



City of Burbank

Greenhouse Gas Reduction Program Measure Quantification Analysis

prepared for

City of Burbank-Planning Division

150 N. Third Street
Burbank, California 91502

prepared by

Rincon Consultants, Inc.

250 1st Street, Suite 301
Los Angeles, California 90012

October 2019



RINCON CONSULTANTS, INC.

Environmental Scientists | Planners | Engineers

rinconconsultants.com

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Background

The City of Burbank's Greenhouse Gas Reduction Plan (GGRP; Adopted February 19, 2013) contains measures for reducing greenhouse gas (GHG) emissions within the City. The GGRP is consistent with *Burbank2035*, the City's General Plan (Adopted February 19, 2013), and was developed to meet statewide reduction targets mandated by Executive Order (EO) S-3-05, AB 32, AB 1493, EO-S-1-07, Senate Bill (SB) 1078, and AB 1109. Included within the GGRP are an inventory of the City's emissions data, reduction targets and goals, measures for meeting those targets and goals, and implementation protocols for plan realization.

GHG Reduction Target and Goal

The GGRP includes the following GHG reduction target and goal:

- Target: 15% reduction in City GHG emissions from current levels¹ by 2020
 - Local Measure Reduction: 45,677 MT CO₂e/yr
- Goal: 30% reduction in City GHG emissions from current levels¹ by 2035
 - Local Measure Reduction: 77,348 MT CO₂e/yr

The GHG reduction target and goal are supported by 18 measures. To evaluate the City's initial progress towards their 2020 target and goal, the GGRP included an inventory of GHG emissions for the entire City of Burbank, conducted in 2010.

Climate Action Plan Measures

The City of Burbank's GGRP includes 18 measures that are designed to reduce GHG emissions in Burbank during the period of 2010-2020. Measures were developed by evaluating existing community conditions, identifying emission reduction opportunities, reviewing best practices from other jurisdictions and organizations, and incorporating State and regional laws, guidelines, and recommendations. Measures are organized by strategy areas, consisting of buildings and energy, transportation, water conservations, waste reduction, and municipal.

GGRP Scorecard

The GGRP established goals for 2020 and 2035, where a majority of 2035 measures were designed to build off the 2020 measure or may be updated based on the success of the established 2020 measures. The implementation of measures prior to 2020 are intended to achieve a majority of the reduction needed to reach the City's 2020 target, with the remaining gap of emissions to be reduced through the community's initiative. Because it is not possible to track the community's contribution to overall GHG reduction without conducting a GHG inventory update, the GGRP scorecard is designed to summarize and report the City's progress towards meeting the GHG Measure reduction 2020 target quantified in the GGRP and adopted by the City Council. Measures that have been successfully implemented to the

¹ "Current levels" for the establishment of the GGRP targets is based on the 2010 GHG emission inventory

extent that reductions exceed the 2020 target provide substantial progress towards the City achieving the established 2035 goal.

The progress on each measure in the GGRP to meet the 2020 measure targets and overall goal is presented, including the status of implementation, reductions originally estimated, progress quantification methodology, and actual reductions resulting from implementation to date. Progress towards each quantifiable measure was based on available data provided by the City that generally spanned from the start of the 2013 fiscal year to the end of the 2019 fiscal year. It should be noted that many of measures implemented are voluntary therefore the tracking of data is inherently limited to participation in the City’s permit process and rebate programs. As noted by BWP staff overseeing the Energy Star rebate programs, the current participation rate for rebate program available to qualifying Energy Star rated appliances is estimated to be at 20 percent of the actual purchases by City residents that have occurred over the current reporting period. Therefore, the actual GHG reductions associated with the measures and local community action is likely greater than the quantities calculated in this report. Supporting measures, where GHG reductions were not quantified, have been evaluated qualitatively based on information provided by the City related to the implementation of defined actions. A summary of the progress towards each measure is presented in Table 1.

Table 1 GGRP 2020 Measures: Target Reductions and Target Progress

Measures	2020 Target Reduction (MT CO2e)	2020 Measure Implementation Progress (MT CO2e)
Building and Energy	14,358	20,673
E-1.1: Energy Efficiency in New Construction	702	441
E-1.2: Energy Efficiency Retrofits	1,932	9,142
E-1.3: Energy Star Appliances	735	223
E-1.4: Smart Grid Integration	1,027	63
E-1.5: Cool Roofs	261	505
E-1.6: BWP Energy Conservation Programs ¹	2,291	3,544
E-1.7: Building Shade Trees	671	675
E-2.1: Renewable Energy Requirements ²	3,422	9,623
E-2.2: Solar Photovoltaic Systems ²	3,317	
E-2.3: Solar Water Heater Systems	Supporting Measure – Not Quantified	
E-3.1: Light-emitting Diode Street Lights	Supporting Measure – Not Quantified	
Transportation	17,233	9,714
T-1.1: Pedestrian Enhancements	191	508
T-1.2: Safe Routes to School	Supporting Measure – Not Quantified	
T-1.3: Bicycle Education Program	Supporting Measure – Not Quantified	

Measures	2020 Target Reduction (MT CO ₂ e)	2020 Measure Implementation Progress (MT CO ₂ e)
T-1.4: Bicycle Infrastructure Expansion	355	399
T-1.5: Bicycle Accommodation Ordinance	Supporting Measure – Not Quantified	
T-2.1: Transportation Management Organization Expansion	16,687	8,807
T-3.1: Traffic Signal Coordination	Supporting Measure – Not Quantified	
Water Conservation	198	146
W-1.1: Water Conservation Programs	20	20
W-1.2: Recycled Water Use Master Plan	178	126
W-1.3: Stormwater Management Plan	Supporting Measure – Not Quantified	
Waste Reduction	13,888	12,769
SW-1.1: Food Scrap and Compostable Paper Diversion Ordinance	2,032	1,080
SW-1.2: Yard Waste Diversion Ordinance	244	212
SW-1.3: Lumber Diversion Ordinance	1,012	877
SW-1.4: Reusable Bags	Supporting Measure – Not Quantified	
SW-1.5: Recycling Ordinance	Supporting Measure – Not Quantified	
SW-1.4: Enhanced Methane Recovery	10,600	10,600
Municipal Measures	Supporting Measure – Not Quantified	
CG-1.1: Sustainability Coordinator	Supporting Measure – Not Quantified	
CG-1.2: Sustainability Element	Supporting Measure – Not Quantified	
Subtotal GGRP Measures	45,677	43,302³
Emissions Gap (MT CO ₂ e)	2,375	
Shortage of Goal ⁴ (%)	5%	

¹Measure E-1.6 is quantified for informational purposes but is not included in the overall progress towards the 2020 GGRP goal as several to all of the conservation programs within this measure have already been included in other energy measures. See below discussion for how BWP energy conservation programs were incorporated into the energy measures.

²The performance metrics ultimately used to track progress of measure E-2.1 and E-2.2 were the same therefore, were quantified together.

³The quantified GHG emission reductions presented here may be an underestimation due to data collection limitations. Completing an updated GHG inventory allows for a better estimation of actual reductions achieved and progress towards the 2020 target.

⁴Measures were quantified based on data provided from 2013 to 2019, when available.

Introduction

The City of Burbank's progress towards their 2020 goal has been quantified by assessing progress towards achieving the 2020 performance metrics established for each GGRP measure. Where possible, an estimation of GHG emission reductions achieved to date was quantified following the measure quantification methodology established in Appendix B of the GGRP and using data provided by the City. Below each measure and performance metric or action is summarized along with the GGRP estimated GHG reduction associated with the measure and the actual GHG reduction calculated using data tracked by the City. Following each measure is a description of the data provided and methodology used to quantify the reductions and a detailed description of City actions that have been taken towards achieving the measure actions. Opportunities for improvement related to data collection or implementation have also been included.

It should be noted that because many of the measures established in the GGRP are voluntary it is likely that not all the progress towards the measure and 2020 goals have been captured with the City's performance tracking system. As such, the emissions reductions quantified here are likely an underestimation of the City's actual progress towards their 2020 goal. Completing an updated GHG inventory would better evaluate the City's progress and capture GHG reductions that may not have been tracked.

E-1.1: Energy Efficiency in New Construction

Target

702 MT CO₂e/yr

The City will require new commercial projects to be constructed to Title 24 Tier 1 levels (e.g., exceed current efficiency standards by 15%) beginning in January 2015.

2020 Measure Status

2020 Performance Metric: 2.1 million square feet of new non-residential construction exceeds baseline energy code by 15%

In progress

441 MT CO₂e/yr

Methodology: The Community Development Department provided the square footage of non-residential developments that have been constructed since 2013 or have been approved for development and are anticipated to be constructed prior to 2020. Based on the provided data, 1.97 million square feet of new residential construction would be required to comply with this measure. Energy conversion factors used in the GGRP were applied to applicable square footage to determine the difference between the business-as-usual energy use and mitigated energy use given implementation of this measure.² The projected Burbank Water and Power (BWP) 2020 electricity emission factor and most recent natural gas emission factor were applied to the activity data.³

Improvement Opportunity

The measure was developed to exceed the California Green Building Standards Code energy efficiency baseline at the time, which was the 2013 Title 24 requirements. Since then, the 2016 Title 24 and 2019 Title 24 requirements have been released. To achieve a greater reduction in emissions from building energy it is recommended that a newer Title 24 code be adopted. It is anticipated that the City will be adopting the newer Title 24 Code with its upcoming update of the City's building and energy codes at the end of 2019 (i.e., 2019 California Energy Code and 2019 California Green Building Standards Code).

² Business as usual energy conversion factors used in the GGRP were estimated as 12.36 kWh/sqft for electricity use, and 5.36 kBtu/sqft for natural gas usage. Mitigated energy conversion factors used in the GGRP were estimated as 11.77 kWh/sqft for electricity use, and 4.60 kBtu/sqft for natural gas usage. The mitigated energy use is based on exceeding the 2013 Title 24 requirements by 15 percent; 2013 Title 24 requirements were the baseline energy code at the time of the GGRP development.

