARGETS

FIGURE 6: BURLINGAME GHG EMISSIONS BASELINE, FORECASTS, AND GHG REDUCTION TARGETS



This page intentionally left blank.

4 Burlingame's GHG Emission Reduction Strategy

The City's GHG emission reduction strategy is based on the Envision Burlingame General Plan – the City's long-range planning document that strongly emphasizes sustainability through mobility, land use development, natural resources, and community health policy considerations. The General Plan serves as the City's guidance document, and this CAP acts as its implementation tool for climate action.

Each of the ~~climate actions~~ GHG emissions reduction measures discussed below represents ~~GHG reduction measures~~ a policy selected from the ~~City's General Plan~~ Envision Burlingame General Plan ~~along with several or a new policies~~ introduced in the sections below as a General Plan amendment (the new and amended policies are duly noted).

The 2030 CAP Update focuses on 20 ~~action~~ measures, and each of those measures connects with multiple supporting policies in the General Plan. For example, the Complete Streets ~~action~~ measure relies on an array of supporting General Plan policies that encourage alternative transportation and smart development. The quantified reduction estimates for each ~~climate action~~ measure below reflect both the primary and supporting General Plan policies.

The City is on a path to successfully achieve its 2020 and 2030 GHG emission ~~reduction~~ targets, both in terms of total emissions and emission efficiency on a per capita basis. The City's GHG emission reduction strategy also partially reaches the interpolated 2040 GHG reduction targets at General Plan buildout (on an efficiency basis), and makes serious headway towards reaching ~~the 2050 GHG reduction~~ emission targets. Achievement of these longer-term GHG ~~reduction~~ emission targets is very much a forecast and is not the primary focus of the 2030 CAP Update. The additional, dramatic GHG emission reductions needed to reach the longer-term ~~reduction~~ targets rely on continued technology and regulations toward renewable energy, net zero energy building, carbon free transportation, zero waste, and efficient water conservation.

The emission reductions from implementation of the City's CAP is broken down by individual measures in Table 13. A summary of how the CAP GHG emission reduction measures combine

with the eCity's ABAU forecast is summarized in Table 14, and Table 15 presents the CAP's GHG emission efficiency on a per capita basis after accounting for CAP measure reductions.

Table 13: CAP GHG Emission Reduction Measures Emissions Summary				
CAP GHG Emission Reduction Measure	GHG Emission Reductions (MTCO₂e)			
	2020	2030	2040	2050
1. Mixed Use Development, Transit Oriented Development, and Transit Supporting Land Use	95	166	233	328
2. Transportation Demand Management	-	4,563	8,632	9,286
3. Complete Streets	-	5,488	6,686	8,726
4. Caltrain Electrification	-	2,954	3,276	3,598
5. Bicycle Sharing	3,379	1,697	1,577	1,632
6. Electric Vehicle Infrastructure and Initiatives	5	29	53	79
7. Parking Pricing, Parking Requirements, and Creative Parking Approaches	-	424	821	1,209
8. Burlingame Shuttle Service	8	10	11	13
9. Electrification of Yard and Garden Equipment	-	516	556	596
10. Construction Best Management Practices	-	3,618	4,871	5,218
11. Green Building Practices and Standards	-	53	124	133
12. Energy Efficiency	-	3,247	7,168	7,309
13. Peninsula Clean Energy ECO100	16,533	24,073	24,038	-
14. Residential Solar Power	345	617	1,028	-
15. Alternately-Powered Residential Water Heaters	-	270	315	455
16. Retrofits	-	1	2	-
17. Water Conservation	-	2	3	-
18. Zero Waste	-	2,760 4,140	4,483 5,978	6,435 8,044
19. Municipal Green Building Measures	27	27	66	66
20. Increase in the Public Tree Population	5	17	29	40
Total Reductions from CAP GHG Emission Reduction Measures	20,397	50,532 51,913	63,973 65,467	45,124 46,732^(A)
(A) GHG emission reductions attributable to CAP measures decreased from 2040 to 2050, because of greater actions taken by the state (e.g., requiring the entire electricity grid be supplied by 100% renewable energy/carbon-free electricity by 2045). These reductions are realized in the ABAU scenario.				

Table 14: CAP GHG Emissions Reductions Summary				
GHG Emissions Scenario	GHG <u>Emission</u> Reductions (MTCO₂e)			
	2020	2030	2040	2050
ABAU GHG Emissions Forecast	233,646	180,493	189,690	166,534
CAP GHG Emissions Reductions by Sector				
Built Environment and Transportation	3,487	19,465	26,717	30,685
Energy	16,877	28,260	32,673	7,897
Water	0	3	5	0
Waste	0	2,760 <u>4,140</u>	4,483 <u>5,978</u>	6,435 <u>8,044</u>
Municipal	33	44	94	106
<i>Total GHG Emissions Reductions</i>	<i>20,397</i>	50,532 <u>51,913</u>	63,973 <u>65,467</u>	45,124 <u>46,732</u>
City GHG Emissions with CAP <u>GHG Emission Reduction Measures</u>	213,249	129,961 <u>128,581</u>	125,717 <u>124,222</u>	121,410 <u>119,802</u>
2030 CAP Update GHG Emissions Target	216,916	130,150	86,766	43,383
GHG Emissions Target Achieved?	Yes	Yes	No	No
<i>Additional GHG <u>Emission</u> Reductions Needed</i>	<i>None</i>	<i>None</i>	38,950 <u>37,456</u>	78,027 <u>76,418</u>

Table 15: CAP GHG Emissions Efficiency Summary				
GHG Emissions Scenario	GHG <u>Emission</u> Reductions (MTCO₂e)			
	2020	2030	2040	2050
City GHG Emissions with CAP Reductions <u>GHG Emission Reduction Measures</u> ^(A)	213,249	129,961 <u>128,581</u>	125,717 <u>124,222</u>	121,410 <u>119,802</u>
Population	31,099	33,850	36,600	39,350
City GHG <u>Emission</u> Efficiency MTCO ₂ e/Capita	N/A ^(B)	3.8	3.4	3.1 <u>3.0</u>
2017 Scoping Plan Per Capita Efficiency Target ^(C)	N/A ^(B)	6.0	4.0	2.0
Emissions Efficiency Targets Achieved?	N/A^(B)	Yes	Yes	No
(A) GHG emissions from with CAP reductions <u>GHG emission reduction measures</u> are from Table 14. (B) CARB's 2017 Scoping Plan does not recommend an efficiency target for 2020. (C) CARB's 2017 Climate Change Scoping Plan recommends a Statewide GHG efficiency of 6.0 and 2.0 MTCO ₂ e per capita in 2030 and 2050. The 2040 value has been interpolated.				

Cost Considerations

The City's GHG emission reduction strategy carries economic costs such as capital outlay costs, operating costs, maintenance costs, etc. that will be borne by the City, its residents, and its businesses and their patrons. While it is not possible to identify all the costs or co-benefits (cleaner air, less traffic, etc.) associated with all facets of implementing a General Plan policy or ~~CAP-identified action~~ GHG emission reduction measure, the relative costs associated with achieving GHG emissions reductions are estimated as follows.

Low Costs – Assumes that existing City employees and/or programs can implement the ~~action~~ measure as part of normal job duties and functions, program operations, etc. Assumes that incentives, rebates, or other financial programs are available to partially offset the additional, upfront costs related to a voluntary action taken by a business or resident. Assumes the return on investment or payback for undertaking a voluntary or mandatory action associated with the measure is less than five years (inclusive of any financial incentive).

Moderate Costs – Assumes that existing City employees and/or programs could implement the ~~action~~ measure as part of normal job duties and functions, but additional training or part-or full-time staff may be required. Assumes that businesses or residents would bear most of the upfront costs associated with a voluntary action or new mandatory requirement (e.g., extra

duties or new training). Assumes the return on investment or payback for undertaking the voluntary or mandatory action associated with the measure is between five and 10 years (inclusive of any financial incentive).

High Costs – Assumes new City employees and/or programs would be required to implement the ~~policy, measure, or action~~ measure. Assumes that businesses or residents would incur short- and long-term costs associated with implementing and maintaining a new program, building system, etc. Assumes the return on investment or payback for a voluntary or mandatory action associated with the measure is more than 10 years.

Each action below notes the level of associated costs that will be needed to implement the ~~action~~ GHG emission reduction measure.

Built Environment and Transportation GHG Emission Reductions Measures

Vision: Establish the City as a bicycle and pedestrian accessible and friendly city with high use of transportation alternatives to reduce single occupancy vehicle driving and associated emissions and impacts.

1. Mixed-Use Development, Transit Oriented Development, and Transit Supporting Land Use

General Plan Policy CC-1.2: Mixed Use, Transit Oriented Infill Development. Promote higher-density infill development with a mix of uses on underutilized parcels, particularly near transit stations and stops.

General Plan Policy M-6.1: Transit Supportive Land Use. Plan for and accommodate land uses that facilitate development of compact, mixed-use development with the density, diversity of use, and local accessibility supportive of transit use.

Description: Having different types of land uses near one another can decrease VMT since trips between land uses are shorter and may be accommodated by non-auto modes of transport. For example, when residential areas are in the same neighborhood as retail and office buildings, a resident does not need to travel outside the neighborhood to meet their trip needs. Locating a project with high density near transit will facilitate the use of transit and reduce VMT.

Actions: The City shall facilitate and encourage mixed-use and high-density residential development near major transit nodes, consistent with the land use map contained in the Envision Burlingame General Plan. Mixed-use and high-density residential developments are located along Broadway, El Camino Real, in the Downtown Specific Planning Area, and other locations throughout the city.

Tracking: The City shall track new development within Burlingame, if the development is consistent with the General Plan land use designation, and its proximity to transit services and infrastructure.

Relative Costs: Low.

Table 16: Estimated Annual GHG Emission Reductions from Mixed-Use Development, Transit Oriented Development, and Transit Supporting Land Use (MTCO₂e)

2020	2030	2040	2050
95	166	233	328

Technical Reference: Appendix C, Page 2.

2. **Transportation Demand Management**

General Plan Policy CC-1.5: Transportation Demand Management (TDM). Require that all new, major development projects include a Transportation Demand Management (TDM) program, as defined in the City's TDM regulations, to reduce single-occupancy car trips. "Major development" shall be defined in the TDM regulations by square footage for commercial development, or minimum number of units for residential development.

Description: TDM programs identify ways to reduce single-occupancy vehicle (SOV) trips and VMT at the project-level. TDM programs allow developers and building managers flexibility to select measures that reduce VMT. Strategies generally include, but are not limited to: carpooling; designating parking for clean air and ridesharing vehicles; transit subsidies; bicycle parking and amenities; employer-sponsored shuttles/bus services; and alternative work schedules.

