CITY OF CUPERTINO

CLIMATE ACTION PLAN

2015 Progress Report

A summary of 2015 Climate Action Plan Measure implementation
Presented to Cupertino City Council in April 2016

Prepared by: City of Cupertino, Sustainability Division

2015 CLIMATE ACTION HIGHLIGHTS

Summarized below are key milestones achieved by the City's Sustainability and Environmental Programs Divisions since the adoption of the Climate Action Plan.

Staffing - Expanded Sustainability and Environmental Programs Divisions by hiring 4 new staff members; Sustainability Coordinator, Utility & Efficiency Analyst, Education Outreach Coordinator and Safe Routes to School Coordinator.

New Policies – The CAP prioritized accelerated deployment of varied notable policies:

Cupertino Community Vision 2040- adopted to include Climate Action Plan (ES-1.1.1) and CAP and Sustainability Strategies Implementation (ES-1.1.2).

Mandatory Commercial Organics Ordinance – Adopted/implemented first phase in September 2015, requiring eight largest organic waste generators to collect food scraps and paper.

Environmental Purchasing Policy - updated for internal purchasing of green office, electronic and cleaning supplies. Embedded into 2015 janitorial services agreement.

Special Projects - The following CAP noted projects were advanced last calendar year:

Silicon Valley Clean Energy - as the first City to take action to establish and join the Authority tasked with bringing a community choice energy option to Cupertino residents and businesses in the winter of 2016/17, (www.svcleanenergy.org).

Utility Data & Efficiency - Audited and verified City water meters saving an estimated $8,200 for the remainder of the calendar year and $7,600 annually thereafter.

Vehicle Electrification - 15 % of total fleet vehicles are clean fuel vehicles (hybrid and electric), closer to achieving the City's Bay Area Climate Compact goal.

EV Charging -Using regional grant funding to expand the City-installed network of public EV stations to six.

Green Business Challenge –selected as 1 of 4 nationwide to compete in ICLEI/Office Depot's Green Office Challenge; engaged 24 businesses and saved 19,804 pounds of CO_2.

Safe Routes to School - piloted with eight schools participating. Engaging community members to identify how to best increase student travel safety by collecting travel data, and organizing a contracted Walk Audit at school sites selected by the Working Group.

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INTRODUCTION

The City has long been a leader in environmental resource conservation and efficiency. This was formalized through the creation of an Environmental Affairs Division (now the Sustainability Division) within the Office of the City Manager in 2008. This team, which expanded significantly in Fiscal Year 15/16, is dedicated to design and implementing the energy, water and transportation scope set forth in the General Plan Environment and Sustainability Element and Climate Action Plan.

As directed by the City's General Plan Sustainability Element, the Climate Action Plan (CAP) seeks to identify emissions reduction strategies that are informed by the goals, values and priorities of our community. The Climate Action Plan was unanimously adopted by City Council in January 2015. It contains over 225 measures to help reach a community-wide greenhouse gas (GHG) reduction goal of 15% below 2010 levels by 2020. The CAP provides a set of strategies intended to guide GHG emissions reduction efforts, typically through a combination of statewide and local actions.

As greenhouse gas emissions arise from communities, local governments must play a vital role in mitigation and preparing for the impacts of climate change. The CAP analyzes climate change strategies through two different lenses, a community wide perspective (see page 12) considers the total impact of emissions generated activities and reduction opportunities within the City's jurisdictional boundaries. The municipal operations perspective (see page 36) considers only emissions resulting from the provision of local government services. The purpose of this report is to benchmark and track the status and progress made on the near-term measures community-wide and in municipal operations. Tracking progress over time will help identify if adjustments to the CAP are needed to reach our near-term greenhouse gas emissions reduction and sustainability goals for the year 2020 and beyond.

GREENHOUSE GAS EMISSIONS INVENTORY

Emissions inventories provide a snapshot of the amount and source of greenhouse gas emissions in a given year. The baseline inventory serves as a reference point for reduction targets and informs the measure and action selection process. Baseline inventories of community-wide and municipal operations emissions for 2010 were prepared to serve as a starting point for CAP analysis, and are displayed below. Municipal operations emission can be considered a subset of the community-wide emissions and in Cupertino represent less than 1% of total community-wide emissions. The next inventory update will analyze 2015 data, and is projected to be completed at the end of 2016, depending on release dates of relevant 2015 data from State agencies and utilities. Subsequent updates are to take place every 2-3 years, and will be reported in future progress reports.

Figure 1- Community GHG Inventory 2010 Baseline

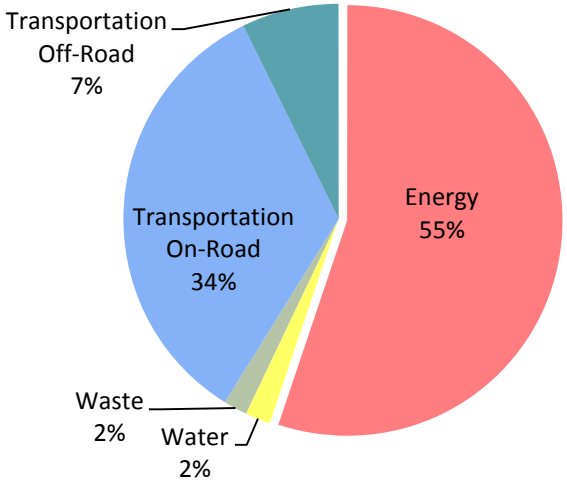
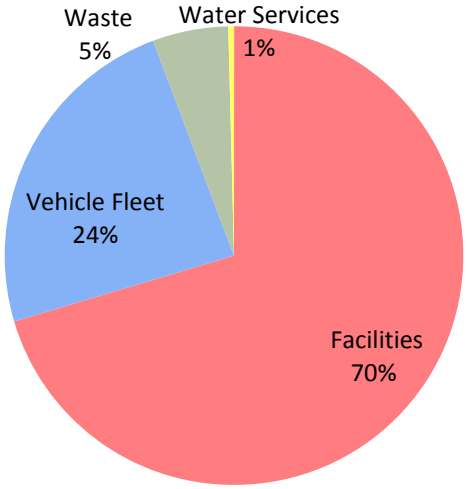


Figure 2- Municipal Operations 2010 Baseline



GREENHOUSE GAS REDUCTION MEASURES

As the foundation of its CAP approach, the City has identified bold, overarching goals that guide its pursuit of the emissions reduction targets, which include:

Reduce Energy Use / Improve Facilities: recommends ways to increase energy efficiency in existing buildings and increase use of renewable energy community-wide.

Encourage Alternative Transportation / Convert Vehicle Fleet: encourages transit, carpooling, walking, and bicycling as viable transportation modes to decrease the number of single-occupancy vehicle trips within the community, and facilitates a shift towards cleaner, alternative fuel vehicles.

Conserve Potable Water: promotes the efficient use and conservation of water in buildings and landscapes.

Reduce Solid Waste: increases waste diversion through recycling and organics collection, and reducing consumption of materials that will otherwise end up in landfills.

Expand Green Infrastructure: enhances the City's existing urban forest and landscapes on public and private lands.

The City's CAP strategies comprise a framework of goals, measures, and actions through which the near-term (i.e., 2020) targets can be achieved, and progress can be made on the long-term (i.e., 2035, 2050) targets. Reduction measures then describe how each goal can be achieved, and actions describe the specific steps to be taken during the implementation process.

The Climate Action Plan has 33 reduction measures to reduce greenhouse gas emissions community-wide and within municipal operations. These 33 reduction measures are then broken out into 225 individual implementation action measures which are identified in the CAP with an implementation timeline. The CAP outlines the measure implementation timeline as follows:

On-going items are actions the City already performs or programs the City already offers that should be continued in the future.

Near-term items are those that should be pursued immediately, within a 1-2 year timeframe following CAP adoption.

Medium-term items will help to achieve the 2020 reduction target, and should be pursued within 3-5 years following CAP adoption.

Long-term items will help provide broader measure implementation, but are not critical to immediate success; these items include actions that can be started now and will take 5+ years to complete, or can be actions that do not require implementation consideration for at least 5 years.

The purpose of this report is to benchmark and track the status and progress made on the Near-term Measures, to help identify if adjustments to the CAP are needed to reach our near-term GHG reduction and sustainability goals for the year 2020, which serves as an essential benchmark if the agency is to achieve its advanced targets. This summary includes the goals and performance indicators for the year 2020, which staff is actively tracking, and over time will show if the City and the community are on track to meet our goals or need to modify or strengthen our Climate Action Plan. Overtime, the medium and long-term measures will be added to this report, so that the cumulative impact of all measures completed since the adoption of the CAP will be summarized. To help with progress implementation, the CAP identifies an Implementation Tracking Framework in Appendix C, which serves as the basis for this report

Measures that achieve quantifiable emissions reductions include progress indicators that help to track progress. Measures identified as "Supporting Measures" contribute to the city's goals and are important for GHG reduction, but currently lack a methodology to quantify emissions reductions potential. For many of the measures, there is no relevant dataset available, or certain data is not yet consistently collected. So, in the first few years of CAP implementation, a data collection framework, as presented in this report, will be the starting point to measure the City's progress towards achieving its 2020 emissions target.

CO-BENEFITS

As originally evaluated for and noted in the City's Climate Action Plan, Co-benefits describe the various additional outcomes that could occur as a result of measure implementation, beyond emissions reductions. Co-benefit icons are used to illustrate these overlapping outcomes. The figure below shows the co-benefits and their corresponding icons used within the Climate Action Plan and identified in the measure status update.

Improves air quality

Increases natural habitat


Reduces energy use


Promotes regional smart growth


Reduces traffic congestion


Reduces water use; Extends community water supply


Improves water quality; Reduces storm water run-off


Improves local energy independence


Conserves natural resources


Regional Implementation Opportunities


Reduces heat island effect


Improves public health


Creates local jobs


Reduces waste; Extends landfill lifespan


Provides long-term savings to residents, businesses, and local governments


Raises community awareness

Reduces landfill methane

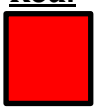
2015 NEAR-TERM MEASURE STATUS SUMMARY

As the first progress report since CAP implementation, the status and progress made on the near-term Measures are included. Overtime, the medium and long-term measures will be added to this report as they are implemented, so that the cumulative impact of all measures completed since the adoption of the CAP will be captured. It is essential to track progress and examine trends overtime to determine if the City is on track to reach its GHG reduction goals. As simple as previewing a traffic signal as a driver. Cupertino's Climate Action progress report summarizes actions across all near-term measure categories, with the following visual cues for readers:

- **Green:**
  Completed – All required implementation steps have been completed
  Ongoing – All required initial steps have been completed, but component is still actively being implemented
- **Yellow:**
  In Progress – Implementation steps are still being developed and pursued based on the original implementation plan

Initiating- Initial steps have not been started, but will be started and implemented before 2020.