³ To provide the most accurate representation of emission reductions from this measure, a more recent BWP emission factor that considers the current power mix was utilized rather than the GGRP projected 2020 emission factor. The electricity emission factor for BWP was estimated given the most recent annual report electricity sales data (<https://www.burbankwaterandpower.com/annual-reports>) and reported entity GHG emissions data (<https://ww2.arb.ca.gov/mrr-data>).

E-1.2: Energy Efficiency Retrofits

Target

1,932 MT CO₂e/yr

The City will adopt an ordinance requiring point-of-sale energy performance ratings to be conducted by a HERS-certified contractor for all residential buildings (i.e., single-family and multi-family). Under this ordinance, residential building sellers would arrange to have the energy performance ratings completed, and would then be required to share the results with potential homebuyers or renters.

The City will also adopt a mandatory energy audit ordinance for all residential and commercial properties sold within the City. The audits must provide a list of recommended energy efficiency improvements and information on the simple payback period of recommended improvements. Adoption of recommended improvements is voluntary, and left to the discretion of the buyer.

The City will develop a comprehensive public outreach campaign to provide information on the benefits of energy efficiency improvements and available rebates. Targeted outreach will be conducted for certain building owners, including:

- single-family homeowners and neighborhood organizations in neighborhoods with older homes, who could benefit substantially from a whole-house energy efficiency upgrades.
- management companies with multi-family properties in Burbank to advertise available rebates and incentives that would improve their buildings' HERS rating, such as ENERGY STAR appliances, low-flow water fixtures, and high-efficiency HVAC systems, windows, and doors.
- small- and medium-sized businesses that would benefit from BWP's Business Bucks program. Outreach will include technical support for interested business owners during the Business Bucks application process to ensure program participation is maxed out each year.

2020 Performance Metric: 2.1 million square feet of new non-residential construction exceeds baseline energy code by 15%

2020 Measure Status

Achieved/Exceeded

9,142 MT CO₂e/yr

Methodology: Emission reductions related to this measure was estimated based on pre-defined packages of energy efficiency retrofits (i.e., low, medium, and advanced). The packages included components such as: installation of programmable thermostats, gas water heater upgrades, high-efficiency light bulbs, improved insulation, et cetera. BWP has a program that tracks their electric rebate programs related to specific energy efficient appliances and equipment, however, they did not collect detail on the measures specified energy efficiency retrofit packages. In the absence of data specific to the installation of the measures pre-defined retrofit packages, progress towards achieving this measure

was based on the quantified energy savings related to the participation in the various Electric Programs offered by BWP.⁴

BWP tracks the performance of the established Electric Programs annually and calculates energy savings using the Energy Efficiency Technical Reference Manual.⁵ Program specific emission factors were developed based on the reported net lifecycle energy savings and the net lifecycle GHG reductions annually reported pursuant to Senate Bill 1037.⁶ The program specific emission factors were applied to the overall annual energy savings calculated for that program. The total annual energy savings per program in 2020 takes into account the number of units (or participants) in use by 2020, the annual savings calculated per unit, and the unit lifetime.

Improvement Opportunity

There were several actions meant to supplement the measure that have not yet been achieved. Currently there is no ordinance requiring HERS-certified energy performance ratings for all residential buildings sold within the City nor an ordinance requiring point-of-sale energy audits for all residential and commercial buildings sold within the City. To improve implementation of these actions an updated GGRP should be established including a feasibility study for the adoption of such ordinances.

BWP has established a comprehensive energy efficiency upgrade outreach program and the City Council has adopted BWP's Integrated Resource Plan (IRP). The IRP is a long-term planning document designed to provide policy guidance for BWP's electric supply to its customers over the next twenty years, from 2019 through 2038. However, current progress tracking for this measure is limited by the available data and data collection process. To better track implementation of these pre-defined retrofit packages, collected data should be specific to the performance metric, i.e., the number of retrofit packages installed. Additionally, because the implementation of such retrofit packages is voluntary, the above discussed quantification may underestimate the GHG emission reductions achieved through energy efficient retrofits. Completing an updated GHG inventory would better evaluate the City's progress and capture GHG reductions that may not have been tracked.

⁴ Savings from the following Electric Programs was included in the quantification of this measure: Home Rewards Rebates, Energy Solutions Rebates, Business Bucks Program, Low-Income Refrigerator Exchange, Air Conditioning Tune-up Program, Home Improvement Program, Home Energy Reports, and Upstream HVAC Program.

⁵ Energy Efficiency Technical Reference Manual (TRM) (https://www.cmua.org/files/CMUA-POU-TRM_2017_FINAL_12-5-2017%20-%20Copy.pdf) is reviewed and updated on a regular basis. The TRM leverages the Database for Energy Efficiency Resources (DEER) (<http://www.deeresources.net/workpapers>) as a source for measure information and calculations.

⁶ Energy Efficiency in California's Public Power Sector – 13th edition. 2019.
http://scppa.org/file.axd?file=/2019/07/2019%20POU%20EE%20Report_13th%20Edition.pdf

E-1.3: ENERGY STAR Appliances

Target

735 MT CO₂e/yr

The City will encourage voluntary community participation to install ENERGY STAR appliances or other energy-efficient appliance models in both new and existing residential units. Successful implementation of this measure relies on leveraging existing BWP rebates and other rebates offered through Energy Upgrade California. The City will develop a multi-pronged public outreach campaign to increase community participation in these voluntary rebate programs, including:

- utility bill inserts to advertise existing rebate programs and the simple cost payback associated with replacing inefficient appliances,
- targeted outreach to builders and property managers with an informational brochure describing the financial benefits of including energy-efficient appliances in new construction when they apply for building permits,
- targeted outreach to local property managers to address appliance energy use in multi-family units, and
- informational booths at community events to advertise energy-efficiency rebates and local businesses that sell ENERGY STAR appliances; events could include the Downtown Burbank Farmer's Market, 12 Days of Holiday Cheer, and the Downtown Burbank ARTS's Festival.

2020 Performance Metric: 1) 9,300 ENERGY STAR refrigerators are installed; 2) 7,200 ENERGY STAR clothes washers are installed; 3) 8,100 ENERGY STAR dishwashers are installed

2020 Measure Status

In progress

223 MT CO₂e/yr

Methodology: BWP has successfully implemented a public outreach program that has increased community participation in ENERGY STAR appliance purchase and installation. In addition to a public outreach program, BWP provides rebates for ENERGY STAR appliances including ceiling fans, refrigerators, freezers, room air conditioners, dishwashers, and clothes washers.

Since 2012 a total of 2,980 ENERGY STAR refrigerators, 1,966 ENERGY STAR clothes washers, and 1,498 ENERGY STAR dishwashers were installed through customer rebates or BWP's free installation program for qualified customers. Additionally, a mixed-used development (Talaria) consisted of 241 residential units. Consistent with the GGRP assumptions, it assumed that 100% of residential units included a refrigerator, 50% included a clothes washer, and 25% included a dishwasher. With the completion of these development projects prior to 2020 the total installation of ENERGY STAR appliances will include 3,221 refrigerators, 2,087 clothes washers, and 1,558 dish washers. The GGRP used the CAPCOA guidance to estimate the GHG emission reduction for installation of ENERGY STAR appliances for the 2020 goal. Based on the estimated GHG reduction, a GHG emission reduction factor per ENERGY STAR

unit was developed and applied to the actual number of ENERGY STAR appliances installed at residential units to estimate the achieved emission reductions..^{7,8}

Improvement Opportunity

Implementation of this measure is based solely on the ENERGY STAR rebates tracked by BWP. As the measure is voluntary this method of data tracking excludes any voluntary purchases of ENERGY STAR appliances. As such, quantification of GHG reductions tracked only through rebates is likely a significant underestimation of GHG emission reductions actually achieved from this measure. Revision of this measure should the focus on trackable ENERGY STAR rebates or installations. Alternatively, development of an updated GHG inventory would inherently capture any energy savings and GHG emission reductions achieved through this measure regardless of whether ENERGY STAR appliances were installed through the rebate program or voluntarily. Additionally, to improve implementation of these actions an updated CAP should be developed to increase the outreach and incentives to increase voluntary adoption of this measure by the community.

⁷ Talaria project was built in compliance with E-1.1 hence the use of the mitigated energy conversion factor (11.77 kWh/sqft) to estimate energy use.

⁸ Energy Efficient Appliance Reduction: CAPCOA. 2010 (August). Quantifying Greenhouse Gas Mitigation Measures. Available: <<http://www.capcoa.org/wpcontent/uploads/2010/11/CAPCOA-Quantification-Report-9-14-Final.pdf>>

E-1.4: Smart Grid Integration

Target

1,027 MT CO₂e/yr

The City will encourage voluntary adoption of smart grid technology in new and existing construction, promoting the use of smart appliances in homes and businesses and the use of OPower to track building energy use. The City will develop an outreach campaign highlighting the benefits of smart grid integration that can occur following smart meter installation. The outreach campaign should describe how energy management systems work inside a building, including internet-based displays that show how much energy is being used and smart appliances that can defer discretionary electricity use to off-peak hours. BWP will continue advancing time-of-use pricing to its residential customers, with full adoption completed by 2020. BWP will also continue implementation of its thermal energy storage system demonstration program to reduce peak electricity demand by 2 MW by 2015.

2020 Measure Status

In progress

63 MT CO₂e/yr

2020 Performance Metric: 1) 5% of existing residential units and existing commercial floor area install smart grid-compatible technologies, such as smart appliances, programmable thermostats, and internet-based displays. 2) 15% of new residential units and new commercial floor area install smart-grid compatible technologies, such as smart appliances, programmable thermostats, and internet-based displays.