Actions: The City shall require new multi-unit residential developments of 10 units or more and commercial developments of 10,000 square feet or more to incorporate TDM strategies that achieve a 20% reduction in trip generation rates below the standard rate published in the latest Institute of Transportation Engineers (ITE) Trip Generation Manual (10th edition), or other reputable source. This trip reduction level may be achieved through site design, transit, bicycle, shuttle, parking restriction, carpooling, or other TDM measures. All TDM plans shall have a designated coordinator who will track the effectiveness of the TDM Program over time and provide a report to city staff annually regarding the effectiveness of the TDM plan.

The City shall coordinate with businesses in the Burlingame Avenue Commercial Area and the Broadway Commercial Area to identify and implement actions and strategies that would reduce single-occupancy car trips and VMT. Strategies may include, but are not limited to:

carpooling, designated parking for clean air and ridesharing vehicles, transit subsidies, bicycle parking, and employer sponsored shuttles.

Tracking: The City shall track the number of new projects subject to this measure and, if known, the vehicle trip and/or VMT reductions resulting from TDM programs. TDM coordinators will report program metrics and results effectiveness to the City annually. Projects not meeting TDM requirements will be required to prepare an action plan to achieve the required reductions.

Relative Costs: Low (County incentives for alternative transportation and requirements for new development) to Medium (requirements for existing development that cannot readily change parking areas, proximity to transit, etc.).

Table 17: Estimated Annual GHG Emission Reductions from Transportation Demand Management (MTCO₂e)

2020	2030	2040	2050
-	4,563	8,632	9,286

Technical Reference: Appendix C, Page 4.

3. Complete Streets

General Plan Policy M-1.1: Complete Streets. Define and develop a well-connected network of Complete Streets that can move all modes safely, efficiently, and comfortably to promote efficient circulation while also improving public health, safety, and accessibility.

Description: Complete Streets are streets designed and operated to enable safe use and support mobility for all users. ~~Infrastructure~~ Complete Streets infrastructure improvement projects include ~~ing~~, but not limited to, marked or raised crosswalks, count-down signal timers, curb extensions, speed tables, median islands, and street narrowing, etc. will reduce VMT and increase pedestrian and bicycle use, safety, comfort, and accessibility.

Actions: The City shall pursue multi-modal enhancements for roadway segments, intersections, and bikeways along City-maintained public roads, particularly near major roads and development. The City shall develop and implement a Bicycle and Pedestrian Master Plan with detailed information on the existing transportation network and

additional multi-modal infrastructure improvements in the city (e.g., filling in sidewalk gaps, expanded safe bicycle routes, etc.). The City will adjust its transportation impact fee to reward projects associated with low VMT. Transportation impact fees are one-time charges assessed by the City against a new development project to help pay for new or expanded transit facilities (e.g., improvements) that address the increased demand and/or impact created by the development. The City will participate in and advocate for inclusion of Burlingame roads in the San Mateo County Sustainable Streets Master Plan prioritization.

Tracking: The City shall ~~document~~ track the number of multi-modal improvements projects executed, including the number of roadways (measured in centerline miles) and intersections improved and any other infrastructure projects that promote safe, efficient multi-modal transportation.

Relative Costs: Moderate to High, depending on the infrastructure improvement.

Table 18: Estimated <u>Annual</u> GHG <u>Emission</u> Reductions from Complete Streets (MTCO₂e)			
2020	2030	2040	2050
-	5,488	6,686	8,726
Technical Reference: Appendix C, Page 3.			

4. Caltrain Electrification

General Plan Policy M-4.2: Caltrain Electrification. Support efforts to electrify Caltrain to improve regional transit services to Burlingame, if these improvements do not result in unacceptable safety or noise impacts on the community.

Description: Caltrain's commuter rail line serves the San Francisco Peninsula and the Santa Clara Valley. Its trains currently consist of diesel locomotive-hauled, bi-level passenger cars. Burlingame is served by two Caltrain stations and is in proximity to the intermodal Millbrae station. The Peninsula Corridor Electrification Project will modernize Caltrain by installing an advance signal system and electrifying the rail line. Since the Caltrain line in Burlingame would be served by Peninsula Clean Energy (see Policy IF-1.9), the trains and stations would utilize 100% GHG-emission free electricity by 2030.

Actions: The City shall support electrification of the Caltrain corridor and work with the Peninsula Corridor Joint Powers Board, where it can, to advance the modernization process.

Tracking: The City shall keep track of the Caltrain modernization process and any City efforts to support this process.

Relative Costs: Low.

Table 19: Estimated Annual GHG Emissions Reductions from Caltrain Electrification (MTCO₂e)

2020	2030	2040	2050
-	2,954	3,276	3,598
Technical Reference: Appendix C, Page 13.			

5. Electric Vehicle, Bicycle, and Scooter Sharing

General Plan Policy M-3.10: Bicycle Sharing. Implement a bicycle sharing program to provide an alternative to driving, enhance bicycle accessibility, and offer a last-mile option to transit.

Description: In late 2017, the City welcomed Limebike, a dock-less, bikeshare program, as a pilot program to test bikeshare in the community. A bikeshare system provides shared use bicycles to individuals on a short-term basis. In addition to making it quicker to get around, bikeshare programs help address the last mile of a commute for people who want to take regional transit, but don't want to walk an extended distance from the transit stop to their destination. By providing a flexible means of transit that connects people with larger regional transit amenities, electric vehicle (EV), bike- and scooter-share programs make it easier for people to avoid single occupancy vehicle trips, thereby reducing VMT and GHG emissions.

Actions: The City shall continue working with a private electric vehicle, bike-, and scooter-share providers, if available and as feasible, to offer City residents and employees a variety of lower VMT and GHG emission non-vehicular transit options. The City shall also consider other forms of shared-transit amenities as these options become available. The City shall strategize on how to increase ridership in Burlingame (e.g., the placement and number of

bikes near transit hubs) and provide information to the community on the benefits of reducing single vehicle occupancy trips.

Tracking: As long as there are EV, bike-, and scooter-share providers in the market, the City shall maintain ~~an operational bikeshare~~ such programs in its jurisdiction and track ridership and document the effectiveness of the program to reach specified GHG emission reduction goals.

Relative Costs: Low

Table 20: Estimated Annual GHG Emission Reductions from Bicycle Sharing (MTCO₂e)			
2020	2030	2040	2050
3,379	1,697	1,577	1,632
Technical Reference: Appendix C, Page 14.			

6. Electric Vehicle Infrastructure and Initiatives

General Plan Policy CC-1.13: Electric Vehicle Network. Support the electric vehicle network by incentivizing use of electric vehicles and installations of charging stations.

Description: This measure will support battery electric vehicles (BEV) and plug-in hybrid electric vehicle (PHEV) purchases. An increasing share of electric vehicles on the roads in and near the city will decrease vehicle fuel combustion and tailpipe emissions from the current fleet of gasoline- and diesel-powered vehicles.

Actions: The City shall target the installation of three public EV stations by 2020, 25 charging stations by 2030, 50 by 2040, and 75 by 2050. The City shall require new residential development to include Level 2 charging stations. The City will work with the County of San Mateo and Peninsula Clean Energy to extend and expand rebates and incentives for Level 2 charging stations. The Level 2 charging station requirement will be enacted through an amendment to the Municipal Code by 2020. The amendments shall affect the portion of the Municipal Code covering the 2019 California Building Standards Code, CALGreen (Title 24, Part 11). Single- and multi-family homes (less than or equal to 20 units) shall be constructed such that each home/unit has at least one dedicated parking space with electric vehicle supply equipment (EVSE) installed. The City shall work with Peninsula Clean Energy and the

San Mateo County Office of Sustainability to develop specific language for the amendment.

In addition, ~~The~~ City shall develop an Electric Vehicle Strategic Plan (EVSP) that ~~shall~~ identifies existing charging facilities and EV ownership characteristics in the city, priority areas for installing new public EV infrastructure, opportunities for public/private partnerships, and potential City constraints towards supporting local and statewide goals for EV mode share in 2030 and beyond. The EVSP shall identify and document the actions the City will take each year to promote increased EV use including, but not limited to: 1) partnering with the San Mateo County Office of Sustainability to maximize efforts on expanding the use and purchase of EV vehicles; 2) providing robust information on the City's website and at City functions regarding the benefits of EV vehicles; 3) encouraging the installation of Level 2 high-speed chargers in residential and commercial developments; 4) seeking opportunities to install signs and other wayfinding devices to assist with locating EV charging infrastructure; ~~and~~ 5) developing a task force or working group comprised of City staff and representatives of local automobile dealerships to identify and coordinate regional EV rebate programs, promotions, and other opportunities for EV awareness; and 6) identify a strategy for electrifying the City's existing, municipal vehicle fleet.

Tracking: The City shall identify the number of EV stations installed in the prior year and provide an annual update on the status of the EVSP development and implementation results as part of its ~~a~~ Annual Sustainability Report, which shall be advertised and made available to the public.

Relative Costs: Low (EVSP preparation) to Medium (EV charging infrastructure)

Table 21: Estimated Annual GHG Emission Reductions from Electric Vehicle Infrastructure and Initiatives (MTCO₂e)

2020	2030	2040	2050
5	29	53	79

Technical Reference: Appendix C, Page 15.

7. Parking Pricing, Parking Requirements, and Creative Parking Approaches

General Plan Policy M-7.1: Parking Pricing. Manage public parking facilities effectively by using dynamic pricing strategies that allow all parking facilities to achieve desired occupancy rates in business and retail districts.

General Plan Policy M-7.3: Parking Requirements. Reduce or eliminate minimum parking requirements and/or implement parking maximums for housing, commercial, office, and other land uses in mixed use areas and in proximity to frequent transit services.

Comprehensively examine parking requirements in the Zoning Code and adjust as needed to evolving vehicle ownership patterns and parking practices.

General Plan Policy M-7.5: Creative Parking Approaches. Promote and support creative approaches to parking, including but not limited to use of parking lifts and shared parking, particularly in mixed-use and retail areas. In Downtown and the Live/Work designation, include consideration of “unbundling” parking from residential development projects, whereby parking is provided as an amenity paid for separately from a lease.

Description: Reduced parking requirements encourage smart growth development and alternative transportation choices by employees and consumers. To ensure parking does not spill out onto local streets, the City shall utilize a dynamic pricing strategy that allows all parking facilities to achieve desired occupancy rates. By controlling the amount of parking that is available, employees and consumers are encouraged to carpool or use alternative modes of transportation to reach their destination.