- **Red:**



On-Hold – Implementation has not proceeded due to a programmatic barrier or is no longer applicable based on the original implementation plan

Outlined below is a summary of the implementation status of the City's Near-Term Reduction Measures:

Cupertino Climate Action Plan- Status of Near Term Measures

Measure #	Measure Name	Status	Measure #	Measure Name	Status
Community Measures					
C-E-1	Energy Use & Data Analysis	In -Progress	C-T-1	Bicycle & Pedestrian Environment Enhancements	In - Progress
C-E-2	Retrofit Financing- PACE	In -Progress	C-T-2	Bike share Program	On-going
C-E-3	Home & Commercial Building Retrofit Outreach	In -Progress	C-T-3	Transportation Demand Management	In - Progress
C-E-5	Community-Wide Solar Photovoltaic Development	In -Progress	C-T-5	Transit Priority	On-going
C-E-7	Community Choice Energy Option	Complete	C-T-6	Transit Oriented Development	On-going
C-SW-1	Zero Waste Goal	In -Progress	C-T-7	Community-wide Alternative Fuel Vehicles	In -Progress
C-SW-2	Food Scrap and Compostable Paper Diversion	In -Progress	C-W-1	SB-X7-7 Water Reduction	In -Progress
C-SW-3	Construction & Demolition Waste Diversion Program	On-going	C-W-2	Recycled Water Irrigation Program	In -Progress
			C-G-1	Urban Forest Program	On-going
Municipal Measures					
M-F-1	Sustainable Energy Portfolio	Complete	M-SW-1	Waste Reduction	In -Progress
M-F-2	Renewable/Low Carbon Electricity Generation	On-going	M-SW-2	Food Scrap and Compostable Paper Diversion	In -Progress
M-F-3	Advanced Energy Management Activities	Initiating	M-SW-3	Construction and Demolition Waste Diversion	On-going
M-F-4	Grow Existing Building Energy Retrofit Efforts	Initiating	M-VF-1	Low Emission and Alt Fuel Vehicles	On-going
M-F-6	Complete Citywide Public Realm Lighting Efficiency	On-going	M-VF-2	Alternative Fuel Infrastructure	On-going
M-F-7	Conserve Water Through Efficient Landscaping	On-going			

COMMUITY MEASURES

Detailed below are each of the City's near-term community measures, which includes a summary of the measure ("Goal"), the process staff is using for tracking that measure (a combination of "Tracking Mechanism" and "Progress Indicators"), the status and implementation efforts to achieve 2020 goals ("Status" and "Implementation Update"). The measures are broken out into their corresponding reduction strategies (reduce energy, encourage alternative transportation, conserve potable water, reduce solid waste, and expand green infrastructure).

REDUCE ENERGY

MEASURE C-E-1 Energy Use Data and Analysis

Goal: Increase resident and building owner/tenant/operator knowledge about how, when, and where building energy is used.

Co-Benefits	
Tracking Mechanism	Identify energy savings from participation in energy use data analytics programs.
Progress Indicators	Participation rates in energy analytics program
	10% of single family units (1,500 homes) and 5% of multi-family units (300 units) 775,000 kWh/yr. saved
	10% of nonresidential square footage in 2010 baseline year (1.27 million sqft) participates in advanced analytics program 2,200,000 kWh/yr. saved
Status:	
In progress	A. Work with PG&E to facilitate aggressive implementation of PG&E's Home and Business Area Network (HAN) program within Cupertino

Implementation Update: Staff is in communication with PG&E to discuss the application of its Home and Business Area Network program within Cupertino. This program is now called Stream My Data, (http://www.pge.com/en/myhome/addservices/moreservices/streammydata) and it enables residents and businesses to sync any energy analytics tool they buy with their

smart meter, to allow them to capture real-time data on energy use at the meter level. Staff is also looking into other third party analytics programs for Cupertino residents to utilize as a possible addition to a renewed Green @ Home residential energy program to help expand awareness of energy consumption and target conservation measures based upon this collected information. Below is data from PG&E on total electric and natural gas use community-wide. Overall, Community electricity and natural usage has been reduced over the past 5 years. Between 2010 and 1015, community-wide electricity use has reduced about 41% from 398,637,245 kWh to 237,117,878 kWh, as noted in Figure 3. Community-wide natural gas use has reduced 15% from 2010 to 2015, from 15,805,499 therms to 13,498,530 therms as noted in Figure 4.

Figure 3- Community-wide Electricity Use

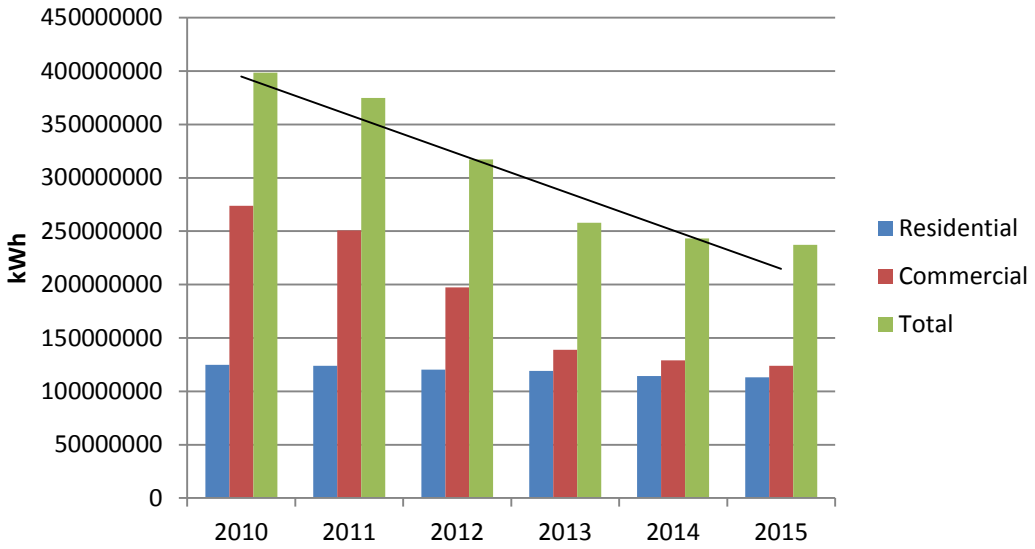
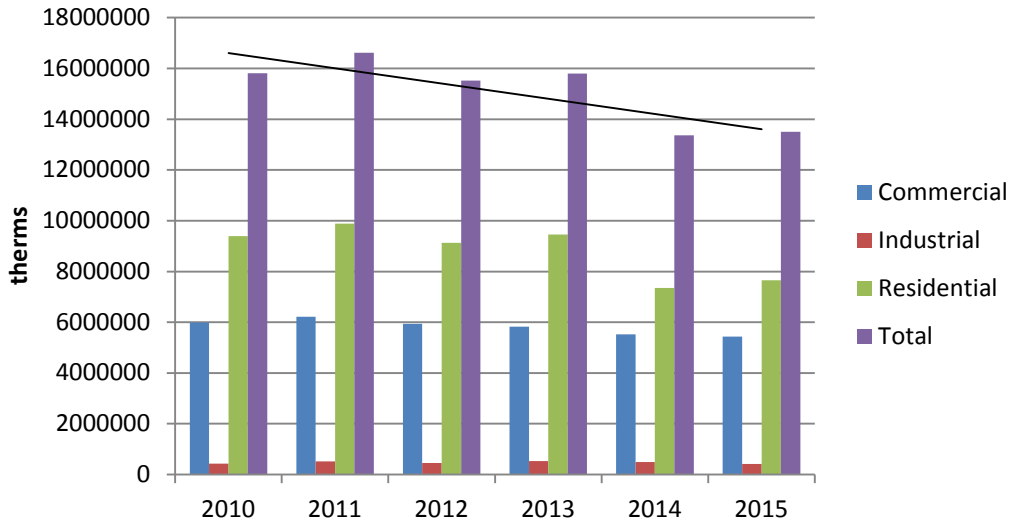


Figure 4- Community-wide Natural Gas Use



MEASURE C-E-2 Retrofit Financing	

Goal: Promote existing and support development of new private financing options for home and commercial building retrofits and renewable energy development.

Co Benefits	
Tracking Mechanism	Calculate energy savings from existing building retrofits
Progress Indicators	Upgrade and retrofit residential and commercial buildings throughout the city; • 750 single-family houses install a comprehensive retrofit package; • 450 single-family houses install a basic retrofit package; • 300 multi-family units receive a comprehensive retrofit package; • 175 multi-family units receive a basic retrofit package; • 875,000 square feet of nonresidential space installs a comprehensive retrofit package
Near-Term Measure Implementation Status	
Ongoing	A. Continue to participate in California FIRST to make PACE financing available to commercial, industrial, multi-family residential (5+ units), and non-profit-owned buildings
In Progress	B. Continue to participate in effort with other Santa Clara County local governments to establish countywide PACE financing district available for residential property owners (could also provide another source of commercial financing to compliment California FIRST program)
In Progress	.D. Finalize GreenBiz Financing Guide and create residential-focused guide and companion website to direct interested parties to utility, public agency, and local lending institution resources to advance energy efficiency and water conservation measures

Implementation Update: Implementation of this measure can be mapped in two areas:

1. *Retrofit financing*: To enable access to the capital required to make these often costly home and facility improvements, Cupertino has teamed with financing providers adept at this type of specific offering. The City currently participates in the California First ("CA First") Property Assessed Clean Energy (PACE) program, which provides funding for energy efficiency, renewable energy and water efficiency improvements, to be paid back over time on property tax bills. https://californiafirst.org/

To date, CA First reports that two residential projects have been completed since August 2014, with a total of $48,000 financed. One of the projects was a large solar array greater

than 7kWs. In speaking with CA First staff to gain a reason for the low uptake, they described that contractors report that Cupertino residents most often pay cash for PACE-eligible projects and do not have the need to finance home upgrade projects. CA First also shared that residents may also be utilizing Home Equity lines of credit to pay for upgrades, which in some cases have lower interest rates. Over the next year, City staff will further evaluate community motivations for making energy efficiency upgrades as a means of understanding ways to accelerate residential and business energy upgrade projects and financing options.

Also, staff is looking into expanding the number of PACE providers to better serve Cupertino residents and businesses. Expanding the number of PACE providers creates competition in the marketplace and allows residents and business owners to have a choice in their PACE provider. Each PACE provider has different interest rates and terms, so more options will allow residents to choose their provider based upon their specific energy efficiency project and financial circumstances. Staff is looking at this issue through a regional lens with the Joint Venture Silicon Valley Public Climate Task Force and the Association of Bay Area Governments (ABAG), as several other agencies have voiced similar challenges in navigating this landscape and are actively being courted by varied PACE providers. For this reason, ABAG recently completed a process to create a standard services agreement to ensure consistent application of key programmatic elements considered to be critically important for local governments. These include consumer protections and disclosures; local government risk mitigation and indemnification; co-marketing complementary energy efficiency programs; contractor and project quality assurance; and performance tracking, data, and reporting. Additional information on this process and next steps will be brought to Council in the coming months.

2. *Building Retrofit Programs*. To further incent accelerated deployment of energy and water conservation measures across the community, Cupertino teams with four different regional programs, outlined below, to leverage their skills, tools and resources to cost-effectively support community-wide program uptake.

- *Bay Area Regional Energy Network (*BayREN) runs the Home Upgrade Program, which is equivalent to the basic upgrade program for single-family homes, outlined in the Climate Action Plan. The program provides incentives up to $3,500 for home retrofit upgrade projects. www.bayren.org
  Current participation in this program to date is as follows;

Timeframe	Number of projects	Energy Savings
11/2013-10/2015	15 completed	kWh: 8,069 Therms: 2,590

- *PG&E's Advanced Home Upgrade* program is equivalent to the single-family comprehensive retrofit package outlined in the CAP.
  https://www.bayareaenergyupgrade.org/program-overview/advanced-home-upgrade
  Community participation in this program is slightly higher, as shown below;

Timeframe	Number of projects	Energy Savings
2013- 2015	35 completed	*Requested, but not yet provided*

- *BayREN's Multifamily Building Enhancement Program* is the current multi- family residential program for building upgrades available to all Bay Area residents. Participation in the program is designed to complete comprehensive retrofit upgrades and to save 10% or more of a building's energy use, and provides $750 per unit in rebates to help pay for the enhancements. This is a very popular program, and there is currently a waitlist for the incentive money. Note: program savings are lower than the Home Upgrade Program because units are typically far smaller than a single-family home (sq.ft.) and therefore use less energy.
  https://www.bayareaenergyupgrade.org/bay-area-multifamily-building-enhancements

Timeframe	Number of projects	Energy Savings
2014- 2015	311 units completed	kWh: 405 Therms: 30

- *Silicon Valley Energy Watch,* a PG&E ratepayer funded program, offers commercial retrofit programs through a partnership with nonprofit Ecology Action, among other services targeting other sectors (e.g. governmental, institutional, and academic). This program focuses on installed upgrades that might include efficient lighting, HVAC, boilers and water heating, refrigeration etc.
  https://www.sanjoseca.gov/index.aspx?NID=1501
  Cupertino itself has participated in their programs and is currently leading a detailed energy audit in partnership with Ecology Action (noted in the municipal summary below).