Methodology: Progress towards this measure was based on the quantified energy savings related to the participation in the Home Rewards Rebate Program for smart thermostats offered by BWP.⁹ BWP tracked the number of smart thermostat rebates and calculated energy savings using the Energy Efficiency Technical Reference Manual.¹⁰ Program specific emission factors were developed based on the reported net lifecycle energy savings and the net lifecycle GHG reductions annually reported pursuant to Senate Bill 1037.¹¹ The Home Rewards Rebate program specific emission factor was applied to the overall annual energy savings calculated for the smart thermostat rebates. The total annual energy savings per rebate type in 2020 takes into account the number of units in use by 2020, the annual savings calculated per unit, and the unit lifetime.

Improvement Opportunity

Implementation of this measure is based solely on the installation rate of smart thermostats in new construction tracked by BWP. As the measure is voluntary this method of data tracking excludes any voluntary purchases and installation of smart thermostats or other smart-grid technologies. As such, quantification of GHG reductions is likely an underestimation of GHG emission reductions actually achieved from this measure. Revision of the measure should focus on trackable installations of smart

⁹ Savings from the following Electric Programs was included in the quantification of this measure: Home Rewards Rebates, Energy Solutions Rebates, Business Bucks Program, Low-Income Refrigerator Exchange, Air Conditioning Tune-up Program, Home Improvement Program, Home Energy Reports, and Upstream HVAC Program.

¹⁰ Energy Efficiency Technical Reference Manual (TRM) (https://www.cmua.org/files/CMUA-POU-TRM_2017_FINAL_12-5-2017%20-%20Copy.pdf) is reviewed and updated on a regular basis. The TRM leverages the Database for Energy Efficiency Resources (DEER) (<http://www.deeresources.net/workpapers>) as a source for measure information and calculations.

¹¹ Energy Efficiency in California's Public Power Sector – 13th edition. 2019. http://scppa.org/file.axd?file=/2019/07/2019%20POU%20EE%20Report_13th%20Edition.pdf

grid technologies. Alternatively, development of an updated GHG inventory would inherently capture any energy savings and GHG emission reductions achieved through this measure regardless of whether smart grid technologies were installed through the rebate program or voluntarily. Additionally, to improve implementation of this measure an updated GGRP should establish the type of data sources specific to the performance metric that can be tracked, i.e., the percentage of existing units, new units and commercial floor space that have smart-grid compatible technologies

E-1.5: Cool Roofs

Target

261 MT CO₂e/yr

The City will extend its current Cool Roof Pilot Program and will advertise BWP's non-residential cool roof incentives to building owners when they obtain permits for re-roofing.

2020 Performance Metric: 1) 6 homes per year install a cool roof through 2020; 2) 100,000 sf of non-residential buildings per year install cool roofs through 2020.

2020 Measure Status

Achieved/Exceeded

505 MT CO₂e/yr

Methodology: Since 2013, there were 2,542 existing homes (~ 363 homes/year) that were re-roofed with cool roofs and an additional 75 new residential cool roofs installed. Additionally, 1.9 million sf of non-residential buildings with cool roofs were installed. Following methodology described in the GGRP, the energy savings associated with the installation of cool roofs was quantified using the EPA Cool Roofs Calculator.¹² It was assumed that baseline residential roofs were composed of black asphalt shingles with conventional pigments and the cool roof scenario would use medium grey or brown asphalt shingles with cool pigments.¹³ It was assumed that a residential home was on average 1,500 s.f.¹⁴ Current BWP electricity rates were utilized in the Cool Roof Calculator to determine energy savings by square footage. The projected BWP 2020 emission factor for electricity was utilized to estimate GHG emission reductions based on the total energy savings estimated.

Improvement Opportunity

Implementation of this measure is based solely on the installation of cool roofs in new construction or on re-roofing projects that have been tracked by the Community Development Department. As the measure is voluntary this method of data tracking excludes any voluntary re-roofing installations. Additionally, the methodology utilized to quantify this measure relies on a number of assumptions related to building square footage, initial roof characteristics, cool roof characteristics, and how the heating appliances are fueled. As such, quantification of GHG reductions for this measure are based on conservative assumptions and is likely an underestimation of GHG emission reductions achieved from this measure. Revision of the measure should focus on collecting data specific to the performance metric and necessary to accurately quantify potential GHG emission reductions. Alternatively, development of an updated GHG inventory would inherently capture any energy savings and GHG emission reductions achieved through this measure without needing extensive data collection.

¹² EPA Cool Roofs Calculator is available at <https://web.ornl.gov/sci/buildings/tools/cool-roof/>

¹³ Solar reflectance associated with color of shingles was obtained from an example of product information (<http://www.deansteelbuildings.com/products/panels/sr-sri-by-color/>).

¹⁴ Assumed that a residence is approximately 1,500 sf given the median price of residences in Burbank and the mean price per square footage in the area (\$588/sqft). (<https://www.zillow.com/burbank-ca/home-values/>).

E-1.6: BWP Energy Conservation Programs

Target

2,291 MT CO₂e/yr

BWP will continue to implement a variety of energy conservation programs in order to achieve its goal of 1% annual reductions in projected energy loads. BWP will also provide energy conservation updates to the City Council and staff to support future GGRP update efforts.

2020 Measure Status

Achieved/Exceeded

2020 Performance Metric: Achieve net annual energy savings of 9,900 MWh.

3,544 MT CO₂e/yr

Methodology: Based on information provided by the City, from (Fiscal year FY) 2012-13 to FY 2018-19, BWP achieved net annual energy savings of 11,390 MWh on average which exceeds the 2020 performance metric. This energy savings was achieved through the BWP's current energy conservation programs, which include the Electric Programs offered and tracked by BWP.¹⁵ BWP tracks the performance of the established Electric Programs annually and calculates energy savings using the Energy Efficiency Technical Reference Manual.¹⁶ The conservation programs included in this measure have already been accounted for through the estimation of emission reductions for E-1.2, E-1.3, E-1.4, and E-1.7. Therefore, to avoid double counting the estimated reduction for this measure has not been included in the overall estimation of GHG emission reductions met.

Improvement Opportunity

To better track the progress of this measure and to ensure that no double counting of GHG emission reductions occurs, an updated GGRP should revise this measure to clearly distinguish the conservation programs in this measure that differ from those encompassed in other established measures (e.g., the Made in the Shade program is included in this measure, but is also encompassed in E-1.7). Additionally, an updated GGRP should investigate the potential for additional marketing of funding programs and increased funding to build out established conservation programs and establish new conservation programs that are in alignment with local consumer characteristics such as the recently City Council-approved EV residential charging equipment rebate program that is intended to offset the cost for new electric vehicle charging equipment in homes to facilitate and encourage the purchase and use of electric vehicles.

¹⁵ Savings from the following Electric Programs was included in the quantification of this measure: Home Rewards Rebates, Energy Solutions Rebates, Business Bucks Program, Low-Income Refrigerator Exchange, Air Conditioning Tune-up Program, Home Improvement Program, Home Energy Reports, and Upstream HVAC Program.

¹⁶ Energy Efficiency Technical Reference Manual (TRM) (https://www.cmua.org/files/CMUA-POU-TRM_2017_FINAL_12-5-2017%20-%20Copy.pdf) is reviewed and updated on a regular basis. The TRM leverages the Database for Energy Efficiency Resources (DEER) (<http://www.deeresources.net/workpapers>) as a source for measure information and calculations.

E-1.7: Building Shade Trees

Target

671 MT CO₂e/yr

BWP will continue to administer the Made in the Shade Program. The City will also revise the Zoning Ordinance to require the planting of two building shade trees per parcel to accompany each new single-family residential unit. The City will update its Street Tree Plan and Urban Forestry program, with a focus on identifying streets that currently lack street trees, parking lots that could accommodate additional shade trees, and locations for new tree plantings in City parks and open space.

2020 Measure Status

Achieved

675 MT CO₂e/yr

2020 Performance Metric: Plant 5,250 shade trees.

Methodology: Through the Made in the Shade program, BWP has provided 2,000 shade trees to BWP customers from July 2012 to July 2019. Additionally, the Parks and Recreation Department has planted 2,191 trees since 2013. In total the City has tracked the planting of 4,191, however, this excludes all trees that were planted by the community on a voluntary basis and is therefore, likely an underestimate of the total trees planted in Burbank over the monitored timeframe.

The per-tree GHG emission reduction factor provided by BWP (0.13 MT CO₂e/yr) was used to quantify the reductions from this measure. The current estimation also includes the 1,000 trees that will be planted as part of the Avion Burbank Project as the project will be built prior to end of 2020. The Made in the Shade program has been in place since 2005 with BWP tracking the energy savings associated with the program. Given the BWP performance metrics and energy savings estimation from the programs start, there is a net annual GHG reduction of 732 MT CO₂e. For the purpose of estimating progress since the development of the GGRP, only trees planted since the GGRP adoption (2012) were included in this estimation.

Improvement Opportunity

To improve implementation of this measure, an updated GGRP should include supportive measures focused on improved advertisement of the program. Additionally, an updated GGRP should evaluate the feasibility of increasing funding to the Parks and Recreation department to increase the number of trees planted annually. Furthermore, the City should continue its policy efforts to require enhanced public amenities with new planned developments that provide for new on-site and street tree installation, increased tree canopy, reduction of the urban heat island effect, and installation of tree species that maximize opportunities for carbon sequestration.

E-2.1: Renewable Energy Requirements

Target

3,422 MT CO₂e/yr

The City will require new single-family residential homes to include a 1.8 kWh solar photovoltaic system, and will require new multi-family and commercial construction to provide 10% of the building's modeled energy use from renewable sources (e.g., solar PV, geothermal heat pumps).