Actions: The City shall require all new non-residential development to reduce the number of parking spaces provided by the project by 20% below the standard parking requirement (based on ITE or other reputable source requirements). The City will update its Zoning Ordinance to reflect this new requirement. The City shall evaluate and re-adjust public parking pricing, as needed, to manage the parking supply, and evaluate offering free EV charging in city owned public parking lots.

Tracking: The City shall report on parking requirement and pricing changes, including observed effects of these strategies on parking demand and trip rates/VMT, if known.

Relative Costs: Low.

Table 22: Estimated Annual GHG Emission Reductions from Parking Pricing, Parking Requirements, and Creative Parking Approaches (MTCO₂e)

2020	2030	2040	2050
-	424	821	1,209
Technical Reference: Appendix C, Page 16.			

8. Burlingame Shuttle Service

General Plan Policy M-4.7: Shuttle Service. Increase the use of available shuttles in Burlingame by improving signage, outreach, and coordination with co-sponsors.

Description: Five free shuttles currently operate in Burlingame: the Burlingame Trolley, the Broadway Millbrae Shuttle, the Red Carpet Trolley, the Burlingame-Bayside Shuttle, and the North Burlingame Shuttle. All shuttles, except for the Burlingame Trolley, have a stop at the Millbrae Transit Station, which is a transfer station for Caltrain and BART served by a variety of other transit services. The shuttles are funded by the City of Burlingame, the Peninsula Corridor Joint Powers Board, the San Mateo County Transit District, the BAAQMD, the City/County Association of Governments of San Mateo County, the Downtown Burlingame Business Improvement District, and the Broadway Burlingame Business Improvement District.

Actions: The City shall continue to coordinate with its partners to provide free shuttle services and strategize with shuttle co-sponsors on ways to raise awareness of shuttle services and increase ridership. The City shall improve wayfinding (i.e., signage) to disseminate information on the location of shuttle stops.

Tracking: The City shall coordinate with the San Mateo County Transit District to track shuttle ridership and report on strategies implemented to increase ridership and overall ridership trends. The City will actively engage with shuttle co-sponsors to identify strategies to increase ridership if ridership data shows shuttle use is not matching expectations.

Relative Costs: Low.

Table 23: Estimated Annual GHG Emission Reductions from Burlingame Shuttle Service (MTCO₂e)

2020	2030	2040	2050
8	10	11	13

Technical Reference: Appendix C, Page 18.

9. *Electrification of Yard and Garden Equipment*

(New) General Plan Policy HP-2.16: Electrification of Yard and Garden Equipment. Support the transition of yard and garden equipment from gasoline to electric fuel sources.

Description: GHG emissions are generated by the combustion of fossil fuels (e.g., gasoline) in yard and garden equipment. By transitioning to electric equipment, emissions will be greatly reduced since 1) there will be no direct emissions during use of the equipment, and 2) the electricity used to power the equipment will be supplied by an increasingly GHG-free portfolio.

Actions: The City shall adopt an ordinance prohibiting the use of gasoline- and diesel-powered yard and garden equipment within Burlingame. The City shall explore incentive options for residents and entities who voluntarily transition to electric equipment before the ordinance is enacted.

Tracking: The City shall provide updates on the progress it has made in adopting an ordinance prohibiting the use of gasoline- and diesel-powered yard and garden equipment, and identify any incentives it or other regional agencies (e.g. BAAQMD) are offering to reduce GHG emissions from yard and garden equipment.

Relative Costs: Low to Medium. There is uncertainty on the specific costs of this measure. A 2004 CARB report on electrification for small off-road engines identified electric equipment options that were generally three to five times more expensive than gasoline-powered equipment.²⁹ However, since then, CARB has added zero emission equipment as a compliance option for meeting small off-road engine standards, and the 2016 SIP includes a

²⁹ CARB, 2004. *STAFF Report: Report to the Board on the Potential Electrification Programs for Small Off-Road Engines*. California Air Resources Board. Sacramento, CA. April 2, 2004.

measure to incentivize zero emission equipment for this category. Several communities near Burlingame have passed similar ordinances (Palo Alto, Los Gatos, Los Altos).

Table 24: Estimated Annual GHG Emission Reductions from Electrification of Yard and Garden Equipment (MTCO₂e)

2020	2030	2040	2050
-	516	556	596

Technical Reference: Appendix C, Page 19.

10. Construction Best Management Practices

(Amendment) General Plan Policy HP-3.12: Construction Best Practices. Require construction projects to implement the Bay Area Air Quality Management District's Best Practices for Construction to reduce pollution from dust and exhaust as feasible; require construction projects to transition to electrically-powered construction equipment as it becomes available; and seek construction contractors who use alternative fuels in their equipment fleet.

Description: Construction emissions can be reduced by replacing fossil fuels used in construction equipment with alternative fuels, such as renewable diesel (a fuel made from nonpetroleum renewable resources such as natural fats, vegetable oils, and greases), or replacing smaller equipment with electric alternatives, such as electric bulldozers, excavators, loaders, or forklifts. As technology has advanced over the years, new options for replacing smaller construction equipment (defined as less than 120 horsepower) with cleaner, alternative options have become available. For example, a Class 1 electric forklift with pneumatic tires can replace a Class 5 internal-combustion truck.³⁰ Other, larger pieces of equipment, such as the Cat 323F digger (162 horsepower) are also being targeted for electrification, and Volvo recently completed testing of a diesel-electric hybrid loader north of San Francisco.³¹ State and regional agencies, such as the BAAQMD, implement incentive

³⁰ EPRI, 2015. *Electric Forklifts*. Electric Power Research Institute.
<https://www.arb.ca.gov/fuels/lcfs/electricity/epri_2015.pdf>

³¹ Electrive, 2018. "Pon electrified Caterpillar digger Cat 323F". Web. January 24, 2018.
<https://www.cat.com/en_US/products/new/equipment/excavators/medium-excavators/1000032600.html>

programs that provide monetary grants to public and private fleets to clean up emissions from heavy-duty engines beyond that required by law. The City has undertaken a pilot study, testing the efficacy to using renewable diesel for the City's street sweepers.

Actions: During the environmental review process, the City shall encourage contractors and developers to voluntarily commit to using a construction contractor that utilizes alternative fuels, and/or employ the use of electrically-powered pieces of construction equipment. By 2025, the City will pass an ordinance prohibiting the use of petroleum-based fuel sources for construction equipment less than 120 horsepower unless otherwise demonstrated that no alternative, feasible solutions exist when feasible (i.e., such equipment shall be run on a zero GHG emission fuel source).

Tracking: The City shall track the number of projects using alternatively-powered pieces of construction equipment until ordinance adoption.

Relative Costs: Low to High, depending on the specific equipment being replaced.

Table 25: Estimated Annual GHG Emission Reductions from Construction Best Management Practices (MTCO₂e)

2020	2030	2040	2050
-	3,618	4,871	5,218
Technical Reference: Appendix C, Page 20.			

Energy GHG Emission Reduction Measures

Vision: Strive for 100% greenhouse gas emission-free power and electricity and reduce reliance on fossil fuel generated power.

11. Green Building Practices and Standards

General Plan Policy CC-1.9: Green Building Practices and Standards. Support the use of sustainable building elements such as green roofs, cisterns, and permeable pavement. Continue to enforce the California Green Building Standards Code (CALGreen). Periodically revisit the minimum standards required for permit approval. Adopt zero-net-energy building goals for municipal buildings.

Description: The Title 24 Building Standards contain minimum standards and voluntary measures for new commercial and residential development. The voluntary measures, referred to Tier 1 and Tier 2 standards, increase resource efficiency, improve building and building system performance, and are consistent with environmental, public health, and accessibility statutes and regulations. For the 2019 Title 24 Building Standards, the Tier 1 standards for residential development are 30% more efficient than the baseline standards; for non-residential development, the Tier 2 standards are 15% more efficient than the baseline standards.

Actions: The City shall encourage new residential and non-residential development to comply with the State's Tier 1 and Tier 2 voluntary energy efficiency provisions. The City shall provide project proponents with information on the benefits of designing their buildings to the Tier 1 and Tier 2 standards during the environmental or building permit review process. ~~If Zero Net Energy (ZNE) standards have not been adopted for residential and non-residential development by 2030, the City will amend its Construction Codes to require that all new residential and non-residential developments meet ZNE standards.~~

The City shall explore ways to eliminate natural gas consumption in new development by restricting and/or banning natural gas utility infrastructure from being supplied to new structures. Alternatively, the City may explore ways to restrict and/or ban the installation of appliances that consume natural gas (e.g., cooking ranges, water heaters, etc.).

Tracking: The City shall track and report the number of new developments that comply with the Tier 1 or Tier 2 voluntary energy efficiency requirements ~~or which achieve a ZNE standard and report this number~~, as well as the total amount of new development in the city.

Relative Costs: Low (voluntary provisions) to High (ZNE standards).

Table 26: Estimated Annual GHG Emission Reductions from Green Building Practices and Standards (MTCO₂e)

2020	2030	2040	2050
-	53	124	133
Technical Reference: Appendix C, Page 21.			

12. Energy Efficiency

General Plan Policy HP-2.8: Energy Efficiency. Support energy efficiency improvement in the aging building stock citywide. Encourage energy efficiency audits and upgrades at the time of sale for existing homes and buildings. Host energy efficiency workshops, and distribute information to property owners, tenants, and residents. Publicize available programs such as PACE financing and San Mateo Energy Watch programs. Incentivize low-cost retrofits to residents and businesses.

Description: Given Burlingame's relatively older building stock, the City anticipates many homeowners and property owners will pursue upgraded building systems (e.g., HVAC, electrical, etc.) over time. Partial remodels featuring building systems consistent with the 2019 Title 24 building standards are estimated to be approximately 50% and 37% more efficient than the existing building stock for residential and non-residential developments, respectively. Major remodels will be required to demonstrate they meet the 2019 Title 24 building standards (or newer building code standards applicable at that time), as if they were new developments entirely.

Actions: The City shall encourage energy efficiency audits and upgrades at the time of sale for existing homes and buildings, host up to three energy efficiency workshops per year, and distribute information to property owners, tenants, and residences. The City shall

encourage those doing major remodels, both residential and non-residential, to comply with the voluntary CALGreen tiers that reach beyond the current State code requirements. During the permitting processes, the City shall provide project proponents with information on the benefits of designing their buildings to the Tier 1 and Tier 2 standards.

Tracking: The City shall track and report in its ~~a~~Annual Sustainability Report, advertised and made available to the public, the number of minor and major addition, modification, and renovation permits issued in Burlingame and report on the number of projects that incorporated voluntary energy efficiency improvements above and beyond State requirements.

Relative Costs: Low (Information Sharing) to High (Tier 2 voluntary provisions).