Timeframe	Number of projects	Energy Savings
2014- 2015	36 projects completed	kWh: 945,943

Staff has updated the Cupertino website with the current program information regarding these relevant financing and retrofit programs and will continue public outreach to increase the number of homes and businesses performing energy efficiency upgrades.

Additionally, staff is looking to expand the residential energy efficiency program to take advantage of current rebates, incentives, financing options and regional partnerships since the sunset of its agreement with Acterra's Green@Home service.

MEASURE C-E-3 Home and Commercial Building Retrofit Outreach

Goal: Develop aggressive outreach program to drive voluntary participation in energy- and water-efficiency retrofits.

Co-Benefits	
Supporting Measure- progress indicators and goals not provided	
Near-Term Measure Implementation Status	
In Progress	A. Partner with Housing Division to design a low- to moderate-income targeted energy and water conservation pilot program
In Progress	B. Partner with local realtor community to develop and implement a building owner outreach campaign that targets new building owners to provide information on available building energy efficiency audit and retrofit programs, as well as locally-available financing options (including PACE financing

Implementation Update: In addition to the retrofit-oriented programs noted above, the City is actively working on elevating adherence to existing statewide and local requirements that embed energy efficiency and water conservation into building design, construction and operations. This includes the City's Green Building Ordinance (in accordance with the California Green Building Standards Code), adopted in 2013, which applies to all new residential and non-residential buildings and structures, additions, renovations and tenant improvements. The varied City departments track and map Leadership in Energy and Environmental Design (LEED) buildings constructed and operating within the City, which is a third-party certification program of high performance green buildings, and a threshold set through the City's Green Building Ordinance for numerous project types.

LEED Projects in Cupertino as of February 2016

Certified	
Commercial Interiors	2
New Construction	3

Gold	
Commercial Interiors	1
Core and Shell	1
Silver	
Core and Shell	1
New Construction	2
Platinum	
Homes	1
New Construction	2
In Progress	
Commercial Interiors	2
Core and Shell	1
Existing Buildings	3
Homes	2
Mid-rise	1
New Construction	2
Retail - New Construction	1
Grand Total	**25**

GreenBiz. The City' GreenBiz Program (www.cupertino.org/greenbiz) shepherds local Cupertino small to mid-sized businesses through the statewide California Green Business Program (http://www.greenbusinessca.org). Since 2010, the program has helped 39 businesses through the program saving over 5 million lbs. of CO2.

Participation in California Green Business Program

	2010	2011	2012	2013	2014	2015	Total To Date
# businesses certified	9	5	13	4	3	5	**39**
Greenhouse Gas Emissions Saved (lbs./CO2)*	154,176	193,823	1,326,937	1,111,351	1,305,303	1,380,131	**5,471,721 lbs CO2**
Energy Saved (kWh)	149,758	177,605	518,850	563,272	581,183	678,129	**2,668,797 kWh**
Water Saved (gallons)	567,133	815,564	1,544,086	1,691,466	1,716,193	1,871,258	**8,205,700 gallons**
Solid Waste Diverted from Landfill (lbs)	928	2,165	618,102	3,368,120	3,411,388	3,412,625	**10,813,328 lbs**

*Note: this data is reported by the Santa Clara County Green Business Program. GHG emissions are reported in total lbs of CO2, not MT CO2e, which is the metric for the GHG inventory.

MEASURE C-E-4 Energy Assurance & Resiliency Plan

Goal: Develop a long-term community-wide energy conservation plan that considers future opportunities to influence building energy efficiency through additional or enhanced building regulations.

Co-Benefits	
Supporting Measure- progress indicators and tracking mechanism not provided	

Implementation Update: This is a long-term measure, in which the CAP identifies implementation to occur by 2035 or beyond. As the City is working to prioritize near-term (2020) goals in this early stage of implementation, there is no progress to report. If it becomes feasible to start this measure sooner, staff will work with the community to develop an energy plan that considers energy sources and their reliability with regards to estimated climate change impacts.

Even though the exact measures focused on developing a citywide energy plan are not yet advancing, the Cupertino Building department has participated in all 7 energy code trainings offered by the BayREN Codes & Standards Program to elevate staff awareness of these requirements to ensure effective citywide implementation and adherence to the mandates. Specifically, trainings focus on practical, effective enforcement strategies. The City also participated in the Permit Resource Opportunity Program (PROP) (one of only 15 in the entire bay area). The PROP effort was an evaluation of best practices and addressing challenges related to energy code compliance and enforcement in local building departments and was used to identify ways to improve compliance around the bay area. The final report can be found here: https://www.bayren.org/codes/prop-final-report and its findings will inform the development of the agency's long-term energy and resilience plan.

This development will also be informed by the City's involvement in the Silicon Valley 2.0 Adaptation and Resilience Project (https://www.sccgov.org/sites/osp/SV2/Pages/SV2.aspx). This adaptation decision-support tool developed for Santa Clara County communities, funded through a Strategic Growth Council grant, identifies climate vulnerabilities and risks to all infrastructure, including energy, that will aid in future communitywide energy planning.

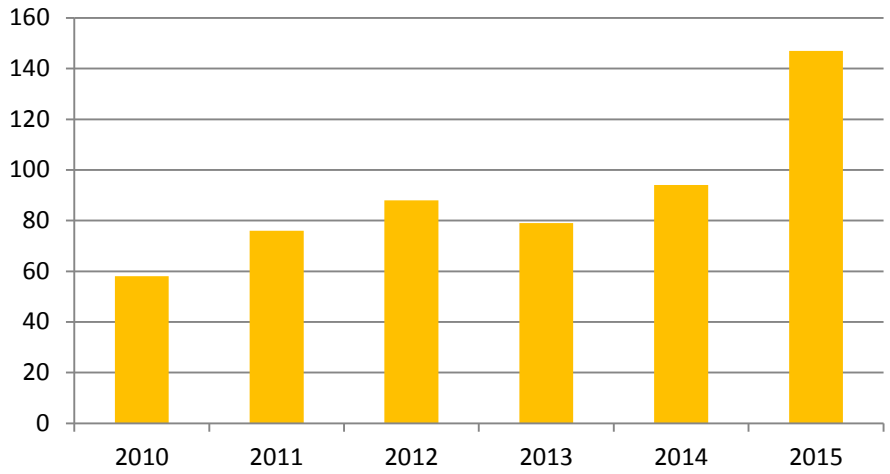
MEASURE C-E-5	Community Wide Solar Photovoltaic Development

Goal: Encourage voluntary community-wide solar photovoltaic development through regulatory barrier reduction and public outreach campaigns.

Co-Benefits	
Tracking Mechanism	Track community-wide installed PV capacity and electricity generation potential.
Progress Indicators	•1.5 MW of new solar PV capacity installed community-wide (residential and nonresidential combined) •Apple Campus 2 solar PV systems installed to generate 15 million kWh/yr •5.5 MW of existing solar PV installed from 2010-2014
Near-Term Measure Implementation Status	
In Progress	F. Work with PG&E to share information about PG&E's Community Solar program
In Progress	L. Instruct building and plan check officials to provide information to customers on the benefits of pre-wiring / pre-plumbing for solar applications at the time of new construction or substantial retrofits, including lower up-front costs as compared to retrofitting buildings in the future.

Implementation Update: From 2010-2015, over 484 solar installations have been installed community- wide. The CAP reports that 5.5 MW of Solar PV was installed from 2010-2014, which will contribute to the agency's emissions reductions recorded on a 2010 baseline. In 2015, an additional 147 permits were applied for to install about 811.36 kW of electricity, as shown below.

Figure 5- Cupertino Solar PV Permits



MEASURE C-E-6 Community-Wide Solar Hot Water Development

Goal: Encourage communitywide solar hot water development through regulatory barrier reduction and public outreach campaigns.

Co-Benefits	
Tracking Mechanism	Track total hot water heating capacity of installed solar hot water heaters.
Progress Indicators	This is a long-term measure, in which the CAP identifies implementation to happen after 2020, so no indicators are written in the CAP for 2020.

Implementation Update: This is a long-term measure, in which the CAP identifies implementation to occur by 2035 or beyond. As the City is working to prioritize near-term (2020) goals in this early stage of implementation, there is no progress to report. Staff is working with Community Development to track this data point, among others, through the deployment of their new software system to enable more ready access to this information for future reports and to drive future related outreach

MEASURE C-E-7 Community Choice Energy Option

Goal: Partner with other Santa Clara County jurisdictions to evaluate the development of a regional CCE option, including identification of the geographic scope, potential costs to participating jurisdictions and residents, and potential liabilities.

Co-Benefits	
Tracking Mechanism	Track community participation in clean- electricity purchasing programs. - Supporting Measure.
Progress Indicator	The CAP assumed that a local CCE program would not take place before 2020, but this measure was completed ahead of the assumed timeline.
Near-Term Measure Implementation Status	
Complete	A. Work with other Santa Clara County partners to conduct feasibility

	study of developing multi-jurisdiction CCE program
Complete	B. If study determines CCA to be feasible and advantageous to Cupertino residents and businesses, work with Santa Clara County partners to prepare necessary additional study reports, informational materials, and any other supporting research and/or documents to help pursue development of CCA program

Implementation Status: While this measure does not include progress indicators in the CAP, it was identified as an important long-term strategy to help the community achieve their more aggressive future-year reduction targets. When the CAP was adopted it was assumed that a local CCE program would not take place before 2020. Ahead of the implementation schedule outlined in the CAP, the City of Cupertino joined the cities of Sunnyvale, Mountain View and the County of Santa Clara to collaboratively pursue the creation of the Silicon Valley Community Choice Energy Authority. The Initial Assessment was completed May 2015. The Technical Feasibility Study was completed November 2015. As a result, Cupertino was the first city in Santa Clara County to join the Silicon Valley Community Choice Energy Authority in December 2015, for a total of twelve communities joining the JPA. This includes the cities of Campbell, Gilroy, Los Altos, Los Altos Hills, Los Gatos, Monte Sereno, Morgan Hill, Mountain View, Saratoga, Sunnyvale and County of Santa Clara. Current recruitment for an interim CEO is taking place and that the first Board of Directors meeting is scheduled for April 13, 2016. www.svcleanenergy.org.

ENCOURAGE ALTERNATIVE TRANSPORTATION

MEASURE C-T-1 Bicycle & Pedestrian Environment Enhancements

Goal: Continue to encourage multi-modal transportation, including walking and biking, through safety and comfort enhancements in the bicycle and pedestrian environment.

Co-Benefits	
Supporting Measure- progress indicators and goals not provided	
Near-Term Measure Implementation Status	
In Progress	A. Update City's Bicycle and Pedestrian Transportation Plans to reflect current bicycle and pedestrian safety and access needs; prioritize new projects identified
In Progress	B. Partner with local bicycle advocacy groups / clubs and neighborhood groups to identify dangerous bicycle or pedestrian conditions, and develop strategies to address problem areas

In Progress	C. Partner with schools, neighborhood groups, and businesses to encourage alternative transportation commute options. Expand alternative commute measures within existing sustainability programs, including Green@Home, GreenBiz, and Green@school
In Progress	D. Continue to evaluate City's bike & walkability through use of online and community surveying tools including WalkScore, Bicycle Friendly Community criteria, Safe Routes to School Walkability Checklist, etc.