The City will require installation of solar water heaters in all new residential construction, to the fullest extent possible. The City will also require pre-wiring and pre-plumbing on new construction for residential solar PV and solar water heaters to provide for easier and less costly future installation.

2020 Performance Metric: 1) 925 single-family residential units install a 1.8 kWh solar PV system; 2) New multi-family residential units and commercial buildings install 2.0 MW combined of solar PV; 3) 925 single-family residential units install a solar hot water system; 4) 1,150 multi-family residential units install a solar hot water system

2020 Measure Status

Achieved/Exceeded

9,623 MT CO₂e/yr

Methodology: The Community Development Department reported that a total of 937 single-family dwellings installed PV systems with a combined capacity of 4.98 MW capacity. BWP reported that since 2013, 655 PV systems were installed by single-family residential customers, with a 3.270 MW combined capacity. To prevent double counting, only the Community Development Department reported single-family installation of PV systems was included in the quantification of this measures progress as that estimation was assumed to include the homes estimated in the BWP report. In addition to the single-family residences, BWP reported that 39 PV systems with a combined capacity of 2.143 MW had been installed by multi-family residences and commercial customers. Community Development Department also reported that IKEA installed a PV system with 1.2 MW capacity and that First Street Village incorporated renewable energy that results in an offset of 193,359 kWh/year. There were little to no solar hot water heaters installs in single-family dwellings or multi-family dwellings, therefore, GHG emission reduction related to solar water heater installation was not quantified. Annual energy generation was estimated based on the average solar radiation data specific to Burbank's geographic location and climate and annual operational time.¹⁷ The associated reduction in GHG emissions were estimated assuming that generated solar energy would displace a fraction of the annual power generated by fossil fuels in the BWP market.¹⁸

Improvement Opportunity

¹⁷ Photovoltaic cell capacity is rated in terms of mega or kilowatts and indicates the amount of instantaneous power produced when operating at peak sun exposure. Total amount of electricity produced is measured in watt-hours and is dependent on operational time. Operational time of a solar panel is defined by the amount of time that the photovoltaic cells are actively converting solar energy into power, which depends on solar radiation (6.22 kWh/m²/day). Solar radiation is the measure of energy emitted from the sun and varies daily depending on the time of day, season, local landscape, and geography. Source: National Renewable Energy Laboratories, U.S. Department of Energy (<https://pvwatts.nrel.gov/pvwatts.php>)

¹⁸ BWP 2017 Power Mix assumptions are based on data from BWP website (<https://www.burbankwaterandpower.com/electric-1/supply-and-quality/power-content-information>).

Data was provided for this measure is tracked by the Community Development Department and BWP and overlaps with data tracked as part of measure E-2.2. To improve accurate quantification of this measure (and E-2.2), the tracking systems between the two departments should be consistent and clarify if and where there is overlap of data sources. Additionally, this measure and measure E-2.2 should be updated to be distinctly different from one another.

The 2019 California Energy Code effective on January 1, 2020, will require all new single-family homes, and multi-family homes three stories and less, to install a solar photovoltaic system – the first in the nation to implement such requirements. Due to emerging technologies of tankless and electric water heaters there was a noted reduction or complete elimination of financial incentives for solar water heating, and homeowner and building owners preferred choice of rooftop coverage with solar photovoltaic panels for electrical generation. Further, solar photovoltaic systems or the purchasing of renewable power are more effective at increasing energy savings than the installation of solar water heaters. As such, an updated Climate Action Plan and GGRP should consider removing the development of an ordinance requiring solar water heaters to be installed in all new residential construction.

E-2.2: Solar Photovoltaic Systems

Target

3,317 MT CO₂e/yr

The City will actively promote development of building-scale solar energy. The City will develop an outreach campaign to ensure BWP's Solar Photovoltaic Power program is fully subscribed between 2013 and 2016 to meet its solar goal.

The City will also reduce or remove its third-party electrical review for non-residential solar PV permits through January 1, 2017 to further encourage full participation in the program.

2020 Performance Metric: 1) 925 single-family residential units install a 1.8 kWh solar PV system; 2) New multi-family residential units and commercial buildings install 2.0 MW combined of solar PV; 3) 925 single-family residential units install a solar hot water system; 4) 1,150 multi-family residential units install a solar hot water system

¹Due to the overlap of the data collected as performance metric with this measure and E-2.1, emission reduction achieved list here is the same as E-2.1 but is not included separately in the total emission reduction estimation.

2020 Measure Status

Achieved/Exceeded

9,623 MT CO₂e/yr¹

Methodology: BWP tracks the number of residential and commercial PV systems connected to the grid and the associated electricity use through the Solar Photovoltaic Power Program. BWP calculates net energy savings associated with PV connection to the grid using the Energy Efficiency Technical Reference Manual.¹⁶ Since the start of the program by the end of the fiscal year in June 2019, there were 795 customer-owned PV systems connected to the grid with a 7.88 MW capacity.¹⁹ Annual energy generation was estimated based on the average solar radiation data specific to Burbank's geographic location and climate and annual operational time.²⁰ The associated reduction in GHG emissions were estimated assuming that generated solar energy would displace a fraction of the annual power generated by fossil fuels in the BWP market.²¹ There was significant overlap in the performance metric data received for this measure and measure E-2.1. Therefore, data utilized for the two measures was quantified together. The reduction achieved here is the same as reported for E-2.1, but is not included separately in the total emissions reduction estimation.

Improvement Opportunity

Data was provided for this measure is tracked by the Community Development Department and BWP and overlaps with data tracked as part of measure E-2.2. To improve accurate quantification of this

¹⁹ Market performance data was obtained from the City on behalf of BWP's tracking system.

²⁰ Photovoltaic cell capacity is rated in terms of mega or kilowatts and indicates the amount of instantaneous power produced when operating at peak sun exposure. Total amount of electricity produced is measured in watt-hours and is dependent on operational time. Operational time of a solar panel is defined by the amount of time that the photovoltaic cells are actively converting solar energy into power, which depends on solar radiation (6.22 kWh/m²/day). Solar radiation is the measure of energy emitted from the sun and varies daily depending on the time of day, season, local landscape, and geography. Source: National Renewable Energy Laboratories, U.S. Department of Energy (<https://pvwatts.nrel.gov/pvwatts.php>)

²¹ BWP 2017 Power Mix assumptions are based on data from BWP website (<https://www.burbankwaterandpower.com/electric-1/supply-and-quality/power-content-information>).

measure (and E-2.2), the tracking systems between the two departments should be consistent and clarify if and where there is overlap of data sources. Given the performance metrics and spirit of this measure it is generally redundant with E-2.1. As such, an updated Climate Action Plan/GGRP should consider removing or revising this measure to distinguish it from E-2.1. Further, revision of this measure for an updated Climate Action Plan/GGRP so include a feasibility study in tracking energy savings with after the removal of a third-party electrical review.

E-2.3: Solar Water Heater Systems

Target

Supporting Measure

The City will actively promote and facilitate the installation of solar water heaters (SWH) systems on existing residential buildings, including distribution of information about the benefits of solar water heaters and installation and maintenance assistance programs designed to maximize community participation.

The City will review its building code and zoning ordinance to identify and remove regulatory barriers to the installation of residential or commercial SWH systems.

The City will collaborate with non-profit organizations to identify additional local, State, or national financing options for residents and businesses to voluntarily replace inefficient water heating systems with SWH systems.

The City will also work with SoCal Gas to identify residents and businesses that are eligible for the CSI Thermal Program, and provide targeted outreach to advertise the incentives, explain the savings potential, and provide technical assistance in navigating the application process.

2020 Actions:

- 1) Develop a public outreach campaign to advertise available SWH rebates and incentives offered through BWP and the CSI-Thermal Program.
- 2) Work with non-profit organizations to identify additional financing options for SWH installations.
- 3) Remove regulatory barriers to the installation of SWH systems.

2020 Measure Status

Achieved
(no longer applicable)

City Comments on Measure Implementation

BWP has achieved actions supporting this measure by providing extensive information about solar photovoltaic (PV) and SWH on the City's website. Anyone who is interested in installing solar can learn about how PV systems work, what size solar system needed, purchasing vs. leasing solar system, and understanding how solar will affect utility bills. This level of information encourages and facilitates the installation of PV systems and SWH by eliminating the knowledge barrier.

There was previously a rebate for solar water heaters to incentivize residents to install SWH, however, residents were more interested in other technology for water heaters (e.g., tankless and electric options). As such, this measure has lost its applicability.

Improvement Opportunity

The market determines the demand for SWH, and there has been a lack to interest even when there was a rebate program. Due to the lack of interest in SWH and the demand for other advanced technology for water heaters, an updated GGRP should consider removing this measure unless the market changes.

E-3.1: Light-emitting Diode Street Lights

Target

Supporting Measure

Upon completion of the pilot testing, the City will install energy-efficient street lights throughout Burbank. The City will also update its Street Light Master Plan to include lighting efficiency requirements.

2020 Actions:

- 1) Expand efficient lighting technology throughout the city.
- 2) Update the Street Light Master Plan.

¹This measure was not initially quantified in the GGRP however an estimation of emission reduction based on the annual electricity savings has been included.

2020 Measure Status

Achieved

49 MT CO₂e/yr¹

City Comments on Measure Implementation

BWP provides free direct installation services, including high efficiency lighting, to all qualified small businesses in Burbank. In addition, BWP provides rebates per annual electricity saved for customized lighting projects, including \$0.10 per kWh saved for LED lighting. Through these efforts, BWP achieved 1.7 MW in peak demand savings and 158,000 kWh in annual electricity savings for their commercial customers (Energy Efficiency in California's Public Power Section: 13th Edition - 2019). Although not included in the initial quantification of this measure in the GGRP, the annual emission reduction due to electricity savings was calculated by multiplying the annual energy savings by the BWP 2020 projected emission factor.