Table 27: Estimated <u>Annual</u> GHG Emission Reductions from Energy Efficiency (MTCO ₂ e)			
2020	2030	2040	2050
-	3,247	7,168	7,309
Technical Reference: Appendix C, Page 24.			

13. Peninsula Clean Energy ECO100

General Plan Policy IF-6.9: ECO100. Increase ECO100 enrollment by residents and businesses. Coordinate with community champions and Peninsula Clean Energy (PCE) to expand outreach on ECO100.

Description: PCE is San Mateo County's official electricity provider. PCE was formed by the County of San Mateo and all 20 of its cities to help jurisdictions meet local ~~climate action~~ GHG emission reduction goals. PCE offers a choice of two electricity options, each with a different percentage of sustainable energy. ECOplus is the default, with 50% of the electricity provided to its customers being sourced renewably. With ECO100, 100% of the electricity is sourced from renewable sources. PCE has a strategic goal of sourcing 100% GHG-free electricity by 2021, and 100% California RPS eligible renewable electricity by 2025. By ~~2030~~ 2021, the entire portfolio will be 100% GHG emission free, and customers will no longer have to opt into ECO100 to realize the strides made by PCE (i.e., 100% GHG-free electricity will be the default plan). By the end of 2017, 98% of all accounts within the city

were enrolled in PCE; 2% of these accounts were enrolled in ECO100. All municipal accounts are currently enrolled in ECO100.

Actions: The City shall support PCE's goal of sourcing 100% of its electricity from GHG-free sources by 2021 by keeping all municipal accounts in ECO100 and encouraging community members to do the same. The City shall provide information on the benefits of ECO100 to its citizens through community outreach (e.g., flyers at City events, electronic newsletters, etc.).

Tracking: The City shall continue to monitor PCE's current renewable energy portfolio and track and report the number of Burlingame accounts enrolled in ECO100.

Relative Costs: Low.

Table 28: Estimated Annual GHG Emission Reductions from Peninsula Clean Energy ECO100 (MTCO₂e)

2020	2030	2040	2050
16,533	24,073	24,038	-
Technical Reference: Appendix C, Page 27.			

14. Residential Solar Power

General Plan Policy HP-2.7: Residential Solar Power. Encourage homeowners to install solar power systems. Provide information to homeowners on the benefits of solar power and funding opportunities. Promote Property Assessed Clean Energy (PACE) programs that finance renewable energy systems. Offer incentives for home solar power systems.

Description: The PACE program allows property owners to finance the up-front cost of energy or other eligible improvements on a property and then pay the costs back over time through a voluntary assessment. The unique characteristic of PACE assessments is that the assessment is attached to the property rather than to an individual. Over the last five years, approximately 308 residential solar permits have been approved within the city, or about 62 permits per year. By continuing to support PACE programs, the City is helping to ensure that more electricity consumed within Burlingame will be generated by photovoltaic (PV)

systems instead of the electricity grid, which may have electricity still generated by non-renewable sources.

Actions: The City shall continue promoting PACE programs through community outreach (e.g., signage, flyers at City events, social media, etc.) and providing information about PACE programs on a City webpage.

Tracking: The City shall continue to monitor and track the number of residential solar systems permitted and installed in Burlingame. Consistent with historical performance, the City is targeting approximately 62 new solar applications per year. The City shall report these metrics in its Annual Sustainability Report, which shall be advertised and made available to the public.

Relative Costs: Low to Moderate.

Table 29: Estimated Annual GHG Emission Reductions from Residential Solar Power (MTCO₂e)

2020	2030	2040	2050
345	617	1,028	-
Technical Reference: Appendix C, Page 29.			

15. Alternatively-Powered Residential Water Heaters

(New) General Plan Policy HP-2.17: Alternatively-Powered Residential Water Heaters.

Support the transition from tank-based, natural gas water heaters to solar, or electrically-powered, ~~or natural gas tankless~~ water heaters in residential development.

Description: Historically, residential water heaters have consisted of a large tank (e.g., 40 gallons) that is heated by the combustion of natural gas. These tank-based systems, which continuously heat the water throughout the day, are inefficient, because the water temperature is maintained even when the water may not be used for some time. Tankless water heaters, also known as demand-type or instantaneous water heaters, provide hot water only as it is needed. They do not produce the standby energy losses and related heat loss and cost impacts associated with traditional, tank-based water heaters. Tankless

systems can ~~either be powered by natural gas or~~ electricity and work by heating the water instantaneously as it passes through the unit.

Solar water heaters convert sunlight into heat for water heating. There are generally two types of solar water heaters: active, which have circulating pumps and controls, and passive, which don't. Most solar water heaters require a well-insulated storage tank to store the energy harnessed by the sun. Since solar water heaters rely on the sun to generate hot water, they are typically combined with another, more conventional system (e.g., natural gas or electricity) to account for cloudy days and times of increased demand. This back-up system can either be implemented in a one-tank system or two-tank system. In two-tank systems, the solar water heater preheats water before it enters the conventional water heater. In one-tank systems, the back-up heater is combined with the solar storage in one tank.

Actions: The City shall provide permittees with information on the benefits of installing alternatively-powered water heating systems during the permit process, and work with PCE to establish rebate programs for building electrification.

Tracking: The City shall track and report the number of solar, electrically-powered, and ~~natural gas~~ tankless water heaters that are installed in Burlingame as part of its ~~an~~ Annual Sustainability Report, which shall be advertised and made available to the public.

Relative Costs: Low (information sharing) to High (installation of alternative water heating systems). The CEC's evaluation of residential instantaneous water heating systems found that such systems were, on average, \$500 more than storage water heaters (not including any component upgrade costs), but that such systems result in less maintenance, replacement, and energy costs over an approximately 13-year period.

Table 30: Estimated Annual GHG Emission Reductions from Alternately-Powered Residential Water Heaters (MTCO₂e)

2020	2030	2040	2050
-	270	315	455
Technical Reference: Appendix C, Page 31.			

Water and Wastewater GHG Emission Reduction Measures

Vision: Practice strong water conservation with residents, businesses, and City sectors; assist existing and new construction to comply with water-related building standards; and integrate green infrastructure in new development and redevelopment projects.

16. Water Conservation Retrofits for Businesses

General Plan Policy IF-2.11: Retrofits. Implement programs that incentivize businesses and private institutions to replace existing plumbing fixtures with water-efficient plumbing.

Description: This measure targets the replacement of existing, indoor water consumption at businesses and private institutions within Burlingame with newer, more efficient water fixtures (e.g., low-flow faucets, toilets, etc.) and encourages the addition of gray water systems for outdoor water use. This measure will reduce overall water consumption and result in lower indirect GHG emissions associated with the electricity needed to convey, distribute, and treat water.

Actions: The City shall conduct outreach and provide audits to existing businesses and private institutions, informing them of the water- and cost-saving benefits associated with newer, water-efficient plumbing and gray water systems.

Tracking: The City shall track the number of businesses and private institutions that upgrade to newer, water-efficient plumbing as part of its Annual Sustainability Report, which shall be advertised and made available to the public.

Relative Costs: Low.

Table 31: Estimated Annual GHG Emission Reductions from Retrofits (MTCO₂e)

2020	2030	2040	2050
-	1	2	-
Technical Reference: Appendix C, Page 34.			

17. Water Conservation for New Residential Development

General Plan Policy HP-6.2: Water Conservation. Promote best practices for water conservation throughout the City, and continue to enforce City ordinances requiring high-

efficiency indoor water fixtures in new development. Educate the public about Burlingame's water rebate programs, and continue to establish tiered water rates that promote water conservation. Consider water consumption when evaluating development projects. Encourage drought-tolerant landscaping and efficient irrigation systems.

Description: This measure improves the water efficiency in new residential development projects by requiring Energy Star rated ~~kitchen faucets, dishwashers, and clothes washers,~~ as well as low-flow faucets, shower heads, and toilets, to reduce water consumption and associated GHG emissions from the conveyance, distribution, and treatment of water. This measure encourages existing residential properties to upgrade their water fixtures to newer, water-efficient technologies; and supports outdoor water conservation by using low-water use plants in the garden and smart irrigation systems.

Actions: The City shall require that new residential developments include the installation of Energy Star rated ~~kitchen faucets, dishwashers, and clothes washers,~~ as well as low-flow faucets, shower heads, and toilets. In addition, encourage the use of grey water systems for outdoor water use.

Tracking: Prior to project approval, the City shall ensure all residential project designs include a provision for the installation of Energy Star rated ~~kitchen faucets, dishwashers, and clothes washers,~~ as well as low-flow faucets, shower heads, and toilets. The Planning Department shall review project designs (e.g., site plans, engineering diagrams, etc.) to ensure incorporation of this requirement.

Relative Costs: Low.

Table 32: Estimated Annual GHG Emission Reductions from Water Conservation (MTCO ₂ e)			
2020	2030	2040	2050
-	2	3	-
Technical Reference: Appendix C, Page 35.			

Waste GHG Emission Reduction Measure

Vision: Attain zero waste in everyday life where most consumables are either recyclable, reusable, or compostable.

18. Zero Waste

General Plan Policy IF-5.16: Zero Waste. Participate in negotiations with waste vendor to implement zero waste supportive contracts and services.

Description: This measure establishes future waste diversion rate goals for the City of ~~85~~90%, ~~90~~95%, and ~~95~~100% for 2030, 2040, and 2050, respectively.

Actions: The City (i.e., Sustainability Coordinator) shall coordinate with Recology and other applicable waste utility providers to reduce the amount of organic and recyclable materials going to the landfill and increase the waste diversions rate. The City shall perform community outreach (e.g., flyers, electronic newsletters, etc.) informing community members and businesses of the environmental benefits of reducing waste and disposing of items properly. In addition, the City shall also develop a Community Zero Waste Plan to guide the community in diverting its waste from landfill disposal, manage resources to their highest and best use, and identify ways to reduce waste at the source. The Community Zero Waste Plan shall set forth specific strategies, implementation goals, and quantifiable metrics to track progress of the Plan.

Tracking: The City shall monitor its waste diversion rate by coordinating with Recology, and monitoring waste reports released by CalRecycle. The waste diversion rate and the City's strategy for the upcoming year to meet or exceed waste diversion goals shall be provided in its Annual Sustainability Report, which shall be advertised and made available to the public.

Relative Costs: Low.

Table 33: Estimated Annual GHG Emission Reductions from Zero Waste (MTCO₂e)

2020	2030	2040	2050
-	2,760	4,483	6,435
	<u>4,140</u>	<u>5,978</u>	<u>8,044</u>

Technical Reference: Appendix C, Page 37.

Municipal GHG Emission Reduction Measures

Vision: Position the City as a leader and role model in sustainability for the benefit of its community, attract green businesses to the City's growing roster of green companies, and inspire climate action by residents in daily life.