Implementation Update: Implementation of this measure can be mapped in two areas:

1. *Bicycle Transportation Plan & Infrastructure* - The Public Works Transportation Division is currently in the process of completing the improvements approved and funded by Council in March 2015, as a part of the 2015 Bicycle Transportation Plan update. These include enhancing existing bike lanes with green pavement treatment in front of several elementary, middle and high schools, adding buffer zones to existing bike lanes along Stevens Creek Blvd and Stelling Road, and creating openings through several cul-de-sacs to allow for bike connectivity between neighborhoods. . Staff is also currently working on a more comprehensive bike plan update, which it anticipates will be presented to Council May 2016. This update will likely recommend further enhancements to the bike network including implementing Class IC bike lanes and network of off-street bike trails.

There have been many pedestrian enhancements completed to date including the recent completion of a pedestrian crossing prioritization study, which has included upgrades to existing uncontrolled crossing locations with enhancement such as in-pavement lights, warning signs and bulb-outs to reduce crossing distances; the addition of four school crossing guards, funded by the City . Next year staff is planning to update the Pedestrian Transportation Plan, which will guide the development and planning of our pedestrian facility improvements.

2. *Education & Encouragement* - At Mid-Year, the City Council approved a full-time position to grow the current scope of the part-time role of the City's first Safe Routes to School Coordinator working to support and encourage active mobility to school across six pilot schools. Through this program, the City is demonstrating its commitment to significantly increase students biking and walking to campus and enhance safety skills and education among students and parents alike.

MEASURE C-T-2 Bikeshare Program

Goal: Explore feasibility of developing local bikeshare program.

Co-Benefits	
Supporting Measure- progress indicators and goals not provided	
Near-Term Measure Implementation Status	
Ongoing	A. Continue to operate municipal bike fleet for City employee use and encouragement of bike fleets at large employers

Implementation Update: The City currently operates a municipal bike fleet, for city employee use. There are two bicycles that are available at City Hall at any time for staff to take for meetings around town. The City used to have four bicycles available at City Hall but re-commissioned them to Blackberry Farm for workers to use as an alternative to the gas-powered golf cart. As a part of the City's GreenBiz program, employers are encouraged to offer bikes for employee usage. Outreach to employers will continue to be done through GreenBiz and possibly periodic Commuter Benefits compliance evaluations through the Bay Area Air Quality Management program. Staff is exploring ways to bring Bay Area Bike Share service to the City as part of a long-term integrated transportation strategy.

MEASURE C-T-3 Transportation Demand Management

Goal: Provide informational resources to local businesses subject to SB 1339 transportation demand management program requirements and encourage additional voluntary participation in the program.

Co-Benefits	
Tracking Mechanism	Identify VMT reductions associated with TDM programs offered throughout the community
Progress Indicators	10% of total employees in 2020 participate in TDM program that offers rideshare promotion, telecommuting/ alternative schedules, and subsidized transit fares.
Near-Term Measure Implementation Status	
In Progress	A. Support regional efforts to implement SB 1339 commute benefit requirements for employers with more than 50 employees

Implementation Update: Staff contacted BAAQMD to get a list of all the local businesses that are in and out of compliance with the SB1339 Commuter Benefits Program. All businesses that are required to participate in the program are in compliance. Since SB1339 is set to expire January 1, 2017, staff will continue to monitor the changing program requirements and compliance rate in the city. In the interim, staff are outreaching on commuter benefits programs and active mobility opportunities with area employers through GreenBiz and occasional correspondence in the Economic Development newsletter, "BizBuzz".

MEASURE C-T-4 Transit Route Expansion

Goal: Explore options to develop local community shuttle or community-wide car sharing to fill gaps in existing transit network.

Co-Benefits	
Supporting Measure- progress indicators and goals not provided Identify VMT reductions associated with TDM programs offered throughout the community	

Implementation Update: This is a long-term measure, in which the CAP identifies implementation to happen after 2020. If it becomes feasible to start this measure sooner, progress will be reported to Council. Growing our City's public transportation options and expanding alternative transit infrastructure is critical to reducing our greenhouse gas emissions, reaching our climate goals, and supporting a sustainable Cupertino. For this reason, current members of Cupertino's City Council are taking leadership to evaluate alternative transportation opportunities for our community to shift current modes away from prioritizing single occupancy vehicles to those that optimize mass transit (see: http://www.cupertino.org/index.aspx?page=1428).

MEASURE C-T-5 Transit Priority

Goal: Improve transit service reliability and speed.

Co-Benefits	
Supporting Measure- progress indicators and goals not provided	
Near-Term Measure Implementation Status	
Ongoing	A. Work with VTA to identify local roadways on which traffic congestion frequently leads to impacted transit reliability or timing.

Implementation Update: Transit priority functionality was activated on VTA Limited 323 buses on Sunday, January 25, 2016. These buses trigger transit signal priority along the San Carlos Street-Stevens Creek Boulevard corridor between Delmas Avenue in San Jose and Stelling Road in Cupertino. The Public Works Transportation Division continues to work with VTA to monitor the effectiveness.

MEASURE C-T-6 Transit-Oriented Development

Goal: Continue to encourage development that takes advantage of its location near local transit options (e.g., major bus stops) through higher densities and intensities to increase ridership potential

Co-Benefits	
Supporting Measure- progress indicators and goals not provided	
Near-Term Measure Implementation Status	
Ongoing	C. Continue to consider off-street parking requirements for transit-oriented and mixed use developments, for developments providing shared parking, and for developments that incorporate travel demand management measures.

Implementation Update: This is an ongoing action item that will be evaluated with each individual project on a case-by-case basis. The City's Complete Streets Policy and various elements of its recently adopted General Plan work to embed this approach into all future development projects. Shared parking is often used and approved as part of mixed-use

development projects. If requested by the applicant, in cases where a parking study indicates that fewer parking stalls than that mandated by the Parking Ordinance are required, approval is considered and frequently granted.

In addition, the City adopted its 2014-2022 Housing Element in May 2015 to accommodate its Regional Housing Needs Allocation (RHNA). Of the five sites identified as Priority Housing Sites, three (Marina Plaza, Barry Swenson and Vallco Shopping District) are located within a ¼ mile walking distance of the VTA Priority Development Area (PDA) located within the city along Stevens Creek Boulevard and N. De Anza Boulevard. Note that Vallco Shopping District would a Priority Housing Site upon adoption of a Specific Plan for that Special Area.

In addition, the City Council considered increasing the office development capacity along the cities major corridors (Stevens Creek Boulevard, N. Wolfe Road, N. De Anza Blvd.) and allocated office development potential of up to 2,000,000 square feet within the Vallco Shopping District Special Area (also located within ¼ mile of the VTA PDA) subject to the adoption of a Specific Plan.

MEASURE C-T-7 Community-Wide Alternative Fuel Vehicles

Goal: Encourage community-wide use of alternative fuel vehicles through expansion of alternative vehicle refueling infrastructure.

Co-Benefits	
Tracking Mechanism	Track community-wide shift towards alternative fuel vehicles
Progress Indicator	Shift vehicle fuel use from gasoline and diesel to electricity and other clean fuels. Community-wide motor vehicle profile shifts as follows: • 5% of gasoline passenger vehicles shift to plug-in hybrid electric (PHEV); • 5% of diesel passenger vehicles shift to PHEV; • 5% of gasoline light-duty trucks shift to PHEV; • 3% of gasoline heavy-duty trucks shift to CNG; • 3% of diesel heavy-duty trucks shift to CNG; • 40% of diesel buses shift to CNG, 20% shift to PHEV

Near-Term Measure Implementation Status	
In Progress	B. Develop Alternative Fuel Infrastructure Siting Plan focused on strategic development of EV charging stations and municipal CNG fueling stations based upon demand analyses and feasibility studies; EV station siting plans will identify appropriate locations for Level 1 (slow charge), Level 2 (fast charge), and Level 3 and DC (rapid charge) charging stations in community and will analyze different models for charging station ownership/management (i.e., public vs. private sector)
In Progress	C. Work with MTC and Bay Area local governments to develop informational brochures and technical support for developers / contractors interested in providing public electric vehicle (EV) charging ports in new projects
In Progress	D. Identify regional partners for collaboration on multi-family EV charging station retrofit program to develop strategies for installing EV chargers in existing multi-family buildings/apartment developments
On-going	E. Continue to enforce pre-wiring for at-home/business electric vehicle charging ports in new construction per City's existing ordinance and evaluate additional building code and zoning code revisions recommended through SGC Grant
In Progress	F. Pursue local incentives, partnerships, and funding mechanisms guided by SGC Grant; Provide links on City's website to sources of cash rebates or other financial incentives for purchase and/or lease of alternative fuel vehicles
On-going	G. Continue to provide links to maps identifying EV charging stations and alt fuel stations

Implementation Update: Implementation of this measure can be mapped in five unique areas:

1. *Evaluation and Planning* – In 2015, the City partnered with the County of Santa Clara and other regional cities to prepare a Strategic Growth Council grant to enable six participating agencies to launch an innovative regional alternative fuel vehicle planning effort titled " Driving to Net Zero: Decarbonizing Transportation in Silicon Valley." The grant was awarded and Cupertino is serving on the Advisory Team to oversee its implementation. The initiative includes zero emissions vehicle and infrastructure planning, siting, data forecasting, training, policy and program platform that will inform future agency decision-making across a variety of sectors.

2. *Enforcement*- Staff is continuing to enforce amendments to the Green Building Standards Code, to require all new construction to provide a dedicated branch circuit to serve a future charging station and pre-wiring or a raceway/conduit to

feed future wires to residential stalls and to 10% of non-residential stalls. Technical support is currently available through City's building department for anyone that wants to install EV charging ports in a new project; in compliance with the City's 2014 pre-wiring requirements.

*3. E*ducation - Information on EV charging is available on the City website, www.cupertino.org/evs Staff is working to evaluate whether informational brochures are needed.

4. *Data Gathering* - Staff is working with other community partners through the Driving to Net Zero project, to get better access to data that can be consistently tracked over time, in the absence of having access to protected driver records available through DMV. In the meantime, a rough estimate of number of electric vehicles owned by Cupertino residents can be found by looking at the California Air Resources Board California Vehicle Rebate Program (CVRP). The CVRP program gives rebates up to $5,000 for California residents that purchase or lease an all battery electric, plug-in hybrid, hydrogen fuel cell or neighborhood electric vehicles. Between March 18, 2010 to February 1, 2016, there have been 1,204 rebates amounting to $2,728,600 approved for applicants in the 95014 zip code. Not all eligible EV drivers participate in the CVRP, so staff looked at the participation rates in the program. According to a report by the Center for Sustainable Energy, participation rate for Santa Clara County is about 74%, so applying this number brings the estimated number of EV's owned by Cupertino residents to about 1,692 – 2,193 electric vehicles. (https://cleanvehiclerebate.org/eng/content/cvrp-participation-thru-2015-03).

5. *Infrastructure Deployment* -. The City participated in the Prospect Silicon Valley convened-Bay Area Charge Ahead Project (BayCAP) to secure and install 4 additional dual port charging station at the Cupertino Library and Quinlan Community Center (see: http://prospectsv.org/category/news-events/media/baycap/). The City also purchased and installed a PV-tied system in the Service Yard to fuel its growing alternative fleet. Additionally, the City's GIS division tracks the number of electric vehicle charging stations installed in the city, through permit data. This includes home chargers and public chargers. As of the end of 2015, a total of 154 charging stations had been permitted in the City. Residents that uses Level 1 charging at home, do not need to install a charger and therefore will not be reflected in this number.

CONSERVE POTABLE WATER

MEASURE C-W-1 SB-X7-7

Goal: Implement water conservation policies contained within Cupertino's Urban Water Management Plan to achieve 20 percent per capita water reductions by 2020.