On July 30, 2019, the City Council adopted the 2019 Street Lighting Master Plan. Since the completion of the 2014 Street Lighting Master Plan, BWP has steadily replaced 100-watt and 250-watt High-Pressure Sodium (HPS) luminaires with Light-Emitting Diodes (LED). To date, approximately 50% of all HPS luminaires in the City have been replaced with LEDs. As part of the 2019 Street Lighting Master Plan, all HPS luminaires are expected to be converted to LEDs by the year 2024. Also, within the 2019 Street Lighting Master Plan, BWP continues to convert high-voltage series streetlight circuits to safer lower-voltage circuits. The luminaires are also replaced with LEDs during these conversions. Of the 15 series circuits that existed in 2014, only 4 remain in the City and their conversion is expected to be completed by the year 2020. In addition, BWP has identified several deteriorated streetlight standards that need to be replaced in the next several years. Staff is also identifying streetlights on deteriorated wood "stub" poles through electric intrusive pole inspection program. These stub poles will be replaced with Marbelite streetlight standards to improve the reliability of the system, long-term sustainability, and overall aesthetic value to the City.

Improvement Opportunity

The City has qualitatively assessed the success of this measure, however the energy savings and associated GHG emission reductions associated with this measure are not quantified. As such, it is likely that GHG emission reductions associated with this measure are underestimated. To improve quantification of progress of this measure an updated GGRP should focus on collecting and quantifying

electricity savings related to the improvements and replacement of street lights with higher efficiency street lights.

T-1.1: Pedestrian Enhancements

Target

191 MT CO₂e/yr

The City will complete the City of Burbank Pedestrian Master Plan, which includes policies, programs, and design guidelines that will enable the City to foster a safer, more attractive, and usable pedestrian environment for residents and visitors. The Master Plan should identify priority improvements and available funding to support implementation. The City will also continue to include pedestrian enhancements as part of its infrastructure projects.

2020 Measure Status

Achieved/Exceeded

508 MT CO₂e/yr¹

2020 Performance Metric: 5% of existing street intersections are improved from medium ease of street crossing to high (a qualitative assessment).

Methodology: Street intersections will be upgraded as part of several planned development conditions of approval including all street intersections around First Street Village, Talaria, the new Ikea, and Avion Burbank developments. The City adopted the continental high visibility crosswalk as the standard pedestrian treatment marking and applies this safety improvement as part of all street resurfacing projects. The City has implemented traffic signal leading pedestrian intervals at 12 locations. As part of the Citywide Safe Routes to School project, 18 new all-way stops were installed, 54 continental crosswalks were installed, and 15 mile per hour speed zones were implemented on 97 streets surrounding 28 schools. As part of the Downtown Burbank minor pedestrian improvement project, high-visibility crosswalks were installed at 6 intersections in Downtown Burbank in 2019. At this time the Pedestrian Master Plan has not yet been completed but is anticipated to be completed by mid-2020.

In total 175 out of 1,316 intersections were improved equaling a 13% improvement and exceedance of the 2020 established goal. The GGRP calculated GHG emission reduction based on a qualitative evaluation of existing street crossings and an estimated 0.02% reduction in vehicle miles travelled as a result. Due to the qualitative nature of the initial estimation of this measure, a GHG emission reduction factor per intersection was developed based on the goal of intersection improvement and total intersections considered (i.e. 1,316). The GHG emission reduction factor was multiplied by the actual number of intersections improved to provide an estimation of total GHG emissions reduced beyond the initial goal.

Improvement Opportunity

GGRP development of this goal is ultimately based on the reduction in Vehicle Miles Traveled (VMT). Therefore, changes in VMT or traffic pattern should be utilized as the performance metric rather than qualitative intersection improvement for improved quantification of this measure. Alternatively, development of an updated GHG inventory would inherently capture any reduction in VMT and associated GHG emission reductions achieved through this measure through future traffic analysis. Additionally, an updated GGRP should support the completion of the Complete Streets Plan and Complete Pedestrian Master Plan.

T-1.2: Safe Routes to School

Target

Supporting Measure

The City will aggressively pursue grant funding to prepare a comprehensive Safe Routes to School (SRTS) plan. The City will also continue to pursue funding for additional SRTS projects.

2020 Measure Status

2020 Actions:

- 1) Secure funding to prepare a Safe Routes to School plan to prioritize safety improvements and investments for pedestrians and cyclists
- 2) Identify funding sources for implementation of the Safe Routes to School plan.

Achieved

City Comments on Measure Implementation

On November 13, 2018, the City approved the implementation of a short-term infrastructure improvements project through the 2013 Safe Routes to School grant for Washington, Jefferson, and Muris School; amended the Burbank Municipal Code for 15 per hour school speed zones and amended the Burbank Municipal Code for all-way stop signs on all roadways adjacent to schools.

On June 25, 2013, the City accepted grant funding in the sum of \$487,500.00, including a 10% local match (\$48,800.00), through the State of California Department of Transportation (Caltrans) Safe Routes to School Cycle 10 for development and implementation of the Safe Routes to School plan.

Improvement Opportunity

An updated GGRP should support the completion and implementation of the Safe Routes to School Plan. Additionally, the achievement of this measure and its impact on GHG emission reductions is ultimately based on the reduction in VMT. Therefore, to improve tracking of the progress of such a measure, VMT reductions should be quantified allowing for the quantification of reduced GHG emissions.

T-1.3: Bicycle Education Program

Target

Supporting Measure

The City will continue to include safety components in any bicycle infrastructure grant application that allows for it. The City will also partner with local bicycle advocacy groups to share bicycle safety information and solicit input on high-frequency accident locations.

2020 Actions:

- 1) Partner with local bicycle advocacy groups and clubs and the Burbank Police Department to identify high-frequency accident locations
- 2) Continue to pursue grant funding for implementation of the Bicycle Master Plan that also allows for bicycle safety components

2020 Measure Status

Achieved

City Comments on Measure Implementation

The City has identified high-frequency accident locations as part of analysis for the Complete Streets Plan in cooperation's with the Burbank Police Department.

The City secured \$3 million in Metro Measure M sub regional equity funding to complete the Burbank Channel Bikeway project, \$850,000 to complete a bike/pedestrian bridge over the LA River, \$2.64 million for the Chandler Bikeway Extension, and \$900,0000 safety improvements on San Fernando Boulevard including Class II lanes.

Improvement Opportunity

Additional effort should be made to partner with local bicycle advocacy groups and clubs outside the Burbank Police Department. An updated GGRP should continue to support this program as well as develop a trackable performance metric such as reduced VMT from the shift in bicycle mode share.

T-1.4: Bicycle Infrastructure Expansion

Target
355 MT CO₂e/yr

The City will continue to expand bicycle infrastructure within public rights-of-way, including on-street bicycle lanes and routes, bicycle parking, and directional signage.

The City will identify north-south roads that can accommodate bicycle boulevard facilities to connect the Chandler bicycle path with the new bicycle parking installed along Burbank and Magnolia Boulevards.

The City will work with local bicycle advocacy groups to evaluate designated Class III bike routes for bike comfort and safety, re-evaluate Class III routes periodically, and identify Class III routes that are frequently used by cyclists and should be considered for improvement to a Class II facility.

The City will continue to assess the need for additional bicycle parking, particularly in the Burbank Center and Media District plan areas as reuse and development activity increases in this area.

As a catalyst project to implement this measure, BWP has committed to providing bicycles for shared use by all City employees. Facilities to accommodate the shared bicycles would be located at both the BWP campus and at the Burbank Civic Center. Should this program prove successful, the City could expand it to accommodate public use in Downtown Burbank, the Media District, and the Golden State area as part of expanding the TDM program, as described in Measure T-2.1.

2020 Measure Status

Achieved/Exceeded

399 MT CO₂e/yr¹

2020 Performance Metric: Construct 12.0 miles of Class I and II facilities.

Methodology: In 2013 the City had 11.9 miles of Class I and Class II facilities. In 2020, the City will have 20.5 miles of Class I and Class II facilities. The GGRP used the CAPCOA guidance to quantify the VMT reductions anticipated with the proposed bicycle infrastructure improvements. Specifically, the methodology utilized the assumptions proposed in the study conducted by Dill and Carr on the ratio of additional bicycle land mileage per community area that correlates with increased bicycle mode share.²² A GHG emission reduction factor per bicycle lane mile was developed from the GGRP calculations and applied to the total new bike lane mileage anticipated to be completed by 2020 (i.e., 13.5 miles).

Improvement Opportunity

Quantification of this measure is ultimately based on the assumption that increased bike lanes will increase bicycle mode share and reduce VMT. However, numerous variables can influence the actual decrease in VMT from a measure such as this potentially resulting in an over or underestimation of the actual GHG reductions achieved. The development of an updated GHG inventory would inherently capture any reduction in VMT and associated GHG emission reductions achieved through this measure

²²Incorporate Bike Lane Street Design Reduction: CAPCOA. 2010 (August). Quantifying Greenhouse Gas Mitigation Measures. Available: <<http://www.capcoa.org/wpcontent/uploads/2010/11/CAPCOA-Quantification-Report-9-14-Final.pdf>>

through future traffic analysis. Additionally, an updated GGRP should focus on identify the most effective way of tracking VMT reduction from these types of programs to better quantify GHG emission reductions and include the addition of more bike lanes in locations best suited to improve bicycle mode share.

T-1.5: Bicycle Accommodation Ordinance

Target

Supporting Measure

The City will adopt its draft bicycle accommodation ordinance by June 2013. The City will also provide technical assistance to developers during the building permit phase, including best practice examples, to ensure successful implementation.

2020 Measure Status

2020 Actions:

- 1) Adopt draft bicycle accommodation ordinance by June 30, 2013.
- 2) Provide technical assistance to developers seeking to comply with the ordinance.