19. Municipal Green Building Measures

General Plan Policy HP-2.10 Municipal Green Building. Aim for new construction and major renovations of City facilities to be zero net energy.

Description: The term ZNE Standards refers to a building where the amount of energy produced by on-site or adjacent renewable energy resources (e.g., solar panels) is equal to the amount of electrical and natural gas energy consumed by the building annually.

Achievement is based on 12 consecutive months of actual energy performance data. The City shall strive for new structures to not only be ZNE, but also all electric, thereby negating potential emissions from natural gas consumption.

Actions: The City currently anticipates the need for a new Community Center by 2020, and the reconstruction of City Hall in the next 5-10 years. The City shall require the new Community Center, City Hall, and any other City facilities be designed to ZNE standards, as feasible, and strive for all-electric design.

The City shall also pursue electrification of the City's existing municipal vehicle fleet (see GHG Emission Reduction Measure 6 for a discussion of the EVSP that will be developed).

Tracking: In the early design phases of the Community Center, City Hall, and other facilities, the City shall work with the design team to ensure new structures are built to ZNE standards, as feasible, and strive for an all-electric design.

Relative Costs: Moderate to High, depending on the technology at the time of construction.

Table 34: Estimated Annual GHG Emission Reductions from Municipal Green Building Measures (MTCO_{2e})

2020	2030	2040	2050
27	27	66	66

Technical Reference: Appendix C, Page 38.

20. Increase the Public Tree Population

(Amendment) General Plan Policy CC-2.2: Increase the Public Tree Population. Identify ways to increase the overall population of trees in Burlingame to stem the natural decline of the urban forest and create a more equitable distribution of tree canopy.

Description: Plants and trees function as a natural sink for CO₂ by taking the CO₂ and converting it into oxygen and carbon-based plant matter during the natural carbon cycle. Trees are significant sources of carbon storage and sequestration due to their size and longevity; increasing the number of trees planted in Burlingame will help offset GHG emissions generated in the City's jurisdiction.

Actions: At a minimum, the City shall ensure 33 new trees are planted annually on City-owned or maintained land, in addition to any trees that are planted to offset the removal of trees on City-owned or maintained land. Planting locations may include, but are not limited to: public streets, parks, and government facilities.

Tracking: The City's Parks and Recreation Department shall ensure there is a net positive planting of 33 trees per year. Metrics on the number of trees planted and trees removed are already tracked by the City and will be included in its Annual Sustainability Report, which shall be advertised and made available to the public.

Relative Costs: Low.

Table 35: Estimated Annual GHG Emission Reductions from Increase the Public Tree Population (MTCO₂e)

2020	2030	2040	2050
5	17	29	40
Technical Reference: Appendix C, Page 39.			

GHG Emission Reduction Measures Not Quantified

The General Plan contains numerous other measures that are difficult to quantify but nonetheless offer GHG emission-reduction benefits. For example, policies for community gardens do not directly create GHG emission reductions, but we know that supporting local food programs can have positive impacts on public health and the environment and contribute to reducing transportation emissions.

The list to the right highlights sustainability measures in the General Plan with GHG-reduction benefits. These measures are not included in the implementation and tracking of the CAP. They complement and support the CAP's measures but are not relied on directly to achieve the City's GHG-emission reduction targets.

Integrate Green Infrastructure: CC-1.8: Green Infrastructure and HP-6.9: Green Infrastructure

Prevent Stormwater Pollution: CC-1.10: Site Design

Support Local Food Programs: CC-1.11: Urban Agriculture; HP-1.11: Access to Healthy Food; HP-1.12: Community Garden Sites; HP-1.13: School Gardens; HP-1.14: Multi-Family Residential Gardens; and HP-1.15: Agriculture in Single-Family Residential Neighborhoods

Provide Public Education on Climate Action: CC-1.12: Public Education and Outreach

Practice Environmental Purchasing: IF-1.4: Sustainable Practices

Explore Recycled Water: IF-2.12: Recycled Water

Implement Sustainable Landscaping: IF-2.13: Bay-Friendly Landscaping; HP-4.16: Sustainable Landscaping; and HP-6.8: Water-Efficient Landscaping

Promote Green Businesses: HP-2.11: Innovative Technologies and HP-2.12: Green Businesses

Avoid Air Pollution: HP-3.5: Woodstove and Fireplace Replacement

5 Preparing for Climate Change

The purpose of the City’s 2030 CAP Update is to reduce GHG emissions within the city that contribute to global climate change, thereby reducing the impacts of climate change both at the global and local level.

The potential impacts of climate change can include, but are not limited to, increases in drought, extreme heat, changes in sea level, and increased flooding and weather events. Some climate change impacts, specifically sea level rise, are already occurring.

This Chapter summarizes the steps the City is taking to ensure Burlingame is resilient to climate change impacts.

Sea Level Rise

Water levels in the San Francisco Bay have risen eight inches over the past 100 years, and the rate of bay rise is expected to quicken in the next century as climate change impacts accelerate. The State projects sea level to rise 14 inches by 2050. In San Mateo County, researchers predict sea level to rise six inches by 2030 and one to two feet by 2050.³² The Bay Conservation and Development Commission (BCDC), the organization responsible for regulating the region’s shoreline, found in a 2009 assessment that most of Burlingame’s Bayfront area could be underwater by 2070. The assessment predicts that Burlingame will become increasingly vulnerable to water inundation during both normal high tides and major storm events. Rising sea level may inundate the land along the Bayfront and flood nearby industrial, commercial, and residential areas.

Burlingame’s Bayfront is particularly vulnerable to sea level rise. It is one of the few areas on the Peninsula not protected by natural wetlands or levies. Ordinarily, wetlands create a natural buffer between the Bay and built environment and can provide a cost-effective flood protection strategy. The Bayfront has a hard-edge seawall along the waterfront. The low-lying area is

³² County of San Mateo, 2018. “A Prepared and Stronger Community The San Mateo County Sea Level Rise Vulnerability Assessment.” Web. <https://seachangesmc.org/wp-content/uploads/2018/03/SLR_VA_Highlights_v12_web-spread.pdf>

composed primarily of fill materials. The Bayfront extends about 2.5 miles along the San Francisco Bay and contains recreation and open spaces, office buildings, and destination restaurants and hotels in proximity to San Francisco International Airport (SFO). Old Bayshore Highway and Airport Boulevard are the area's primary access routes and connect travelers from the airport to at least 12 major hotels in the Bayfront. The hotels provide significant income to the City; 35-40% of the City's annual General Fund budget comes from transient occupancy taxes from Bayfront hotels. The roads also protect underground water mains and utilities that supply the businesses and hotels, and they provide access to a wastewater treatment plant. The regional Bay Trail runs along the Bayfront, providing pedestrian and bicycle recreation opportunities along the Bay.

San Mateo County is leading the charge on sea level rise in the region. In 2015, the County launched an initiative called "Sea Change San Mateo County" to bring together and provide resources to local governments and agencies.³³ The first task of this effort was to complete a Sea Level Rise Vulnerability Assessment to evaluate the impacts of flooding and erosion and identify actionable solutions to protect people and places. Burlingame staff actively engaged with the County on the effort and ongoing actions. The County's Sea Level Rise Vulnerability Assessment projected flooding assuming a baseline scenario (1% annual storm chance, also known as 100-year flood), mid-level (1% annual storm chance plus 3.3 feet of sea level rise), and high-end scenarios of sea level rise (1% annual storm chance plus 6.6 feet of sea level rise) for each of the County's 20 cities. According to the Sea Level Rise Vulnerability Assessment, the following sea level rise scenarios are predicted for Burlingame:

- Baseline Sea Level Rise Scenario: 20 acres of land would be inundated, including a portion of Old Bayshore Highway.
- Mid-level Sea Level Rise Scenario: 452 acres inundated, and nearly all of Old Bayshore Highway and Highway 101 and stormwater and energy transmission infrastructure vulnerable.

³³ San Mateo County, 2019. "A Prepared and Stronger County". About. Web. <<https://seachangesmc.org/about/>>

- High-end Sea Level Rise Scenario: 813 acres inundated, and high risk of endangerment across all infrastructure and accessibility.

The resulting change in sea level forecasted in each of the three scenarios above and the impact on Burlingame is depicted in Envision Burlingame General Plan Figure CS-4, Anticipated Sea Level Rise.

Burlingame staff anticipates seeing infrastructure impacts in the near terms as well, specifically to the City's storm drain system. Much of the City's aging storm drain system has a ten-year design storm capacity, not the standard 30-year capacity for regional facilities. Some local storm drain systems also have less than a two-year design storm capacity, where the standard is also ten years. Flood protection improvements to the storm drain system will be necessary to protect life, property, and investments throughout Burlingame.

Staff is working with the County on the next phase of the Sea Change San Mateo County effort to identify and implement actionable solutions. The City received a grant from the County for further assessment of potential impacts of sea level rise on the City's Bayfront. The program will be to build upon the "Asset Vulnerability Profile" prepared for the San Mateo County Sea Level Rise Vulnerability Assessment for the Old Bayshore Highway and Airport Boulevard study area. The expected outcomes include the identification of potential near-term and long-term adaptation strategies that would be applicable to the particular site conditions of the Bayfront and a high-level assessment that could inform policies and future planning efforts. As part of this effort, the City will be leading outreach with neighboring jurisdictions, including the City of Millbrae, the City of San Mateo, and San Francisco International Airport, to provide consistent messaging on risks across communities. City staff also welcomes regional collaboration opportunities and has met with SFO and Stanford student design teams to explore solutions for the Bayfront.

General Plan Policies Related to Climate Change Adaptation

Current climate vulnerability, adaptation, and resiliency planning practices build upon the State Natural Resources Agency's Adaptation Planning Guide and 2018 California Climate Adaptation Strategy. In general, best practices for vulnerability include clear assessment and

documentation of risk exposure, community and population sensitivity, potential physical effects (e.g., infrastructure impacts, strains on public service providers), and adaptive capacity (e.g., what resources are available to the community). Current best practices for development and a climate adaptation management strategy focus on prioritizing adaptive needs, developing strategies based on the needs, and implementing adaptive strategies in a phased or feasible manner that promotes and does not preclude long-term/higher-capital adaptation responses.

Burlingame's General Plan is the City's best policy tool to address sea level rise in future land uses and development. Consistent with the State's Adaptation Planning Guide, the General Plan considers sea level rise in the Bayfront and other vulnerable parts of Burlingame and contains policies and goals to protect existing and future urban uses from sea level rise impacts. The following policies from the Envision Burlingame General Plan specifically implement climate adaptation planning principles:

Policy CC-6.7: Sea Level Rise. Require that new and existing development along the Bayfront make provisions for ~~sea-level~~ sea level rise and flood risks, which may involve payment of assessments to fund City or other efforts to build a unified defense system. Maintain minimum water front set back, with the setback area providing space in the future to accommodate sea level rise and flooding defenses. Design new buildings with habitable areas to minimize potential damage from exceptional storm events.