Co-Benefits	
Tracking Mechanism	Track per capita water use compared to 2010 baseline levels.
Progress Indicators	Reduce water use 20% less per capita than 2010 baseline usage.
Near-Term Measure Implementation Status	
In Progress	B. Work with local water providers to identify opportunities for water use data tracking and reporting at community-wide level; if successful, share this information through CAP's annual progress reporting procedures, aligned with required General Plan implementation annual reports
Ongoing	C. Partner with community/neighborhood groups to promote existing water conservation programs and participation in voluntary turf-removal programs

Implementation Update: Implementation of this measure can be mapped in four unique areas:

1. *Data & Analytics* - Staff is working with local water providers to collect water use data at a community level for annual CAP reporting purposes. The City is currently split between three different water retailers: California Water Service (CAW) and San Jose Water Company (SJW). CAW has provided annual aggregate community water usage data from 2013-2015 and are working to provide any additional historic data available. SJW is working on providing annual aggregate community water usage data from 2010-2015 and expects to produce this information by May 2016. Staff is coordinating with both retailers to determine how to most effectively obtain this community wide data on an annual basis.

2. *Education & Trainings* - Staff historically engaged with neighborhood groups via its "growing greener blocks" initiative, which remains a service offering for Block Leaders to select when planning a community Block Party. As staff reevaluates more comprehensive energy/water outreach/engagement programs, the Division continues to host water conservation workshops (e.g. Graywater Workshop hosted

in 3/16, with 20+ attendees), offer resources via the DIY Toolkit available at the Cupertino Library, and share information via www.cupertino.org/savewater, Cupertino Scene articles and social media channels.

3. *Financial Incentives* – The City has teamed with the Santa Clara Valley Water District (SCVWD) to expand participation in the Landscape Rebate Program, designed to assist residential, commercial, industrial and institutional property owners increase efficiency in outdoor water use by converting lawns or pools to drought tolerant landscaping and/or upgrading to high efficiency irrigation equipment. In FY15/16 the SCVWD offered $2 per square foot of converted landscape to encourage low water using landscapes and offered additional rebates for high efficiency sprinkler nozzles and bodies, flow meters, and weather-based irrigation controllers. Experts estimate that 20 gallons per square foot of lawn converted is saved annually. Starting in 2015, Cupertino offered an additional $1 for residents to participate in the program, bringing the total rebate amount to $3 per square foot. The City contributed $115,000 towards this program.
   Participation in the program is as follows:

	# Rebates	Sq. Feet Converted	Est. Annual Savings (Gallons)
2010-2012	5	7,196	143,920
2013	8	9,933	198,660
2014	16	15,585	31,170
2015	106	138,121	2,762,420

4. *New Requirements* - In March 2016, Cupertino's City Council approved and adopted an updated Municipal Water Efficient Landscape Ordinance (MWELO) that will conform to the new State requirements while maintaining a streamlined approval process. It applies to development projects that include landscape areas of 500 sq. ft. or more (e.g. residential, commercial, industrial and institutional projects) that require a permit, plan check or design review. The previous landscape size threshold in Cupertino was 2500 sq. ft., which shall remain for existing landscapes that are being rehabilitated. Staff is working on tracking data on the number of permits and related efficiency statistics related to the implementation of this ordinance.

MEASURE C-W-2 Recycled Water Irrigation Program

Goal: Recycled Water Irrigation Program Explore opportunities to use recycled water for irrigation purposes to reduce potable water demands.

Co-Benefits	
Supporting Measure- progress indicators and goals not provided	
Near-Term Measure Implementation Status	
Ongoing	B. Continue to monitor regional discussions regarding expansion of existing recycled water systems in neighboring jurisdictions
In Progress	C. Identify City-owned site to install educational demonstration project that showcases water-efficient landscaping strategies, alternative irrigation options, and/or low-impact landscape design techniques

Implementation Update: Staff is involved in regional Santa Clara Valley Water District Landscape Committee Meetings and attending other relevant showcases and symposiums. Educational demonstration projects that showcase water efficient landscape strategies are earmarked in the FY 15/16 budget and are anticipated to be deployed based upon Public Works capacity/direction and information from water consumption data and analysis to clearly identify the appropriate location to site the installation. The City partnered with Acterra to offer a free training to the community in rainwater harvesting and rain gardens on March 5th, at which rain barrels were installed at the Environmental Education Center. This workshop was followed by a free Graywater Laundry to Landscape Seminar offered by the City the very next week.

REDUCE SOLID WASTE

MEASURE C-SW-1 Zero Waste Goal

Goal: Maximize solid waste diversion community-wide through preparation of a zero waste strategic plan.

Co-Benefits	

Supporting Measure- progress indicators and goals not provided	
Near-Term Measure Implementation Status	
In Progress	A. Continue to implement City's goal to divert 75% of community-wide solid waste through franchise waste hauling contract

Implementation Update: A Mandatory Commercial Organics Ordinance was adopted and implemented to increase organic waste diversion and therefore enhance overall communitywide diversion. As the first tiers of the ordinance were implemented as of September 1st, 2015 and January 20th, 2016 (see C-SW-2), it is too soon to have data that quantifies a diversion increase. Cupertino's community-wide overall diversion in 2014 and likely 2015 has been greatly impacted by unreported recycling and onsite reuse of demolition and construction debris for self-haul projects over the past 2-3 years. Although diversion is important, to achieve zero waste goals it is more important to track and emphasize a reduction in material to landfill.

Additionally, it is important to note that the amount of waste going to the landfill is affected by the economy. A strong economy generates more consumption, which can cause landfill tonnage from the commercial and residential sectors to increase. Most importantly, a strong economy generates more new and redevelopment, which can trigger an increase in demolition debris. Staff is looking at researching these effects further and will provide more information in later CAP updates.

MEASURE C-SW-2 Food Scrap and Compostable Paper Diversion

Goal: Continue to promote the collection of food scraps and compostable paper through the City's organics collection program

Co-Benefits	
Tracking Mechanism	Track the percentage of compostable food and paper that are diverted from the solid waste stream.
Progress Indicators	• Households divert 40% of food scraps and compostable paper; • 10% of businesses divert 20% of food scraps and compostable paper; • Households and businesses divert 85% of yard waste
Near-Term Measure Implementation Status	
In Progress	A. Continue to implement the City's organics collection program outreach campaign, including outreach to Cupertino's business community regarding upcoming commercial food waste ordinance

Implementation Update: Outreach continues to grow for the City's organic collection program, and is strategically paired with outreach for other materials management programs (e.g. Food Rescue, Rethink Waste and GreenBiz). Outreach efforts have specifically aligned with the following initiatives:

1. *New Mandate* - The City's Mandatory Commercial Organics Ordinance went into effect for the largest food generators on September 1, 2015, affecting 8 accounts (each account can include multiple businesses). The second tier, affecting 18 mid-level food generators, went into effect on January 20, 2016. City staff visited all affected businesses and offered employee training, free bins and customized signage, and technical assistance. Staff is planning for the third tier, which will go into effect by July 1, 2018, for businesses and multifamily sites generating a sizable (4 cubic yards or more) quantity of solid waste. All single family homes have been provided a yard waste cart where they can put their organic waste.

2. *Workshops* - Upon completion of a free home composting workshop, residents receive a free backyard compost bin (diversion rates do not include diversion due to backyard composting).

3. *Strengthened Hauler Partnership* - In 2015, Staff and Recology began prioritizing efforts to reduce contamination and produce a cleaner compost product. The residual (the amount of contaminated material removed from the organics stream) was deducted from total composted tonnage. This change in reporting affected 2015 organics collection totals. This reporting more accurately reflects the amount of total organics composted.

4. *Regional Partnerships* - In addition to food waste diversion achieved by organics recycling, the City joined a regional campaign to increase commercial food donations. In 2015, eight Cupertino businesses donated about 112,000 pounds of food to West Valley Community Services' food bank, a Cupertino-based nonprofit.

Efforts described above have achieved the following community results:

Figure 6- Commercial Total Tons Waste Collected

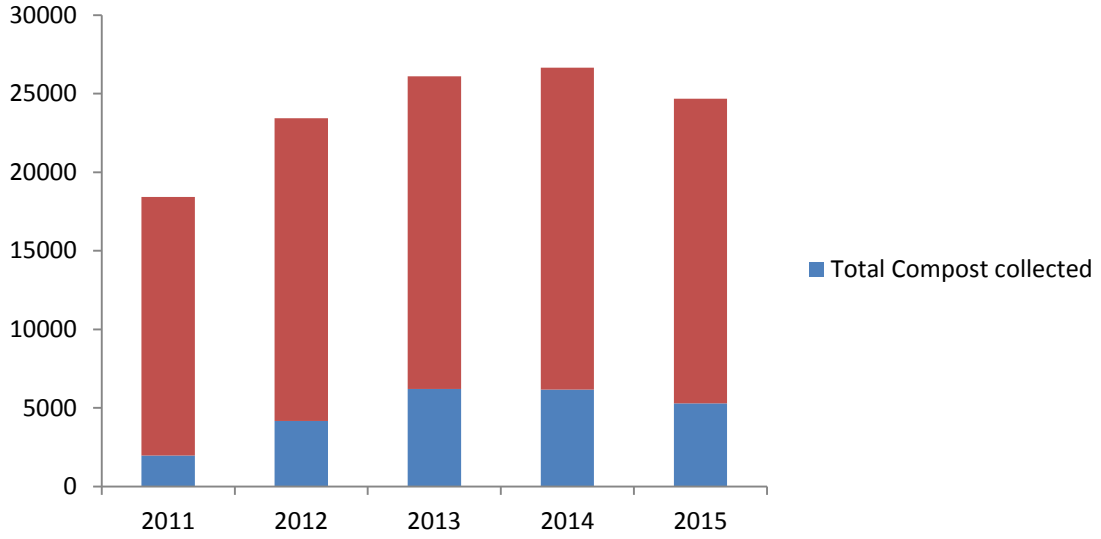
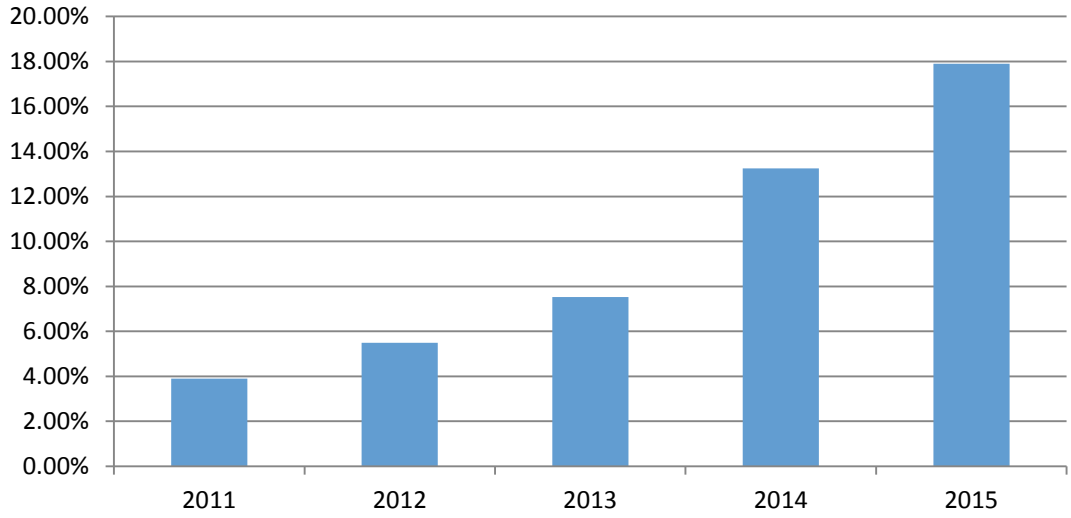


Figure 7- Percentage of Commercial Accounts with Organics Collection Service



MEASURE C-SW-3 Construction & Demolition Waste Diversion Program

Goal: Continue to enforce diversion requirements in City's Construction & Demolition Debris Diversion and Green Building Ordinances.