In progress

City Comments on Measure Implementation

The ordinance has not yet been adopted. However, the Complete Streets Plan will be provided to the City Council early 2020. The Complete Streets Plan will include bicycle parking measures. The City has engaged in a bicycle corral pilot with a local business that has proved successful.

The City provides ongoing technical guidance for bicycle parking best practices and spacing requirements. The City reviews development proposals for Planned Developments to ensure proper bicycle parking facilities are incorporated as a project design feature.

Improvement Opportunity

An updated GGRP should revise this measure to focus on achieving adoption of the ordinance, completion of the Complete Streets Plan, and quantification of VMT reduction based on reduced vehicle parking in favor of bicycles and/or the potential increase in bicycle mode share. Additionally, an updated GGRP may explore the feasibility of expanding this measure to include incorporation of a bike share program.

T-2.1: Transportation Management Organization Expansion

Target

16,687 MT CO₂e/yr

The City will work with the Transit Management Organization (TMO) to expand the geographic reach of its programs and the extent of services it currently provides; first expanding into the Golden State and Empire areas (by 2020), and then expanding citywide at a later date. In each case, the City will require that all new businesses with 25 or more employees located within the TMO boundary become TMO members and fulfill reporting requirements.

TMO expansion to existing businesses will include an aggressive outreach campaign to advertise the full range of services provided through the TMO. To that end, the City will work with the TMO to update the TMO webpage, so that interested employers can research current programs, incentives, membership opportunities, and requirements. The TMO will work with partners to expand its ridesharing program through adoption of current technologies that make participation easier for members. The TMO will develop and/or upgrade its ride-matching systems to use current technologies (e.g., cell phone-enabled ride-match applications), and develop a ride-match social networking website and online electronic payment options. The City will evaluate its guaranteed ride home policy to ensure it is applicable to small businesses. The City will also evaluate its existing carpool parking preference requirements, and study the impacts of lowering the thresholds to apply to more businesses.

2020 Performance Metric: 46% of total employees working within Burbank participate in a voluntary transportation demand management (TDM) program that offers rideshare promotion, telecommuting/alternative schedules, and parking cash-out options

2020 Measure Status

In progress

8,807 MT CO₂e/yr¹

Methodology: The City is currently working with the Burbank Transportation Management Organization (TMO) to collaborate with agencies, business, and individuals to reduce VMT within the City. The TMO website was most recently update in November of 2018 to include information current and potential members. The TMO has established an outreach strategy to focus on new member recruit and expanding existing programs. Currently, there are over 70 company members. The TMO geographic boundary has not yet expanded but is anticipated to expand with the Golden State Specific Plan, planning area by the end of 2020. Additionally, the City has required that three most recently approved Planned Developments in the Golden State Specific Plan, planning area to join the TMO including the Avion Burbank Project, Media Studios North Project, and Hollywood-Burbank Airport (once the relocated airport terminal is constructed). The existing Burbank Municipal Code currently requires all new businesses of 25 or more to join the TMO and fulfill the required reporting procedures. The City's Rideshare Program was put on the City's shared network in Fall 2015 and was modified in July 2017 to further encourage lower emission transportation modes. In 2019, the City increased the subsidies for all the non-carpool and non-EV modes to increase the most greenhouse gas and air pollution friendly modes of transit. The City has preferential parking available for vanpools in select City lots.

Based on the City's current evaluation of participation in currently available TDM programs, 15,224 out of 62,707 employees in Burbank participate in a TDM, which is equivalent to 24.3%. The estimation reductions in the GGRP were calculated using VMT projections and assumed participation rates in the City's TMO. Based on the GGRP estimated emissions and VMT projections, a GHG reduction factor by employee (0.58 MT CO₂e/employee) was developed and applied to the actual number of employees that participated in a TDM.

Improvement Opportunity

Quantification of this measure is ultimately based on the assumption that increased participation in TDM programs will reduce VMT within the City. Participation data collected for this measure is indirectly related to the reduction in VMT limiting the accuracy of the quantification of this measure. The development of an updated GHG inventory would inherently capture any reduction in VMT and associated GHG emission reductions achieved through the current participation in this measure.

To improve implementation of this measure, the TMO should focus on working with partners to expand its ridesharing program through adoption of current technologies that make participation easier for members such as ride-matching systems. Additionally, the City should evaluate its guaranteed ride home policy to ensure it is applicable to small businesses, evaluate existing carpool parking preference requirements, and study the impacts of lowering the thresholds to apply to more businesses and to continue to require larger planned developments to participate. An updated GGRP should focus on implementing actions and feasibility studies for this measure that have not yet been completed as well as focus on obtaining additional funding to facilitate implementation.

T-3.1: Traffic Signal Coordination

Target

Supporting Measure

The City will implement signal synchronization along major roadways as a first choice when seeking to expand roadway capacity. Priority roadways for signal synchronization include Burbank Boulevard, Magnolia Boulevard, Olive Avenue, Glenoaks Boulevard, Hollywood Way, Buena Vista Street, Alameda Avenue, and Victory Boulevard.

As synchronized traffic signals can lead to higher traffic speeds and less attentive drivers, the City will consider the location of high pedestrian traffic areas when identifying priority circulation routes; additional pedestrian-safety enhancements may become necessary, including bulb outs, crosswalk islands, and flashing crosswalk signs.

The City will also coordinate ITS improvements with the Southern California Association of Governments (SCAG) ITS Regional Architecture to ensure improvements in Burbank do not negatively impact regional traffic flows.

2020 Actions:

- 1) Continue to identify priority circulation routes within Burbank and synchronize traffic signals
- 2) Continue to secure Measure R funding to implement traffic signal synchronization
- 3) Coordinate ITS improvements with the SCAG ITS Regional Architecture
- 4) Develop additional timing plans to cover different day-of-week and time-of-day periods
- 5) Expand traffic signal synchronization monitoring to reduce incident delay due to accidents
- 6) Expand communication system to improve/prevent redundancy
- 7) Deploy adaptive control along major corridors

2020 Measure Status

In progress

City Comments on Measure Implementation

The City identified several Caltrans and Metro projects associated with each action that are in progress or anticipated. Projects identifying priority circulation routes and are synchronizing traffic signals within Burbank include Caltrans project 5200(047) and Metro projects F3313, F5306 and 310.51. Projects to secure Measure R funding and implementation of traffic signal synchronization include Metro projects # 310.06, 310.08, SR-134 Corridor Arterial Signal Improvements Project (310.09), 310.31, 310.33, 310.38, 310.46, and 310.51. Projects to coordinate ITS improvements with the SCAG IRTS Regional Architecture include Metro projects F3313, Burbank Traffic Responsive Signal System (F5306), Midtown Commercial Corridors Improvement Project (F9315), San Fernando Blvd/Burbank Blvd Intersection Improvement (310.06), Amendment for I-5 Corridor Arterial Signal Improvement Project (310.08), 310.09, 310.31, 310.33, 310.38, and 310.46. Projects developing additional timing plans to cover different day-of-week and time-of-day include Caltrans project 5200(047) and Metro projects F3313, F5306, and 310.5. Projects expanding traffic signal synchronization monitoring to reduce incident delay due to accidents

include Metro projects 310.06, 310.08, 310.09, 310.31, 310.33, 310.38, 310.46, and 310.5. Projects to expand the communication system to improve/prevent redundancy include Metro projects 310.06, 310.08, 310.09, 310.31, 310.33, 310.38, 310.46, and 310.5. Projects deploying adaptive control along major corridors include Caltrans project 5200(047), and Metro projects F3313, F5306, and 310.51.

Improvement Opportunity

Traffic signal coordination will ideally improve traffic and reduce emissions from idling. An updated GGRP should focus on developing quantifiable performance metrics for this measure. Further an updated GGRP inventory would encompass GHG reductions from traffic pattern changes that are not currently able to be quantified through this measure.

W-1.1: Water Conservation Programs

Target
20 MT CO₂e/yr

The City will implement water conservation programs described in the Urban Water Management Plan (UWMP) in support of BWP's goal to reduce water consumption by 1% annually.

2020 Measure Status

2020 Performance Metric: Reduce water use by 110 million gallons annually

Achieved/Exceeded

20.2 MT CO₂e/yr

Methodology: BWP's 2015 Urban Water Management Plan (UWMP) includes a revised calculation of a 2020 water use target of 157 gallons per capita per day (gpcd) and an interim (2015) target of 177 gpcd. Burbank's 2015 calendar year water use was less than the 2015 and 2020 targets at 127 gpcd due to mandatory conservation requirements imposed by the Governor's Executive Order. Since 2012 water use has been reduced by a total of 1,036 million gallons, resulting in an average reduction of 148 million gallons per year, thus, exceeding BWP's 2020 target. Energy savings associated with the reduction in water use was calculated using the BWP estimation of net energy savings of 0.36 kWh for every 748 gallons estimated for reduced water pumping.²³ The BWP 2020 projected emission factor for energy was applied to the calculated annual energy savings to determine the reduction in GHG emissions.

Improvement Opportunity

This measure has been achieved annually since FY 2021-2013 and is the same goal for 2035. Given the success of the measure, an updated GGRP should consider increasing the target of water conservation for future years as well as expanding the program to include water conservation programs not included in the UWMP.

²³ City of Burbank. 2013. Burbank 2035 Greenhouse Gas Reduction Plan (GGRP): Appendix B.

W-1.2: Recycled Water Use Master Plan

Target

178 MT CO₂e/yr

The City will implement water conservation programs described in the Urban Water Management Plan (UWMP) in support of BWP's goal to reduce water consumption by 1% annually.

2020 Measure Status

In progress

2020 Performance Metric: Use 1.0 billion gallons of recycled water annually.

126 MT CO₂e/yr

Methodology: Since 2012, 5.88 billion gallons of recycled water have been used with an average of 0.85 billion gallons used annually. Energy savings associated with the use of recycled water is based on the assumed reduction of water pumping. Like measure W-1.1, BWP estimation of net energy savings of 0.36 kWh for every 748 gallons estimated for reduced water pumping was used to estimate the average annual energy savings of 403,999 kWh.²⁴ The BWP 2020 projected emission factor for energy was applied to the calculated annual energy savings to determine the reduction in GHG emissions.