Policy IF-4.2: Localized Flooding. Identify and correct problems of localized flooding. Promote the use of green infrastructure, whenever feasible, to mimic a natural hydrologic system that uses stormwater as a resource.

Policy IF-4.3: Guard against Sea Level Rise. Pursue the policies outlined in the Safety Element related to sea level rise.

Policy IF-4.4: Green Stormwater Infrastructure. Plan for and implement Low Impact Development (LID) retrofits, such as green infrastructure which uses vegetation and soil to capture, treat, and retain stormwater runoff. Promote the use of pervious surfaces, green streets, and rainwater harvesting to achieve multiple benefits, such as creating open space,

improving stormwater quality, and increasing groundwater recharge. Avoid or minimize the impact of stormwater discharges on local receiving waters, including San Francisco Bay.

Goal CS-5: Protect vulnerable areas and infrastructure from flooding related to rising sea levels in the San Francisco Bay.

Policy CS-5.1: Monitor Rising Sea Level. Regularly coordinate with regional, State, and Federal agencies on rising sea levels in San Francisco Bay and major tributaries to determine if additional adaptation strategies should be implemented to address flooding hazards. This includes monitoring FEMA flood map updates to identify areas in Burlingame susceptible to sea level rise, addressing changes to State and regional sea and bay level rise estimates, and coordinating with adjacent municipalities on flood control improvements.

Policy CS-5.2: Vulnerability Assessment and Planning. Continue to coordinate with San Mateo County on the county-wide Sea Level Rise vulnerability assessments and planning that will identify regional sea level rise risk factors and areas, as well as emerging options for response.

Policy CS-5.3: New Development in Vulnerable Areas. Continue to require appropriate setback and building elevation requirements for properties located along the Bayshore, lagoons, and in other low-lying areas that are susceptible to the effects of sea level rise. Consider other strategies to support resiliency through design.

Policy CS-5.4: Flood Insurance Rate Maps. Provide to the public, as available, up-to-date Flood Insurance Rate Maps (FIRM) that identify rising sea levels and changing flood conditions. Monitoring and Updates.

Adaptation planning is a young field, and there is still much to learn as cities grapple with climate change impacts. Burlingame will continue to monitor and participate in regional adaptation planning efforts. The City expects to conduct future high-level assessments to inform and refine its approach to protect and prepare the Bayfront and residents and businesses for sea level rise.

6 Implementation and Monitoring

This Chapter describes how the City will implement and monitor progress towards achieving its annual GHG emission targets.

Responsibility and Implementation Methods

The City's Sustainability Coordinator will have the primary responsibility for implementing and monitoring CAP progress as follows:

- Overseeing implementation of CAP GHG emissions reduction ~~strategies~~ measures
- Coordinating with City departments that have a primary or supporting role or responsibility for implementing the City's CAP GHG emission reduction measures
- Partnering with San Mateo County's RICAPS to prepare annual municipal and community-wide GHG emissions inventories
- Preparing and submitting an Annual Sustainability Report to the City Council
- Monitoring and evaluating CAP progress over time
- Providing recommendations to change, modify, or amend the CAP if it is not achieving its proposed GHG emission reduction targets
- Updating the CAP document approximately every five years
- Participating (or designating participants) and working closely with City staff, residents, and businesses during CAP-related planning efforts (e.g., development of the City's Bicycle and Pedestrian Master Plan or a new specific plan), CAP-related meetings (e.g., work group, task force, or other City sustainability-related meetings), or other CAP-related initiatives
- Securing funding, as necessary and feasible, that supports CAP implementation, monitoring, and/or progress towards meeting CAP GHG emission reduction goals

- Tracking new regional, State, and federal regulations that affect the City's GHG emissions levels

In addition to the above items, the City's Sustainability Coordinator will also work with the Burlingame School District to inform the younger generation of the City's goals for addressing climate change and the importance of sustainable practices. Outreach and educational activities could include, but are not limited to, presenting at school assemblies or classrooms, or working with teachers directly on ways to incorporate climate change and sustainability segments into the science curriculum.

While the Sustainability Coordinator holds the primary responsibility for implementing and monitoring the CAP, other City departments play an important role implementing the CAP and contributing to its success.

Monitoring and Updates

The GHG emissions reductions in this CAP will be achieved through a combination of regulations, ordinances, programs, incentives, and outreach activities. As time progresses, technologies may change, development may proceed differently than forecasted, and new GHG reduction regulations and/or programs may take effect. The CAP will need to be periodically updated to reflect and respond to changing environmental, regulatory, technological, demographic, and market conditions.

The City will monitor and update the 2030 CAP through the preparation of an Annual Sustainability Reports, annual emission inventory updates, and periodic updates, ensuring the City's CAP remains a dynamic document.

Annual Sustainability Report

The City's Sustainability Coordinator will prepare and submit to the City Council an Annual Sustainability Report, the presentation of which is marketed and available to the public. This report provides a summary of the programs and policies implemented by the City to improve sustainability in the City's operations and on a community-wide level. Following adoption of the 2030 CAP Update, the Sustainability Coordinator will include an annual summary progress

report of CAP implementation and monitoring. The summary shall include a brief description of each measure's implementation status and progress towards achieving the measure's outcome using the metrics and timeframes listed in Table 36, 2030 CAP Update Implementation and Monitoring Program. Such a summary will be included in each subsequent ~~annual report~~ Annual Sustainability Report presented to the City Council.

Emission Inventory Updates

The 2030 CAP Update's GHG emissions inventories and forecasts are based on the best available information and current best practices for preparing GHG emissions estimates. However, emissions forecasts are based on projected market development and other conditions that are subject to change. Accordingly, the City will continue to partner with San Mateo County's RICAPS program to provide an annual GHG emission inventory update for both municipal and community-wide GHG emissions levels. These annual emissions inventories will incorporate the latest data and assumptions regarding the City's energy usage, VMT, waste generation, etc. and will measure and track the City's progress towards meeting its GHG emission reduction goals.

Periodic CAP Update

To ensure the City remains on track to meet its GHG reduction goals, the City will update the CAP every five years, including robust community input, beginning in 2025. CAP updates shall reflect the City's findings presented in its Annual Sustainability Report, advertised and made available to the public, and annual GHG emission inventory update, and will include, as necessary, updated GHG emissions inventories and forecasts and new or modified GHG emission reduction measures. The need for new or modified GHG emission reduction measures would be required if specific GHG emission reduction measures identified in the currently adopted CAP are not fully implemented or effective at reducing GHG emissions. The City will measure and evaluate the performance of individual GHG emission reduction measures through its Annual Sustainability Report and updated emissions inventories. If a specific measure is not achieving the desired outcome or performing as expected, the City will use the CAP update to adjust its GHG emission reduction strategy and measures. By providing a CAP

update in the 2025 timeframe, the City will have the opportunity to fully evaluate progress and take additional actions necessary to meet its 2030 GHG emission reduction target.

CEQA Streamlining

The City's Envision Burlingame General Plan and 2030 CAP Update analyze and mitigate the significant effects of GHG emissions at a programmatic level and set forth the City's strategy for reducing GHG emissions from existing and new land uses and development projects. The City has prepared the General Plan and 2030 CAP Update to satisfy all of the qualifications set forth in CEQA Guidelines Section 15183.5, Tiering and Streamlining the Analysis of Greenhouse Gas Emissions, as well as the BAAQMD's CEQA Air Quality Guidelines³⁴, by including the following components:

- A quantified inventory of GHG emissions resulting from development within the city for CAP baseline year 2005, existing inventory year 2015, projected year 2020, projected year 2030, projected General Plan buildout year 2040, and projected year 2050 conditions.
- A level of emissions, based on substantial evidence, which the contribution to GHG emissions from activities covered by the General Plan would not be cumulatively considerable.
- Identification and analysis of GHG emissions anticipated because of development pursuant to the Envision Burlingame General Plan.
- Specific General Plan policies and CAP actions, including all feasible GHG emission reduction measures that will be implemented on a project by-project basis in Burlingame.
- The quantification of GHG emissions reductions and evaluation of whether General Plan policies and CAP actions would collectively achieve the City's specified GHG emissions levels and reduction targets.

³⁴ BAAQMD, 2017. *California Environmental Quality Act Air Quality Guidelines*. Bay Area Air Quality Management District. May 2017.

- Mechanisms to monitor the CAP's progress toward achieving the City's GHG emissions levels and reduction targets and to require amendment if the CAP is not achieving the specified GHG emissions levels.
- Adoption in a public process following environmental review.

The qualified 2030 CAP Update, by definition from the BAAQMD, provides opportunities for the City to tier from and/or incorporate by reference the CAP's programmatic review of GHG emissions and impacts into future project-specific CEQA documents and streamline the environmental review process.

Development projects that are consistent with the land use projections and GHG reduction measures in the CAP will be eligible for CEQA streamlining pursuant to CEQA Guidelines Section 15183.5 following CAP adoption. Projects that involve a General Plan amendment with increased densities or development intensities beyond those allowed by the General Plan will most likely not be eligible for CEQA streamlining because they would not be consistent with the General Plan and the underlying assumptions in the CAP GHG emissions forecast and GHG emissions reduction strategy.

The City will determine project-level consistency with the 2030 CAP Update through the CAP Implementation Checklist. The Checklist is the mechanism City staff will use to demonstrate consistency with General Plan policies and CAP actions on a project-by-project basis. In general, new development projects will need to incorporate all applicable CAP measures and supporting efforts to demonstrate consistency with the CAP. These measures will be enforced as conditions of approval for ensuring that compliance is confirmed before the project can be implemented. CEQA Guidelines Section 15183.5 requires that an environmental document that relies on a qualified CAP for a cumulative impacts analysis must identify those requirements specified in the CAP 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. The Implementation Checklist will serve to specify the requirements for individual projects and will be conditioned to ensure incorporation and implementation of CAP measures. The Checklist will ensure that reductions are achieved on a project-by-project basis.

CAP Implementation and Monitoring Program

The City would use the CAP consistency checklist to track project compliance on an individual level. Newly proposed, residential and non-residential development projects would be required to fill out the checklist, which documents project consistency with various CAP components. The checklist should be included in a project's submittal package to the City. Projects that are consistent with the CAP could rely on the CAP for streamlining under CEQA. This checklist generally serves as the City's day-to-day document for tracking project compliance with the CAP. For the checklist to be deemed complete, it must be filled out to the satisfaction of the Planning Division.