Co-Benefits	

Tracking Mechanism	Track the percentage of construction and demolition waste that is diverted from the solid waste stream.
Progress Indicators	60% of construction and demolition waste diverted, per City's ordinance – approximately 2,600 tons/yr.
Near-Term Measure Implementation Status	
Ongoing	A. Continue to implement City's 60% C&D diversion requirement for applicable projects as defined in City's Construction and Demolition Debris Diversion Ordinance

Implementation Update: Staff continues to require 60% diversion from self-haul projects (3,000 sq. ft. or more) or use Recology, wherein all Construction & Demolition (C&D) materials are sorted and all recyclable materials are recycled, on average resulting in 75-90% diversion

EXPAND GREEN INFRASTRUCTURE

MEASURE C-G-1 Urban Forest Program

Goal: Support development and maintenance of a healthy, vibrant urban forest through outreach, incentives, and strategic leadership.

Co-Benefits	
Tracking Mechanism	Track the number of new trees planted community-wide
Progress Indicators	2,500 net new trees planted in the city from 2015 onward *Assumes 2,400 from Apple 2 Campus, and 100 from other community plantings.
Near-Term Measure Implementation Status	
Ongoing	A. Continue implementing landscaping requirements in City's Development Standards, Design Guidelines, and other regulatory documents

Implementation Update: The Public Works Department tracks the number of new trees planted by the City and plots them on a GIS map that is available to the public through the

Open Data Portal: http://gis.cupertino.opendata.arcgis.com/. Staff will track the number of net new trees from 2015 onward and communicate with Apple representatives to get an update on the status of the tree plantings at the Apple 2 Campus as the project progresses.

Year	Net New Tress Planted
2010	96
2011	40
2012	147
2013	470
2014	410
2015	100

MUNICIPAL MEASURES

Detailed below are each of the City's near-term municipal measures, which includes a summary of the measure ("Goal"), the process staff is using for tracking that measure (a combination of "Tracking Mechanism" and "Progress Indicators"), the status and implementation efforts to achieve 2020 goals ("Status" and "Implementation Update"). The measures are broken out into their corresponding reduction strategies; improve facilities, convert vehicle fleet, reduce solid waste.

IMPROVE FACILITIES

MEASURE M-F-1 Sustainable Energy Portfolio

Goal: Procure low-carbon electricity through utility-based programs or participation in a Community Choice

Co-Benefits	
Tracking Mechanism	Track portion of municipal electricity that comes from renewable sources.
Progress Indicators	•100% of municipal electricity use in 2020 comes from 75% renewable (or zero carbon) sources via PG&E Green Option OR •100% of municipal electricity use in 2020 comes from 100% renewable (or zero carbon) sources via Community Choice Energy Program

Near-Term Measure Implementation Status	
A. Support Utility-Enhanced Clean Generation Portfolio	
On-Hold	Conduct feasibility study of PG&E Green Option financial costs (per kilowatt hour (kWh) costs have not been finalized yet as part of program development) for City to purchase part or all of its electricity from renewable sources; Develop resolution to opt into PG&E Green Option program for municipal electricity purchases (Note: program is currently capped at 272 MW and as 5 year pilot program; it is currently unknown how enrollment decisions will be made should program become fully subscribed)
B. Create Community Choice Energy Option	
Complete	Continue to monitor CCE efforts within Santa Clara County, City of San Francisco, and East San Francisco Bay cities; if local support exists to further; consider CCE options within Cupertino, pursue the following steps:;Identify potential jurisdictional partners for development of CCE (e.g., Sunnyvale, Mountain View); Conduct feasibility study to assess viability of CCE program in Cupertino (can be conducted jointly with33 2 other jurisdictional partners); Based on results of feasibility study, pursue development of (or participation in) CCE per state 4 20requirements; Adopt resolution for City to participate in CCE.; Determine feasibility of City to purchase electricity for municipal operations from CCE, based on approved CCE rate structure; CCE may provide options for level of participation (e.g., 50% clean electricity, 100% clean electricity)

Implementation Update: The city does not envision participating in the PG&E Green Option as Silicon Valley Clean Energy (SVCE) is anticipated to go online in the Winter of 2016/2017 and will provide more cost effective access to renewable energy for the City accounts. SVCE will host its inaugural meeting on April 13, 2016. Staff is actively involved in the development of SVCE, as its contracted outreach lead, and will remain informed of key decisions made through Council's appointed Board of Directors Member to the Authority. SVCE anticipates going to market to learn indicative pricing with confirmed rate prioritize (e.g. costs and environmental attributes) in the Summer of 2016, at which time staff will evaluate potential rate structures, renewable portfolio and GHG content to determine applicability for City electricity accounts.

Transition to SVCE could yield significant GHG savings for the agency, and the community at large, as detailed in the City's Climate Action Plan and also SVCE's Technical Study. For the year 2014, PG&E reported that the renewable percent of electricity is at 28%. The state mandates that all utilities will have 33% renewable portfolio by the year 2020. SVCE anticipates exceeding this requirement in its first year of operations, with an "opt-up"

option for residents that want to purchase 100% renewable energy. There may also be a middle-ground service offering of 50-75% that would be available at a slight cost-premium (i.e. 3 cents per kWh).

In the interim, staff is working to identify opportunities to disaggregate consumption by meter to better gauge the effectiveness of energy conservation measures when implemented at the circuit level. PG& E provides municipal electricity and natural gas use in aggregate for all municipal buildings and accounts. Staff is currently working to improve access to data and be able to differentiate between the different end uses of buildings, parks, park and parking lot lights, so that the energy efficiency programs can be effective and progress can be tracked.

The agency's aggregate electricity and natural gas use are detailed below. Not that the City has reduced energy use over time, despite the addition of new facilities and infrastructure have come online between 2010 – 2015 (e.g. Franco Park, Environmental Education Center). The largest energy conservation project can be attributed to a citywide streetlight retrofit funded, in part, through the City's Department of Energy, Energy Efficiency and Conservation block Grant (EECBG) in 2009 – 2010.

Figure 8- Municipal Electricity Usage

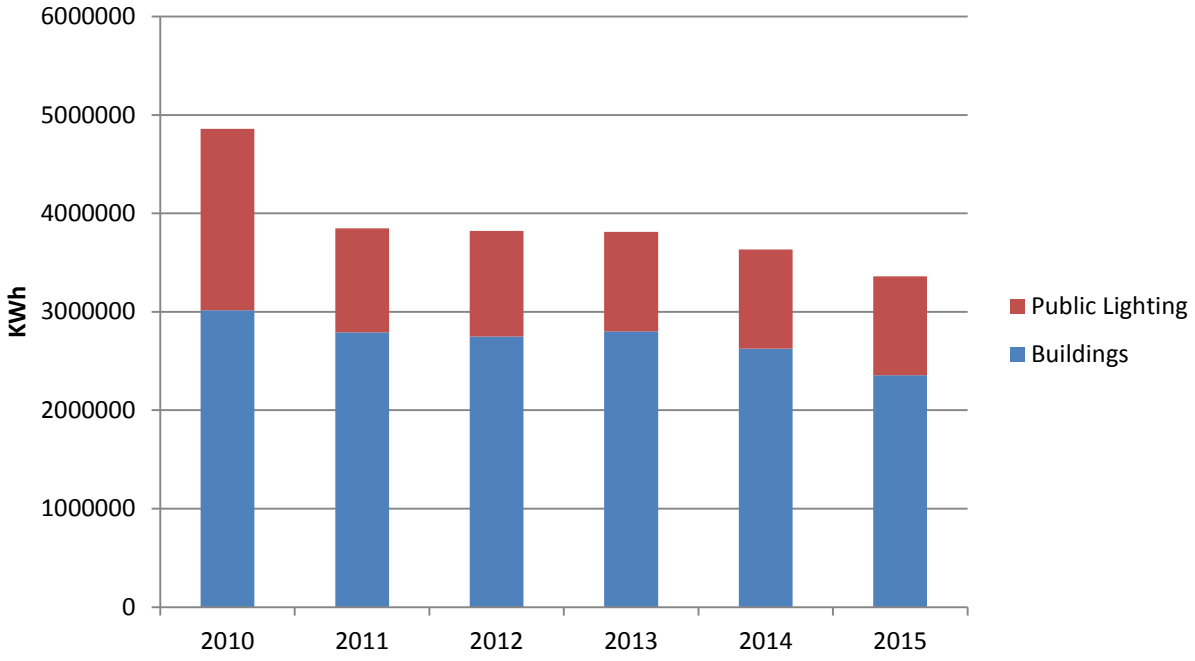
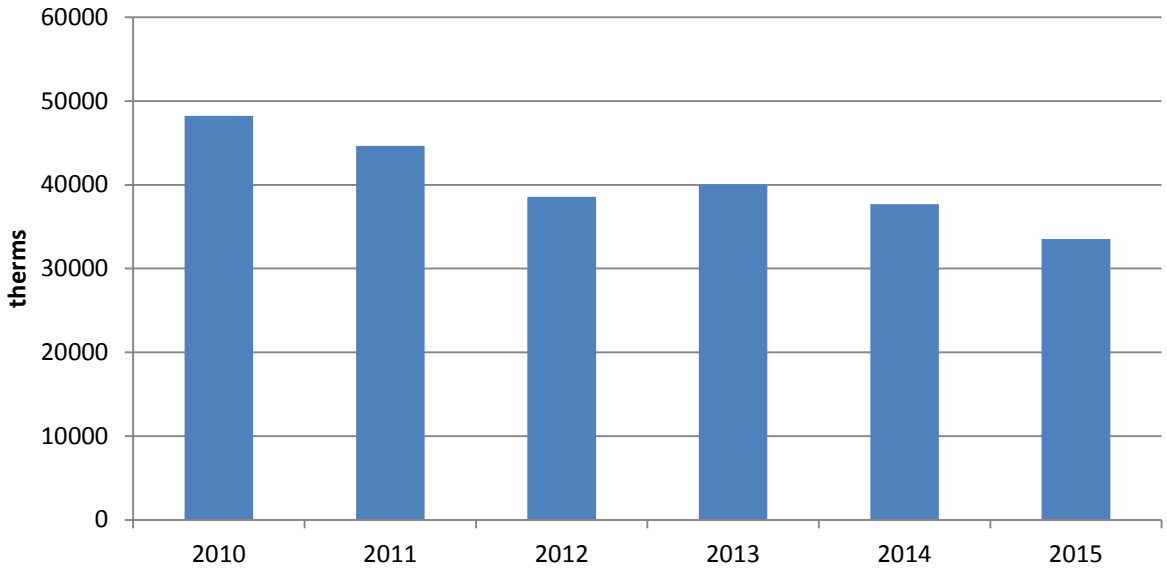


Figure 9- Municipal Gas Usage



MEASURE M-F-2 Renewable or Low-Carbon Electricity Generation

Goal: Develop renewable energy facilities at municipal buildings and facilities.