Improvement Opportunity

An updated GGRP should consider expanding the programs utilized to achieve the goal of this measure as well as to identify funding opportunities for increased recycled water infrastructure. Consistent with this approach, the City continues to require larger planned development projects to include the use of recycled water and building out of the necessary infrastructure whenever technically feasible to address such things as water for cooling towers and/or plant/tree irrigation.

²⁴ City of Burbank. 2013. Burbank 2035 Greenhouse Gas Reduction Plan (GGRP): Appendix B.

W-1.3: Stormwater Management Plan

Target

Supporting Measure

The City will prepare a Stormwater Management Plan that seeks to apply best management practices, including LID features, into future system upgrades or extensions.

2020 Measure Status

In progress

2020 Actions:

- 1) Prepare and adopt a Stormwater Management Plan

City Comments on Measure Implementation

A draft Stormwater Master Plan (January 2014) has been prepared by the City. Please note that the draft plan gives the City a general idea of potential stormwater capture and infiltration opportunities, but in no way evaluated specific sites to determine whether they are or are not feasible for capturing stormwater and recharging groundwater. The City has adopted a Low Impact Development (LID) ordinance, which requires certain development and redevelopment projects to infiltrate or reuse stormwater on private property. Additionally, the City is a member of the Upper Los Angeles River (ULAR) Enhanced Watershed Management Program (EWMP) group. The group has developed an EWMP plan in which each agency, including Burbank, has identified local-scale Best Management Practices (BMPs) on public parcels, regional-scale BMPs on public parcels, LID projects on private property parcels, green street BMPs (through the City's Green Streets policy) in the public right-of-way, and regional-scale BMPs on private property. The ongoing implementation of the EWMP plan will require a sustainable, long-term funding source to develop conceptual plans, obtain California Environmental Quality Act (CEQA) clearance(s), prepare final construction plans/specifications/estimates, and advertise/award and construct the projects.

On November 6, 2018, voters approved Measure "W", which is intended to capture and infiltrate stormwater runoff for water supply resiliency and a reduction of stormwater pollutants entering local waterways. As the fiduciary, the Los Angeles County Flood Control District (LACFCD) expects to issue each city, including Burbank, its share of the measure funds beginning in 2020. Burbank expects \$1.5 million annually. More details on the measure will continue to be provided by the LACFCD.

Improvement Opportunity

To improve quantifying the GHG emission reductions associated with this measure, a performance measure that tracks water savings from this program should be incorporated. Additionally, an updated GGRP should revise the measure to include actions that the LACFD will be implementing. The updated GGRP should also focus on the revision and adoption of the Storm Water Management Plan.

SW-1.1: Food Scrap and Compostable Paper Diversion Ordinance

Target
2,032 MT CO₂e/yr

The City will adopt a food scraps and compostable paper diversion ordinance, requiring all food waste and compostable paper to be diverted from the waste stream to composting facilities. As part of this ordinance, the City will update its yard waste collection program to allow customers to include food scraps and compostable paper in their yard waste bins. The program will allow collection of:

- all food products: fruits, vegetables, breads, cereals, dairy, meat and fish (including bones);
- coffee grounds, filters, and tea bags; and
- food soiled paper: paper towels, plates, napkins, and pizza boxes

The City will develop an outreach campaign to inform solid waste customers about the change to the yard waste collection program, identify what can and cannot be included in the yard waste bins, and provide helpful tips to minimize pest and odor problems. The City will also perform spot checks on multi-family and commercial properties to ensure compliance with the ordinance.

2020 Performance Metric: 1) 100% of residential units divert 75% of food scraps and compostable paper; 2) 100% of commercial businesses divert 90% of food scraps and compostable paper

2020 Measure Status

In progress

1,080 MT CO₂e/yr

Methodology: The City is in the conceptual stages of a residential composting program; therefore, no data was available to quantify progress towards the residential goal. In the City's Zero Waste Plan, the goal is 90% diversion of food scraps and compostable paper by 2040. Private haulers that deal with commercial businesses are also required to meet State requirements. Based on the GGRP, 40% of the total GHG emission reduction would be achieved by the residential diversion, and 60% achieved by commercial diversion for food scraps and compostable paper. Based on information provided by the City's Public Works Department, approximately 89% of commercial waste is collected and processed by private haulers, while 11% is collected and processed by the City of Burbank.²⁵ Quarterly information reported by private haulers on commercial data showed that food scraps and compostable paper landfilled had been reduced by approximately 91% in comparison to the baseline commercial data utilized in the GGRP for 2010. City of Burbank waste data did not provide a waste breakdown allowing for an estimation of food scrap and compostable paper diversion for commercial waste collected by the City of Burbank. Therefore, GHG emission reductions quantified here only account for food scrap and

²⁵ The City of Burbank 2018 report provided by the city reports the tons of waste collected and processed from residential versus commercial sources. The City also provided 2018 quarterly reports on commercial waste from private haulers.

compostable paper diversion from commercial business reported through private haulers and is based on the percentage of diversion achieved.

Improvement Opportunity

Implementation of this measure is based the data provided by the City of Burbank's Public Works Department and private waste haulers, but differs from the type of data used during measure quantification in the GGRP. Therefore, the current quantification is conservative and may underestimate the total GHG emission reductions actually achieved with this measure. To improve tracking of this measure, collected data should be specific to the performance metric and the methodology described in the GGRP such that mass of food waste and compostable paper diverted is in the following units: Degradable Organic Carbon Disposed (DDOC) in maximum daily tonnage (mdt). Further, additional details from the waste management should include specifics to the type of waste and delineation of the wastes fate. Alternatively, development of an updated GHG inventory would inherently capture the overall GHG emission reductions achieved through measures addressing waste diversion. An updated GGRP should focus on implementing this measure with residences as well as identify funding for additional educational outreach programs and for the actual implementation of waste diversion (e.g., waste separating bins).

SW-1.2: Yard Waste Diversion Ordinance

Target
244 MT CO₂e/yr

The City will adopt an ordinance banning disposal of yard waste in trash bins. Multi-family residential and non-residential properties that are not currently served by the City's solid waste collection program would need to contract with a yard waste collection service provider.

2020 Measure Status

In progress

212 MT CO₂e/yr

2020 Performance Metric: 1) 100% of residential units divert yard waste from landfills; 2) 100% of commercial businesses divert yard waste from landfills

Methodology: The GGRP estimated that 29% of the total GHG emission reduction would be achieved by residential yard waste diversion and 61% achieved by commercial yard waste diversion. Residential yard waste diversion was achieved through single family homes through Burbank Municipal Code 4-2-110 through 4-2-110.2, which requires garbage, solid waste, green waste and recyclable material to be placed in proper containers for collection. According to the City of Burbank's Public Works Department provided waste data for 2018, 100% of residential and commercial "Green Waste" processed by the City was composted.²⁶ Based on information provided by the City approximately 89% of commercial waste is collected and processed by private haulers, while 11% is collected and processed by the City of Burbank. All private hauler contractors in Burbank must submit quarterly reports and fees pursuant to Burbank Municipal Code Section 4-2-111. Quarterly information reported by private haulers on commercial data showed that "Green Waste", assumed to be yard waste, had been reduced by approximately 79% in comparison to the baseline commercial data utilized in the GGRP for 2010. Given the provided data it was assumed that 100% of residential yard waste was diverted from landfills, 100% of City of Burbank commercial yard waste was diverted, and 79% of private hauler commercial yard waste was diverted. The estimated GHG reductions from this measure is based on the weighted percentage of diversion achieved.

Improvement Opportunity

Implementation of this measure is based on the data provided by the City of Burbank's Public Works Department and private waste haulers, but differs from the type of data used during measure quantification in the GGRP. Therefore, the current quantification is conservative and may underestimate the total GHG emission reductions actually achieved with this measure. To improve tracking of this measure, collected data should be specific to the performance metric and the methodology described in the GGRP such that mass of yard waste diverted is in the following units: Degradable Organic Carbon Disposed (DDOC) in maximum daily tonnage (mdt). Further, additional details from the waste management should include specifics to type of waste and delineation of the waste's fate. Alternatively, development of an updated GHG inventory would inherently capture the overall GHG emission reductions achieved through measures addressing waste diversion. An updated GGRP should focus on

²⁶ "Green Waste" was defined by the city as yard waste including street sweeping, leaves, tree trimmings, and basin/debris cleanup.

implementing this measure through private haulers as well as identify funding for the actual implementation of such waste diversion (e.g., waste separating bins).

SW-1.3: Lumber Diversion Ordinance		Target
		1,012 MT CO ₂ e/yr
<i>The City will amend its existing ordinance to explicitly require the diversion of 75% of waste from construction and demolition debris generated by new construction and renovations, including scrap lumber.</i>		2020 Measure Status
2020 Performance Metric: 75% of all construction and demolition lumber waste is diverted from landfills		In progress
		877 MT CO ₂ e/yr

Methodology: The Burbank Municipal Code requires 65% of diversion. Additionally, CalGreen standards have been adopted by the City. Currently, Public Works requires all concrete and asphalt from construction/demolition projects to be recycled. Quarterly information reported by private haulers on commercial data to the Public Works Department showed that lumber and construction/demolition waste landfilled has been reduced by approximately 80% in comparison to the baseline commercial data utilized in the GGRP for 2010. However, the City of Burbank waste data did not provide a waste breakdown allowing for an estimation of lumber and construction/demolition waste diversion for commercial waste collected by the City of Burbank. In the absence of a complete data set, GHG emission reductions quantified here are based on the municipal code requiring 65% of lumber diversion compared with the 75% diversion rate used in the GGRP emission reduction calculation. As such, it was assumed that approximately 87% of the diversion goal was achieved resulting in 87% of the 2020 emissions goal being achieved.