Although the Checklist would be used most frequently by the City for assessing project consistency with the CAP, there are a number of implementing actions that would be required on the City's end (i.e., independent of project review).

Funding

The implementation of the GHG reduction measures by Burlingame residents, businesses, and municipal government operations requires financial resources derived from various sources. The City will monitor funding opportunities and financing mechanisms to successfully implement CAP measures. Potential funding sources to support GHG reduction measures include:

Federal: Grants and energy efficiency tax credits offered by the federal government.

State Greenhouse Gas Reduction Fund (GGRF): Proceeds from the State's Cap and Trade Program support a wide range of programs and projects that reduce GHG emissions. Some GGRF-funded programs that may benefit the City of Burlingame include: CARB Low Carbon Transportation Investments and Air Quality Improvement Program; Recycling grants; CEC programs; and California Growth Council climate programs.

State (non-GGRF): The State supports other programs and projects that reduce GHG emissions with non-GGRF funds such as energy efficiency tax credits and Energy Upgrade and Solar Roof programs.

Regional: The following regional agencies currently provide funding for GHG reduction efforts:

City of Burlingame

2030 CAP Update
August 8, 2019

- The BAAQMD offers grant funding to public agencies for trip reduction, bicycle facilities, and clean air vehicle projects.
- The Bay Area Water Supply and Conservation Agency offers rebates to install water-efficient indoor and outdoor fixtures.
- The Metropolitan Transportation Commission's Climate Initiatives Program provides funding for projects that reduce transportation-related emissions.

County: The San Mateo County Energy Watch Program provides certain no-cost energy efficiency services and information on financing energy efficient projects.

City of Burlingame: The City's General Fund and Capital Improvement Budget provide funding for City projects.

Utility Providers: The City's utility providers, including PG&E and Peninsula Clean Energy, periodically offer rebates and incentives to replace old equipment with new equipment, support electric vehicles, and install energy efficient upgrades.

Loan Programs: Municipal bonds and energy efficiency finance programs, such as the PACE Program, are examples of loan funding and financing options for energy efficiency and other GHG reduction measures and programs.

Private: Private equity and crowdfunding can support a variety of demonstration, energy efficiency, and GHG reduction measures and programs.

Table 36: 2030 CAP Update Implementation and Monitoring Program

Measure Title and Action	Expected Outcome	Mandatory / Voluntary	Responsibility	Timeframe
1. Mixed Use Development and Transit-Oriented Infill Development, and Transit Supportive Land Use (General Plan Policies CC-1.2 and M-6.1)				
Require new developments to comply with the Implementation Checklist. Support applications that are consistent with the General Plan land use designations, increase goods and services in proximity to residential areas, and bring residential units near transit stations.	Reduce VMT by 9% through mixed-use development	<u>City:</u> Mandatory	Community Development	Ongoing
Enforce land use designations during the early planning stages of new development, particularly for land uses within PDAs identified in Plan Bay Area 2040. (https://www.planbayarea.org/pda-tpa-map)	Reduce VMT by 15% by locating a project with high density near transit (i.e., in PDA)	<u>City:</u> Mandatory	Community Development	Ongoing
2. Transportation Demand Management (General Plan Policy CC-1.5)				
Adopt TDM Policy for new developments and integrate policy into Zoning Code by 2020.	Reduce VMT by 20% from new development	<u>City:</u> Mandatory	Sustainability Coordinator, Community Development	By 2020
Adopt TDM Policy Incentive for existing development.	Reduce VMT by 20% from existing development	<u>City:</u> <u>Mandatory</u> <u>Community:</u> Voluntary	Community Development	By 2030
Update the Zoning Code to reflect the City's General Plan vision.	Reduce VMT by 20% from existing development	<u>City:</u> Mandatory	Community Development	By 2040
3. Complete Streets (General Plan Policy M-1.1)				
Prepare and Implement a Pedestrian and Bicycle Master Plan	Reduce overall VMT by 10-15% by increasing development intensity, improving and expanding the City's non-modal infrastructure, and implementing traffic calming measures.	<u>City:</u> Mandatory	Public Works	By 2025
4. Caltrain Electrification (General Plan Policy M-4.2)				
Support Caltrain's efforts to electrify the rail line.	Reduce GHG emissions from diesel combustion.	<u>City:</u> Mandatory	Public Works	Ongoing

Table 36: 2030 CAP Update Implementation and Monitoring Program

Measure Title and Action	Expected Outcome	Mandatory / Voluntary	Responsibility	Timeframe
5. Bicycle Sharing (General Plan Policy M-3.10)				
Track annual bicycle ridership <u>rideshare use</u> , and coordinate with Limebike and/or other companies to expand the use of <u>EV, bike- and scooter-share</u> program(s) in the city as long as such companies exist in the market.	Transition approximately 3% of vehicle trips to <u>EV, bicyclebike- and/or scooter-share</u> trips to reduce VMT and associated GHG emissions.	<u>City:</u> Mandatory	City Manager's Office, Sustainability Coordinator	Ongoing
6. EV Infrastructure and Initiatives (General Plan Policy CC-1.13)				
Develop and adopt an Electric Vehicle Strategic Plan (EVSP).	Facilitate installation of a minimum of 25 new, public charging stations in Burlingame per decade starting in 2020.	<u>City:</u> Mandatory	Sustainability Coordinator, Community Development, Public Works	By 2022
Amend zoning code to require new residential development to install Level 2 charging stations.	Increase number of new residential units with access to fast, EV ready charging stations.	<u>City:</u> Mandatory	Community Development	By 2020
7. Parking Pricing, Parking Requirements, and Creative Parking Approaches (General Plan Policies M-7.1, M-7.3, and M-7.5)				
Update parking supply requirements in the zoning code	Reduce parking supply by 20% in all new, non-residential development, when compared to standard ITE parking rates.	<u>City:</u> Mandatory	Community Development, Public Works, Economic Development	By 2025
Evaluate and re-adjust public parking pricing	Implement dynamic pricing strategies to minimize spill out onto local streets and help parking facilities achieve desired occupancy rates	<u>City:</u> Mandatory	Community Development, Public Works, Economic Development, Code Compliance	Ongoing
8. Burlingame Shuttle Service (General Plan Policy M-4.7)				
Increase signage, outreach, and coordination with shuttle co-sponsors	Increase shuttle ridership by approximately 5% each decade.	<u>City:</u> Mandatory	Public Works, Sustainability Coordinator	Ongoing
9. Electrification of Yard and Garden Equipment (General Plan Policy HP-2.16)				
Adopt an ordinance banning the use of gasoline- and diesel-powered yard and garden equipment	Eliminate GHG emissions from fuel combustion	<u>City:</u> Mandatory	Community Development, Code Compliance,	By 2025

Table 36: 2030 CAP Update Implementation and Monitoring Program

Measure Title and Action	Expected Outcome	Mandatory / Voluntary	Responsibility	Timeframe
			Sustainability Coordinator	
10. Construction Best Management Practices (General Plan Policy HP-3.12)				
Adopt an ordinance banning the use of gasoline- and diesel-powered construction equipment less than 120 horsepower	Eliminate emissions from construction equipment with engine rating of less than 120 horsepower	<u>City:</u> Mandatory	Community Development, Code Compliance, Sustainability Coordinator	By 2025
11. Green Building Practices and Standards (General Plan Policy CC-1.9)				
Enforce the CALGreen Code and encourage new development to comply with the voluntary Tier 1 and Tier 2 standards.	Require new development to be substantially more efficient than previous construction.	<u>City:</u> Mandatory <u>Community:</u> <u>Voluntary</u>	Community Development	Ongoing
Amend the Municipal Code for ZNE standards	Require buildings constructed post 2030 to have zero net energy GHG emissions	Mandatory	Community Development, Economic Development, Sustainability Coordinator	By 2030
12. Energy Efficiency (General Plan Policy HP-2.8)				
Encourage energy efficiency audits at the time of sale for existing homes and buildings, and outreach existing County and other incentives for low-cost retrofits to residents and businesses.	Increase building owners' awareness of current energy consumption and the number of retrofits occurring during the time of sale. Target 1% of the building stock for retrofits, annually.	<u>City:</u> <u>Mandatory</u> <u>Community:</u> Voluntary	Community Development, Finance, Sustainability Coordinator	Ongoing
Encourage major remodels to comply with voluntary Tier 1 and Tier 2 CALGreen standards.	Improve the energy efficiency of new buildings already subject to the latest version of the CALGreen requirements.	<u>City:</u> <u>Mandatory:</u> <u>Community:</u> Voluntary	Community Development, Sustainability Coordinator	By 2030

Table 36: 2030 CAP Update Implementation and Monitoring Program

Measure Title and Action	Expected Outcome	Mandatory / Voluntary	Responsibility	Timeframe
13. Peninsula Clean Energy ECO100 (General Plan Policy IF-6.9)				
Coordinate with community champions and PCE to expand outreach on ECO100.	Increase the number of residents / businesses signed up for ECO100.	<u>City:</u> Mandatory	Sustainability Coordinator	Ongoing
Support PCE's efforts to supply the electric grid with 100% renewable electricity.	Reduce GHG emissions by sourcing 100% of electricity used in the city from renewable resources.	<u>City:</u> Mandatory	Sustainability Coordinator	By 2030
14. Residential Solar Power (General Plan Policy HP-2.7)				
Encourage homeowners to install solar power systems; provide information on PACE programs; and offer incentives for home solar power systems.	Install on average 62 PV systems per year on existing residential homes.	<u>City:</u> Mandatory <u>Community:</u> Voluntary	Community Development, Finance, Sustainability Coordinator	Ongoing
15. Alternately-Powered Residential Water Heaters (General Plan Policy HP-2.17)				
Encourage residents to install solar, electrically-powered, or natural gas tankless water heaters during the permitting process.	Target 10% of all water heaters replaced to be alternately powered.	<u>City:</u> Mandatory <u>Community:</u> Voluntary	Community Development, Sustainability Coordinator	Ongoing
16. Water Conservation Retrofits for Businesses (IF-2.11)				
Conduct outreach to businesses and private institutions, and develop programs that incentivize businesses to replace existing plumbing fixtures.	Reduce annual water consumption by 2.58 million gallons each decade.	<u>City:</u> Mandatory <u>Community:</u> Voluntary	Community Development, Sustainability Coordinator	Ongoing
17. Water Conservation for New Residential Development (HP-6.2)				
Require high-efficiency indoor water fixtures be installed in new residential development.	Reduce GHG emissions associated with water consumption.	<u>City:</u> Mandatory	Community Development, Sustainability Coordinator	Ongoing
18. Zero Waste (IF-5.16)				
<u>Develop a Community Zero Waste Plan</u>	<u>Identify concrete strategies to increase the waste diversion rate to 90% by 2030, 95% by 2040, and 95% by 2050.</u>	<u>City:</u> Mandatory	<u>Sustainability Coordinator</u>	<u>By 2025</u>
Coordinate with Recology and community	Increase the waste diversion rate	<u>City:</u>	Sustainability	Ongoing