Co-Benefits	
Tracking Mechanism	Calculate total electricity generation capacity of municipal solar PV systems.
Progress Indicators	Assumes five solar sites are developed for total installed capacity of 508 kW generating 818,000 kWh/yr. Assumes no solar thermal systems are pursued prior to 2020
Near-Term Measure Implementation Status	
A. Install Solar PV Installations on City Buildings / Property	
Ongoing	Based on results of City's previous solar feasibility study, pursue PV installations at City Hall complex, Quinlan Community Center, Cupertino Library, Corporation Yard, and Civic Center carports through Santa Clara County Regional PPA or other financing option (e.g., City procurement, lease-to-own); Review future potential for additional PV installations at sites associated with implementation of Civic Center Master Plan (e.g., Teen Center, new City Hall, Sheriff's Office)

Implementation Update: The City installed its first municipal solar carport project is located at the Public Works' Service Center, adjacent to the Burnett Bicycle-Pedestrian Bridge on Mary Ave. The system size capacity is 103.7 kW, and is estimated to generate enough electricity to offset 74% of the Service Center energy use across three unique meters, including the Don Burnet Bridge. The solar installation is estimated to save the City approximately $25,000 per year. As of February 29, 2016 the array has generated 163,661 kWh since it was installed on December 6, 2014.

MEASURE M-F-3 Advance Energy Management Activities

Goal: Reduce energy consumption in existing municipal buildings through data analysis, interactive management systems, employee education, and building operation and maintenance policies.

Co-Benefits	
Tracking Mechanism	Track energy savings from advanced energy analytics program participation.
Progress Indicators	Assumes 14.5% reduction in 2010 baseline building electricity use (i.e., 410,000 kWh/yr. saved) and 14.3% reduction in 2010 baseline building natural gas use (i.e., 6,900 therms/yr. saved)
Near-Term Measure Implementation Status	
C. Install Energy Management Systems	
Initiating	Work with energy analytics firm and City IT department to identify additional opportunities for office system EMS to automate control and monitoring of office equipment (e.g., computers, monitors, printers), beyond those already installed, including strategy for advanced power strip purchases and use in City buildings; Work with energy analytics firm to review existing advanced lighting controls/monitoring systems (e.g., automatic dimmers), ensure proper operation, and identify opportunities for additional installations in other City buildings/facilities
E. Design / Implement Facilities & Equipment Energy Management Policy	
In Progress	Research and collect facility-related energy conservation policies and procedures from cities locally and nationally; Develop draft Policy and Procedure that outlines facility energy and water conservation goals, employee responsibilities, operating equipment procedures, and

	purchasing guidelines, to ensure consistency with City's Environmentally Preferable Procurement Policy; Implement Procedure and track progress to achieve utility cost and resource savings on periodic basis ; Adjust Procedure as best practices evolve and new technologies are introduced to achieve larger financial and utility conservation gains over time; Identify third-party certification programs and rating criteria to recognize Cupertino's utility conservation efforts

Implementation Update: Staff has scheduled energy audits in April 2016 with Silicon Valley Energy Watch/Ecology Action for Quinlan Community Center, City Hall, the Sports Center, Blackberry Farm, the Senior Center, and the Library. These audits will guide future energy efficiency projects and initiatives. The City also expects to procure a Utility Data Management Solution to assist with tracking energy usage and billing data by Summer 2016. Staff also initiated policy collection which informed the development of the City's first Plug Load Management Policy (developed with PW), Green Purchasing Policy & User Guide, and forthcoming Workstation Energy Management Policy (developed with IT).

MEASURE M-F-4 Grow Existing Building Energy Retrofit Efforts

Goal: Reduce energy consumption in existing municipal buildings through energy efficiency improvements.

Co-Benefits	
Tracking Mechanism	Track energy use reductions associated with building retrofits.
Progress Indicators	Assumes 254,000 kWh/yr. saved as result of interior lighting retrofits and occupancy sensors, and 59,000 kWh/yr. saved as a result of plug load controllers (assumed 200 controllers installed)
Near-Term Measure Implementation Status	
A. Complete Building Retrofits	
Initiating	Use results from advanced analytics program (see M-F-3 A) to identify appliances and building systems that are underperforming from energy use perspective, and develop prioritization plan for equipment replacement / building retrofits; work with PG&E to identify available rebates, incentives, or on-bill financing opportunities for various

	improvements; Continue to make progress on implementing efficiency opportunity findings from City's Detailed Energy Audit; establish budget priority for Energy Audit update in next five years

Implementation Update: To date the City has made many energy efficiency improvements across its municipal portfolio, a sampling of which is displayed in the table below. Staff is currently working on cataloging the savings and inventorying of all the energy efficiency measures that have been installed. The goal is to improve the currently tracking systems to produce a report for CAP progress each year. These measures will also benefit from the results of the Silicon Valley Energy Watch/Ecology Action energy assessment on municipal buildings that is anticipated to be completed this spring.

Year	Facility Improvement Measure (FIM)	Location	Annual Energy Savings (kwh)
2010	PC Power Management Software	Citywide	34000
2011	Lighting Upgrade - (Electronic) Ballast Replacement	10300 Torre Avenue	2305
2011	Lighting Upgrade - T12 --> T8	10300 Torre Avenue	4053
2011	Lighting Upgrade - De-lamping	10300 Torre Avenue	1340
2011	Lighting Upgrade - Motion Sensor (Hall/Stairways)	10300 Torre Avenue	496
2011	Lighting Upgrade - T12 --> T8	10300 Torre Avenue	2702
2011	Lighting Upgrade - Occupancy Sensors	Citywide	6676
2011	Lighting Upgrade - T12 --> T8	10185 Stelling	5963
2013	Plug Load Occupancy Sensor	10555 Mary Ave	668
2013	Lighting Upgrade --> T12 - T8	10555 Mary Ave	3714
2013	Lighting Upgrade - (Electronic) Ballast Replacement	10555 Mary Ave	2995
2013	Lighting Upgrade - 32W T8 --> Low Wattage T8s	10555 Mary Ave	1378
2013	HVAC Maintenance	10555 Mary Ave	4073
2013	Lighting Upgrade --> Occupancy Sensors	10555 Mary Ave	1011
2013	Vending Controllers	10555 Mary Ave	3224
2013	Lighting Uprade - 32W T8 --> Low Wattage T8s	10185 N Stelling Rd.	1817
2013	Plug Load Occupancy Sensor	10185 N Stelling Rd.	1068
2014	Lighting Upgrade - 32W T8 --> Low Wattage T8s	10300 Torre	14462
2014	Vending Controllers	10300 Torre	4836
			96,781

MEASURE M-F-5 Expand New Building Energy Performance

Goal: Establish energy efficiency targets for new municipal buildings.

Co-Benefits	
Tracking Mechanism	Calculate energy savings related to implementation of City's Green Building Ordinance as it relates to new municipal building construction.
Progress Indicators	All new municipal construction complies with the City's Green Building Ordinance

Implementation Update: This is a long-term measure, which is applicable to new municipal building construction. During next Fiscal Year, staff anticipates development of a citywide facilities master plan, which will detail energy efficiency and conservation opportunities, based upon benchmarks developed of current facility energy use (in partnership with Silicon valley Energy Watch and Ecology Action, noted above). From this, staff will establish energy conservation targets for each operating facility, not just those during new construction (i.e. the Environmental Educational Center). Through this process, staff will evaluate opportunities to not just reach energy savings goals, but also identify opportunities to achieve recognized performance ratings like EPA's Energy Star Rating and/or USGBC's LEED Certification, as guided by the City's Green Building Ordinance.

MEASURE M-F-6 Complete Citywide Public Realm Lighting Efficiency

Goal: Upgrade public realm lighting to more efficient technology.

Co-Benefits	
Tracking Mechanism	Track electricity savings from street light and park light retrofits.
Progress Indicators	Achieved! – 872,000 kWh/yr. saved through street light retrofit program Achieved! – 75,000 kWh/yr. saved through park unit parking lot and pathway light retrofit program
Near-Term Measure Implementation Status	
A. Complete Street Light Retrofits	

Ongoing	Consider best practices in lighting technology at time of bulb and / or fixture replacement or repair; Ensure that new street light installations achieve comparable or better efficiency level as achieved through previous street light retrofit program.
B. Retrofit Remaining Parking Lot and Park Facility Lighting	
Ongoing	Identify City-owned parking lot lighting that has not yet been converted to LED, magnetic induction, or similar highly-efficient technology; Identify park lighting (e.g., pathways, restroom facilities, area lighting, sport field lighting) that has not yet been converted to LED, magnetic induction, or similar high-efficiency technology; Identify appropriate energy-efficient lighting technologies for sports fields / courts that still provide lighting levels required for applicable sporting use; Develop implementation timeline and funding program; contact City's PG&E account representative regarding availability of rebate programs and / or on-bill financing options to cover retrofit program; Consider updating City's Standard Provisions or other lighting guidance documents to specify efficiency levels to be achieved in new installations or lighting retrofit projects.

Implementation Update: At the time the CAP was written, the streetlights and park lights in the City had been upgraded to high efficiency lights, but not LED because, at the time, it was still considered a new technology that had limited outdoor deployment outside of a laboratory testing environment. Further, the City sought to minimize waste associated with the conversion by prioritizing a retrofit vs. replacement, which was required to transition to LEDs. Now that additional lamp types/sizes are available, the agency will work to convert its streetlight portfolio with LEDs, noted for higher efficiency than the current technology. As induction lamps throughout the city require replacement, Public Works will upgrade to LED. Once such project across decorative lamps will occur this fiscal year in Canyon Oak/Oak Valley and Rancho neighborhoods. Further, in FY 16/17, the Public Works team will a complete citywide retrofit of all park and parking lot lighting to LED.

Park light lamps that were converted between 2014 and 2014 are shown below:

Location	Pre (Tech)	Post (Tech)	Savings (kWh)
Memorial Park/Quinlan	Metal Halide	LED	52275
Creekside Park	Metal Halide	LED	11685
Jollyman Park	Metal Halide	LED	10906
Three Oaks Park	Metal Halide	LED	3895
Somerset Park	Metal Halide	LED	2337
Monta Vista Park	Metal Halide	LED	4284.5
Varian Park	Metal Halide	LED	4284.5
McClellan Ranch Park	Metal Halide	LED	1947.5
Monta Vista Commercial Area	Metal Halide	LED	13136.4
TOTAL			**104,751**

MEASURE M-F-7 Conserve Water Through Efficient Landscaping

Goal: Implement best management practices in landscaping design and share City successes community-wide to lead by example in water conservation action.

Co-Benefits	
Tracking Mechanism	Track municipal water use and conservation efforts.
Progress Indicators	Achieve Bay Area Climate Compact's goal for 20% water savings by 2018 over 2008 baseline. Assumes 27.5 million gallons of water saved per year over 2008 baseline of 138 million gallons
Near-Term Measure Implementation Status	
A. Utilize Weather-Track System to Reduce Park & Median Water Use	
On Hold	Continue to use weather-based irrigation technology in City irrigation practices to prevent unnecessary or excessive water in public spaces
B. Benchmark & Track Water Use per Meter	
On-going	Establish operational framework for tracking and reviewing water use at the meter level to allow identification of improper irrigation system use, leaks, or other wasteful water activities.
C. Adopt Water Budget & Green Grounds Policy	
In Progress	Develop landscaping policy that promotes efficient watering schedules, high- and low-priority water zones (for use during pre-drought conditions), water-efficient and climate-sensitive plant selection, and compost-friendly landscape maintenance. Evaluate alternative or maintain existing water-efficient irrigation technology systems, particularly in areas of high irrigation use; Consider use of water budgets for irrigated landscape areas; Create education stations or post information to City's website that describe City's green grounds practices
D. Use Bay-Friendly Landscaping Techniques across Parks & Medians; Install Demonstration Gardens	
Ongoing	Adopt city-wide policy that requires specification of Bay-Friendly, drought-tolerant landscapes in any new City project or private project receiving City funds to include landscaped areas as project element; Expand Parks & Recreation Green Policies, which focus on water-efficient landscaping, across all departments to prioritize Bay-friendly and efficient irrigation practices and technologies to maintain Install informational placards or signs at new landscaping installations that quantify water saving potential from new designs and refer public to

	additional informational resources; Develop informational materials based upon City's practices and lessons learned to support effective implementation of City's Water Efficient Landscaping Ordinance
E. Install Graywater and Rainwater Catchment Systems in New Construction and Major Retrofit Projects	
Ongoing	Incorporate graywater plumbing and/or rainwater catchment systems in new municipal buildings, where appropriate;
F. Recognize Staff "Water Wise" Practices	
In Progress	Research municipal operations-oriented behavior change and utility conservation incentives programs to create model for Cupertino; Develop outreach and engagement tools to notify employees of campaign and support their program enrollment and continued involvement; Educate and train staff by sharing strategies to save water indoors and out so they may effectively participate in program; Launch "Water Wise" program and offer ongoing coaching and support;

Implementation Update: Implementation of this measure can be mapped in two unique areas:

1. *Data Collection & Analytics* - Staff has completed a citywide water meter and site verification process. The results of this helped elevate staff knowledge on the locations and quantities of outdoor and indoor water use across landscaping and municipal facilities. Water consumption data is currently being tracked manually, so staff is looking into utility data management solution to automate this process. An RFQ was released on March 22nd, 2016 and a solution is anticipated to be implemented in the Summer of 2016.