Improvement Opportunity

Implementation of this measure is based the data provided by the City of Burbank and private waste haulers but differs from the type of data used during measure quantification in the GGRP. Therefore, the current quantification based on the established ordinance is conservative and may underestimate the total GHG emission reductions achieved with this measure. To improve tracking of this measure, collected data should be specific to the performance metric and the methodology described in the GGRP such that mass of yard waste diverted is in the following units: Degradable Organic Carbon Disposed (DDOC) in maximum daily tonnage (mdt). Alternatively, development of an updated GHG inventory would inherently capture the overall GHG emission reductions achieved through measures addressing waste diversion. An updated GGRP should focus on the development of supporting measures that would cover the remaining 10% of lumber diversion needed to achieve this goal.

SW-1.4: Reusable Bags

Target

Supporting Measure

Reusable shopping bags can help offset the use of single-use plastic and paper bags. The City has distributed 2,000 reusable Burbank2035 Chico bags in the community to promote resource conservation and reduce the occurrence of plastic bag pollution in the community.

2020 Measure Status

Achieved

2020 Actions:

- 1) Promote the environmental benefits of reusable shopping bags on the City website

City Comments on Measure Implementation

On July 1, 2015, California became the first state to enact legislation imposing a statewide ban on single-use plastic bags at large retail stores. It also required a 10-cent minimum charge for recycled paper bags, reusable plastic bags, and compostable bags at certain locations. The State's mandated plastic bag ban is currently in place, and the City promotes reusable shopping bags. BWP distributes an estimated 1,800 reusable bags a year. BWP bags have been distributed at the following events:

- City Community Events (National Night Out, Parks and Rec Easter Eggstravaganza, Starlight Bowl)
- Key Accounts Events (Disney, Warner, Nickelodeon)
- EcoCampus Tours
- BWP Hosted Events (Southern California Public Power Authority (SCPPA), California Municipal Utilities Association (CMUA), Amercian Water Works Association (AWWA), RISE Burbank, Leadership Burbank, Electric Vehicle Ride and Drive Events)
- Community Organizations (Boys and Girls Club, Kiwanis, Burbank Coordinating Council Holiday Baskets)

Improvement Opportunity

A performance metric allowing for the calculation of the GHG emission reductions achieved through this measure should be tracked and calculated. A GGRP updated should focus on identifying funding to expand this program.

SW-1.5: Recycling Ordinance

Target

Supporting Measure

The City will adopt an ordinance requiring the provision of recycling bins and/or recycling areas in all residential and non-residential buildings. Multi-family residential and non-residential properties that are not currently served by the City's solid waste collection program would need to contract with a recycling collection service provider. The City will perform random spot-checks of multi-family residential and commercial buildings to ensure provision of recycling bins.

2020 Actions:

- 1) Adopt an ordinance requiring recycling bins or recycling areas in all buildings

2020 Measure Status

Achieved

City Comments on Measure Implementation

Since the inception of the California Green Building Standards Code (CALGreen Code) on August 1, 2009, new commercial buildings are required to comply with recycling by building occupants. As of January 1, 2017, new multi-family dwellings of five (5) units or more must also have areas for recycling by occupants. The 2019 update of the CALGreen Code will go into effect January 1, 2020.

Additionally, staff has been conducting extensive outreach to have the community recycle and compost. There are composting workshops every month, annual educational outreach events during Burbank Arts Festival, Fixit Clinics, and more. In 2013-2014, the City also provided all City employees with recycling bins in offices, breakrooms, and other locations. Staff will investigate this action step and incorporate this information when implementing the State's regulations AB 1826 (Mandatory Commercial Organics Collection), AB 876 (Organics Capacity Plan for 15 years), and SB 1383 (75% diversion of organics from landfill by 2025).

Improvement Opportunity

A performance metric allowing for the calculation of the GHG emission reductions achieved through this measure should be tracked and calculated. A GGRP updated should focus on identifying funding to track and ensure compliance of this measure.

SW-2.1: Enhanced Methane Recovery

Target

10,600 MT CO₂e/yr

The City will comply with all applicable ARB regulations regarding the installation or upgrading of methane capture systems at the Burbank Landfill.

2020 Measure Status

2020 Performance Metric: Burbank Landfill methane capture system operates with a 75% methane capture rate.

Achieved

10,600 MT CO₂e/yr

Methodology: Burbank Landfill’s methane capture rate is an average of 75% per year based on the annual reports submitted by the City’s Public Works Department to the South Coast Air Quality Management District. Therefore, it was assumed that the GGRP calculated reduction was achieved.²⁷

Improvement Opportunity

An updated GGRP should revise this measure to use landfill gas (LFG) composition as a performance metric, which includes methane and carbon dioxide concentrations. The total volume of LFG extracted is burned in the enclosed ground flare owned by the City and operated by a third party. The volume of LFG consumed by the flare is monitored and recorded.

²⁷ Rule 1150.1 – Annual Report for 2018 City of Burbank Landfill No.3.

CG-1.1: Sustainability Coordinator

Target

Supporting Measure

The City will establish a sustainability coordinator position to oversee and monitor implementation of the GGRP. Roles and responsibilities would include:

- Updating the communitywide emissions inventory every 3-5 years,
- Maintaining contact with BWP to ensure energy and water consumption data is readily available for future inventory updates,
- Identifying new statewide efficiency legislation or regulations that can be quantified for inclusion in future GGPR updates, and
- Promoting sustainability messaging throughout all City departments.

2020 Actions:

- 1) Identify funding sources to support full-time sustainability coordinator position

2020 Measure Status

In progress

City Comments on Measure Implementation

Staff is considering other alternatives that will assist efforts in sustainability and the Greenhouse Gas Reduction Plan. For example, staff is looking into creating a salary differential for designated job classifications in the Burbank Management Association (BMA) to help coordinate sustainability efforts on an ongoing basis.

Improvement Opportunity

An updated GGRP should focus on identifying funding for this position such as the CivicSpark program.²⁸

²⁸ The CivicSpark program is a Governor’s Initiation Americorps program dedicated to building the capacity for local governments to address emerging environmental and social equity resilience challenges such as climate change.

CG-1.2: Sustainability Element

Target

Supporting Measure

The City will prepare a Sustainability Element for adoption as an amendment to Burbank2035. The element will present policy language supported by justification from state legislation and public input, together with illustrative diagrams, photos, and maps. It will consist of the following sections:

- Introduction
- Relationship to other Burbank2035 elements and the GGRP
- Citywide goals and policies
- Sustainability plan
- Healthy community plan
- Program summary

In addition, the Element will: describe what sustainability means in the context of Burbank, establish GHG reduction targets, and provide policies and programs to promote communitywide sustainability, primarily through voluntary participation.

2020 Actions:

- 1) Prepare Sustainability Element for Burbank2035

2020 Measure Status

Not Achieved

City Comments on Measure Implementation

Staff is searching for grants and funding opportunities to support the implementation of a Sustainability Element.

Improvement Opportunity

An updated GGRP should focus on identifying funding opportunities for expanding sustainability programs and facilitate the preparation of a Sustainability Element.

Conclusion

As shown through this GGRP Scorecard, the City of Burbank has several successful measures including numerous successful energy conservation programs that are helping to reduce the City's GHG emissions. Key findings in the report are:

- The City has achieved 95% of its 2020 Measure GHG reduction goal falling only 2,375 MT CO₂e short.
- An updated GHG inventory would be necessary to quantify the level of GHG reductions achieved through community initiative that was not tracked through one of the above discussed measures.
- The City has been successful at implementing measures and actions and in the overall tracking of the measure implementation.
- The City has exceeded the 2020 Measure GHG reduction targets for numerous measures making substantial progress towards the 2035 goal.
- Quantified GHG reductions are likely an underestimation of actual GHG reductions associated with the GGRP measures due to limitations in data collection. There is an opportunity for increased reductions through improved data collection and measure revisions.
- The City should consider completing an updated GHG inventory to better quantify actual GHG reductions in the City and consider completing an updated GGRP to incorporate current best practices and any necessary changes to existing measures.

Next Steps

According to the CEQA Guidelines Section 15183.5, projects can tier off a qualified GHG reduction plan, which allows for project-level evaluation of GHG emissions through the comparison of the project's consistency with the GHG reduction policies included in a qualified GHG reduction plan. The AEP considers this approach in its white paper, "Beyond Newhall and 2020," to be the most defensible approach presently available to determine the significance of a project's GHG emissions (AEP 2016).

The City's current GGRP (Burbank2035) aligns with AB 32 (2020 emission target), but it does not specifically address the SB 32 2030 emission target. As such, projects that become operational post-2020 would not be able to tier off the Burbank 2035 GGRP.

Updating the GGRP to specifically address SB 32 2030 goals based off an updated emissions inventory in a manner that is consistent with CEQA Guidelines Section 15183.5 would provide a qualified GGRP and allow for CEQA streamlining for projects operational post-2020. Additionally, developing an updated GGRP would allow the City to incorporate the best practices in GHG reduction measures that have been adopted since the adoption of the 2012 GGRP as well as improve the established data tracking for future quantification.

Updating the GHG community inventory will also allow an all-encompassing assessment of GHG reductions that have occurred through local and state actions, some of which have been quantified as well as those that have not. Estimating GHG emissions regularly enables local governments to track emissions trends, identify the greatest sources of GHG emissions within their jurisdiction, and establish emission baselines necessary for setting targets for future reductions that incorporate reductions from state measures. For the City of Burbank, an updated GHG emission inventory would allow for a better and more accurate quantification of their progress towards the 2020 goal that are only partially captured in the current Scorecard due to data limitations.