Table 36: 2030 CAP Update Implementation and Monitoring Program

Measure Title and Action	Expected Outcome	Mandatory / Voluntary	Responsibility	Timeframe
leaders to increase the waste diversion rate from Burlingame, and adopt policies identifying these goals.	to 85% by 2030, 90% by 2040, and 95% by 2050.	Mandatory	Coordinator	
19. Municipal Green Building Measures (HP-2.10)				
Design the new Community Center, City Hall, and all other local government facilities to ZNE standards to the extent financially feasible.	Construct new government buildings to be zero net energy to the extent feasible.	<u>City:</u> Mandatory	Public Works, Parks and Recreation, Sustainability Coordinator	Ongoing
20. Increase the Public Tree Population (CC-2.2)				
Plant a net positive of 33 trees per year	Plant 33 new public trees annually to sequester CO ₂ in the atmosphere.	<u>City:</u> Mandatory	Parks and Recreation	Ongoing



CAP Consistency Checklist Submittal Application

- The purpose of this checklist is to ensure development projects in Burlingame are consistent with the City's 2030 Climate Action Plan (CAP) and to provide a streamlined review process for projects undergoing CEQA review.
- The CAP represents Burlingame's strategy to reduce GHG emissions in accordance with CEQA Guidelines Section 15183.5. Pursuant to the CEQA Guidelines, a project's incremental contribution to a cumulative GHG emissions effect may be determined to not be cumulatively considerable, if it complies with the requirements of the CAP.
- Projects that are consistent with the CAP (as demonstrated using this Checklist) may rely on the CAP for the impact analysis of GHG emissions, as required under CEQA. Projects not consistent with the CAP should prepare a project-specific GHG analysis, including a qualitative/quantitative analysis of project GHG emissions and identification appropriate mitigation measures.

Application Information

Project Name and Location

Project No./Name: _____

Property Address: _____

Applicant Information

Applicant Name: _____

Applicant Company: _____

Applicant Phone: _____ Applicant Email: _____

Was a consultant retained to complete this checklist? ☐ Yes ☐ No If "Yes" complete the following

Consultant Name: _____ Consultant Phone: _____

Consultant Company: _____ Consultant Email: _____

Project Information

1. What is the size of the project (acres)? _____

2. Identify all applicable proposed land uses: _____

☐ Single-family Residential (# of units): _____

☐ Multi-family Residential (# of multi-family units): _____

☐ Commercial (total square footage): _____

☐ Industrial (total square footage): _____

☐ Other (describe): _____

3. Is the project located in a Priority Development Area? <https://www.planbayarea.org/pda-tpa-map> ☐ Yes ☐ No

4. Provide a brief description of the proposed project:



CAP Consistency Checklist Questions

Step 1: Land Use Consistency

The first step in the Checklist allows the City to determine whether a project is consistent with the land use assumptions used in the CAP and Burlingame's General Plan.

Step 1: Land Use Consistency		
Checklist Item (Check the appropriate box and provide explanation and supporting documentation for your answer)	Yes	No
A. Is the proposed project consistent with the existing, General Plan's land use and zoning designations? OR		
B. If the proposed project is not consistent with the existing land use and zoning designations, does the project include a land use or zoning designation amendment that would result in an equivalent or less GHG-intensive project, when compared to the existing designation?	☐	☐

If the answer to either of the questions above is "**No**," this checklist cannot be used to streamline the project's GHG analysis under CEQA. The project should conduct a full, project-specific GHG analysis during CEQA review, and incorporate each of the measures identified in the section below, as they are appropriate to the project.

Step 2: CAP Strategies Consistency

The second step in the Checklist review the project's consistency with applicable CAP measures.

Step 2: CAP Strategies Consistency			
Checklist Item (Check the appropriate box and provide explanation and explanation for your answer)	Yes	No	N/A
Mixed Use Development and Transit-Oriented Infill Development, and Transit Supportive Land Use The City shall Support new, mixed-use development and high-density residential development in proximity to major transit stations and stops.			
Is the project located within a quarter mile of a Caltrain Station?	☐	☐	☐
Is the project near any other transit stations?	☐	☐	☐
What is the project's walking score? https://www.walkscore.com/CA/Burlingame			
Details:			

Step 2: CAP Strategies Consistency

Checklist Item (Check the appropriate box and provide explanation and explanation for your answer)	Yes	No	N/A
Transportation Demand Management Require all new, major development projects (10 units or 10,000 sq ft or more) include a Transportation Demand Management (TDM) program to reduce single-occupancy car trips by 20%. By 2040, require all qualifying, existing businesses and residential developments to implement TDM programs.			
Does the project have a TDM program, and does it meet the 20% reduction in VMT when compared to standard ITE trip generation rates?	☐	☐	☐
Details (e.g., shuttles, carpool, transit incentives, TDM coordinator, % reduction in VMT achieved, etc.): 			
Complete Streets Develop a well-connected network of Complete Streets that can move all modes safely, efficiently, and comfortably to promote efficient circulation, public health, and safety.			
Does the project include a pedestrian, transit, or cycling improvements to streets, such as, but not limited to: traffic calming measures, bike lanes, or shuttle stops?	☐	☐	☐
Does the project qualify for an adjusted transportation impact fee or achieving low VMT?	☐	☐	☐
Details (e.g., improvements): 			
EV Network and Electric Vehicles Support the electric vehicle network by incentivizing use of electric vehicles and installations of charging stations. The City shall target the installation of three (3) public EV stations by 2020, 25 charging stations by 2030, 50 by 2040, and 75 by 2050. The City shall expand upon the EV requirements outlined in the Title 24 Building Code by requiring new residential development to include Level 2 charging stations by 2020.			
Does the project comply with the City's EV charging station requirements? (Residential projects are required to include level 2 charging stations, and commercial projects are highly encouraged to install level 2 charging stations.)	☐	☐	☐
Is the project utilizing any EV charging grant opportunities (e.g., from PCE or the BAAQMD)?	☐	☐	☐
Details (e.g., how many EV charging stations, what grant opportunities, etc.): 			

Step 2: CAP Strategies Consistency

Checklist Item (Check the appropriate box and provide explanation and explanation for your answer)	Yes	No	N/A
---	-----	----	-----

Parking Pricing, Parking Requirements, and Creative Parking Approaches

Manage public parking facilities to encourage alternative transportation and less driving. The City will update its Zoning Ordinance to required new non-residential development reduce parking supply by 20 percent by 2025.

Does the proposed project include any creative parking approaches to reduce parking supplies?	☐	☐	☐
---	--------------------------	--------------------------	--------------------------

Details:

Shuttle Service

Increase the use of available shuttles in Burlingame.

Will the project applicant provide tenants with shuttle information?	☐	☐	☐
--	--------------------------	--------------------------	--------------------------

Details:

Yard and Garden Equipment

Support the transition of yard and garden equipment from gasoline to electric fuel sources. The City shall adopt an ordinance by 2025 prohibiting the use of gasoline- and diesel-powered yard and garden equipment within the City. The City will explore inventive options for residents and entities who voluntarily transition to electric equipment before the ordinance is enacted.

Will the project applicant provide tenants with information on the City intent to adopt an ordinance by 2025 to prohibit the use of such landscape equipment?	☐	☐	☐
---	--------------------------	--------------------------	--------------------------

Details:

Step 2: CAP Strategies Consistency

Checklist Item (Check the appropriate box and provide explanation and explanation for your answer)	Yes	No	N/A
Construction Best Management Practices Require construction projects to implement the Bay Area Air Quality Management District's Best Practices for Construction. Also require construction projects to transition to electrically-powered construction equipment as it becomes available, and seek construction contractors who use alternative fuels in their equipment fleet for municipal construction projects.			
Will the project comply with the BAAQMD's BMPs and utilize available electric/alternatively-powered construction equipment?	☐	☐	☐
Details:			
Green Building Practices and Standards Support, enforce, and expedite green building practices and standards.			
Will the project comply with CALGreen voluntary tiers or other green building elements that reach beyond CALGreen requirements?	☐	☐	☐
Details (e.g., which tier, and/or features):			
Energy Efficiency Encourage energy efficiency audits at the time of sale for existing homes, and incentivize low-cost retrofits for residents and businesses.			
Does the proposed project consist of either a minor or major retrofit?	☐	☐	☐
Has an energy efficient audit been conducted for the structure(s)?	☐	☐	☐
Details (e.g., what is being done to the building, did the audit influence any components of the retrofit, etc.):			

Step 2: CAP Strategies Consistency

Checklist Item (Check the appropriate box and provide explanation and explanation for your answer)	Yes	No	N/A
ECO100			
Increase ECO100 enrollment by residences and businesses. Support PCE's goal of sourcing 100% of its electricity from GHG free sources by 2021.			
Will the project applicant either comply with, or provide tenants with, information in Peninsula Clean Energy and specifically encourage enrollment in ECO100?	☐	☐	☐
Details (e.g., strategy):			
Residential Solar Power			
Encourage homeowners to install solar power systems. The City is targeting 62 new solar applications per year.			
Does the project include any renewable energy?	☐	☐	☐
Details (e.g., strategy):			
Alternatively-Powered Residential Water Heaters			
Support transition from traditional to solar, electrically-powered, or natural gas tankless water heaters in residential development			
Does the project include alternatively-powered water heaters?	☐	☐	☐
Details:			
Water Conservation Retrofits			
Replace existing plumbing fixtures with water-efficient plumbing in buildings.			
Does the project include water conservation element that go beyond CALGreen requirements (e.g., efficient landscaping, drip irrigation, and rain barrels)?	☐	☐	☐
Details:			

Step 2: CAP Strategies Consistency

Checklist Item (Check the appropriate box and provide explanation and explanation for your answer)	Yes	No	N/A
Zero Waste Implement zero waste supportive contracts and services and achieve waste diversion goals of 85% by 2030, 90% by 2040, and 95% by 2050.			
Does the project include facilities to collect garbage, recycling, and compost?	☐	☐	☐
Will the project applicant inform tenants of the benefits of recycling and composting?	☐	☐	☐
Details:			
Increase the Public Tree Population The City's Parks and Recreation Department shall ensure there is a net positive planning of 33 trees per year.			
Does the project consist of a City project that include either the removal and/or planting of trees?	☐	☐	☐
Details (i.e., how many trees removed, how many planted):			