2. *Landscape Conversion* - As appropriate and aligned with the City's Water Conservation Policy (see: www.cupertino.org/savewater) Public Works staff is installing drought tolerant landscaping across high water consumption areas by converting turf or replacing plant types to more drought tolerant species. This includes the following sites; Blackberry Farm (Drought tolerant landscaping) 2009, Memorial Park (Drought tolerant landscaping) 2014, Wilson Park (Drought tolerant landscaping/Lawn conversion) 2014, McClellan Ranch/EEC (Drought tolerant landscaping) 2015, Oak Valley Park (Drought tolerant landscaping) 2015, Senior Center (Drought tolerant landscaping/Lawn Conversion) 2015. Additionally, rain barrels have been installed at the McClellan Ranch Environmental Education Center.

Due to these efforts, annual municipal water use has decreased from a 2008 baseline, with water use in 2015 achieving the state and Santa Clara Valley Water District target of 30%

below the 2013 baseline. Staff will continue to implement water conservation programs and monitor water use annually to continue with the community water reduction goals.

Figure 10- Annual Municipal Water Use

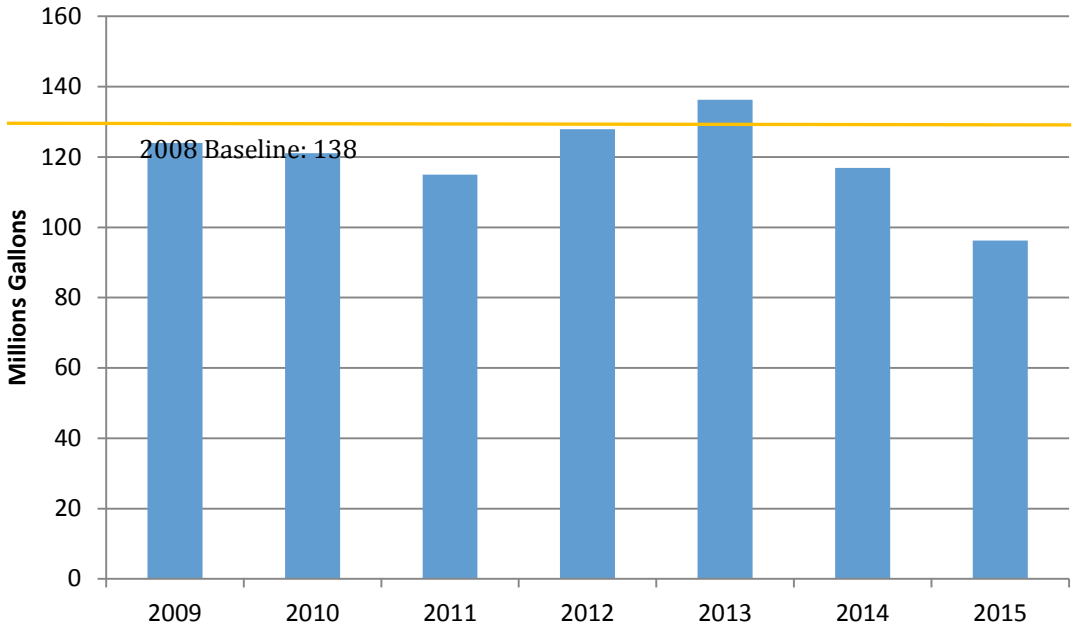
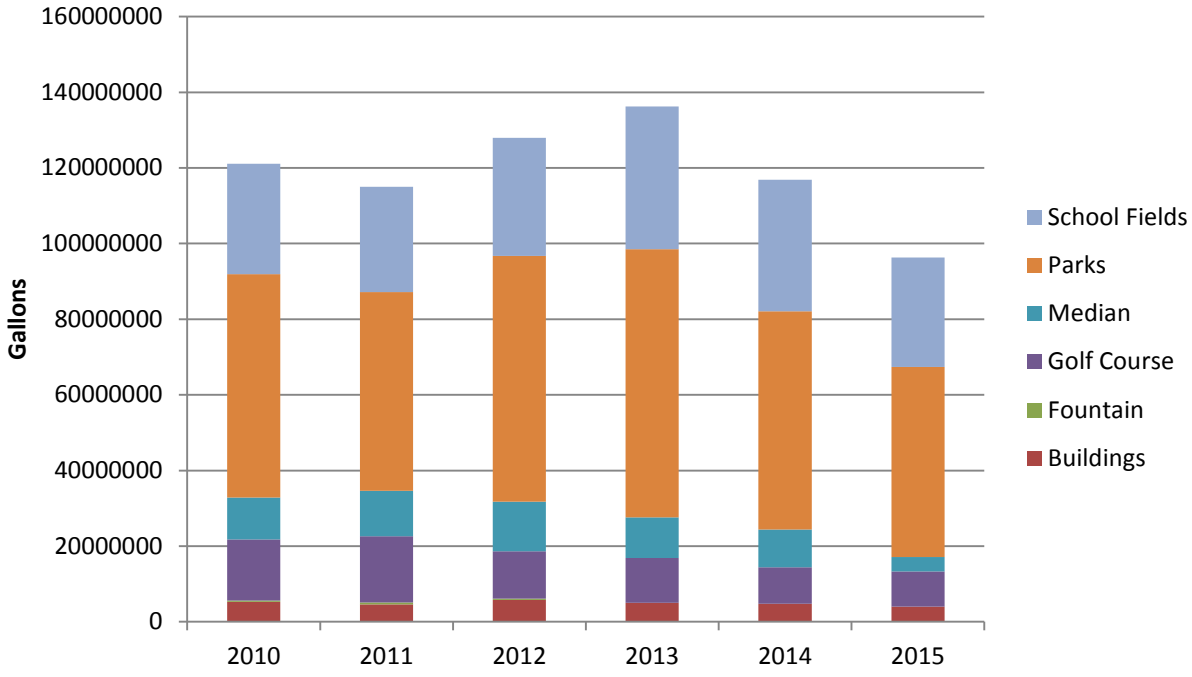


Figure 11- Water Use by City owned Facilities



CONVERT VEHICLE FLEET

MEASURE M-VF-1 Low Emission and Alternative Fuel Vehicles

Goal: Transition City vehicle fleet to fuel-efficient and alternative-fuel vehicle models.

Co-Benefits	
Tracking Mechanism	Track composition of municipal fleet by vehicle type/fuel type.
Progress Indicators	Achieve Bay Area Climate Compact's goal for 25% of vehicle fleet to comprise zero-or-low emissions light duty vehicles by 2018.
Near-Term Measure Implementation Status	
B. Expand City Bike Fleet, Training, and Promotion	
Ongoing	Continue to pursue implementation of municipal bike fleet in instances where vehicle trips can safely and easily be replaced with trips via bicycle; comprehensive bike fleet could result in opportunities to downsize municipal vehicle fleet or reduce VMT to help achieve fleet emissions target
C. Promote Vehicle Alternatives to Reduce Car-Travel to City-Sponsored Events	
Ongoing	Continue to pursue implementation of municipal car share program, which like municipal bike fleet could allow City to downsize its municipal vehicle fleet; Consider opportunities to expand municipal bike fleet and / or car share program as part of municipal fleet transition strategy and at time of regular vehicle replacement (e.g., could tasks performed by retired vehicle be performed with shared vehicle?); Ensure that community-wide shuttle, car share, bike share assessment includes consideration of City staff commutes and special-event opportunities

Implementation Update: Implementation of this measure can be mapped in five unique areas:

1. *Vehicle Replacement* - The Public Works Fleet Division has followed the City's Environmentally Preferable Procurement Policy and Vehicle Replacement Schedule, which requires staff to evaluate and purchase alternative fuel vehicles where fiscally feasible within a defined threshold. Guided by these policies, Sustainability Division staff prepared a lifecycle cost calculator for Public Works to utilize when replacing light-duty vehicles in 2014, 2015, and 2016 as a means of simplifying procurement

decisions and also accelerating attainment of the City's Bay Area Climate Compact goal of vehicle fuel conversions. As of the end of 2015, City fleet vehicle composition is as follows:

Hybrid	13%
All Electric	2%
Diesel	23%
Gas	62%

In 2015, the fleet introduced two Ford Focus all battery electric vehicles to its fleet, which are zero emissions, in addition to two PHEV CMAX, yielding 15% of total clean vehicle fleet. The agency needs to accelerate its deployment of zero emission vehicles to achieve its 25% by 2018 Bay Area Climate Compact goal. On a fully charged battery, the EV's range (the distance an electric car can travel on a fully charged battery) is about 76 miles. EV's are perfect addition to the fleet, as the majority of all trips taken by fleet pool cars, are less than 15 miles.

At time of replacement, the PW department is utilizing the lifecycle cost calculator to estimate the true cost of vehicle ownership to inform procurement decisions. Sustainability staff is also working to connect PW decision makers with other key resources (e.g. grants, information) to make AFV purchases cost-effective. Staff finalized a research memo and lifecycle cost calculator to inform future fleet procurement decisions. The FY16/17 budget does not include any light-duty vehicles. With emerging alternative fuel vehicle (AFV) technology in the heavy-duty sector, it is not likely that staff will expand its AFV % this year.

2. *Fleet Management* - The agency is also evaluating opportunities to right-size the fleet and vehicle types based upon departmental and staff requirements which may further reduce pool vehicle size (currently only three vehicles). Staff is also evaluating new Recreation and Community Service reservation software for fleet use to identify capacity and shared-use opportunities for dedicated vehicles that could be more readily programed available for broader staff use.

3. *Training* - The Fleet Supervisor and Lead mechanic are trained to service hybrid electric vehicles. Any new shop team members will be invited to future hybrid, PHEV, electric training opportunities, likely at De Anza College, in partnership with DOE-funded Breathe California.

4. *Outreach & Encouragement* - Staff is working to build informational and motivational materials for employees regarding the City's bike fleet, available for work and personal trips. Messaging within the new Pool Vehicle Policy and at time of vehicle checkout is also being employed to encourage staff to choose a bike if it is

appropriate for the trip they are taking. Staff is working on updating the internal intranet website so city employees will more easily have access to the information.

MEASURE M-VF-2 Increase Alternative Fuel Infrastructure

Goal: Increase availability of alternative refueling infrastructure to support municipal fleet transition.

Co-Benefits	
Tracking Mechanism	Track installation of alternative vehicle refueling infrastructure as compared to vehicle fleet composition targets.
Progress Indicators	Assumes 10 dual-port electric vehicle charging stations installed
Near-Term Measure Implementation Status	
A. Install Electric Vehicle Charging Stations	
Ongoing	Develop City-owned EV Charging Station Procedure to ensure proper finance, training, maintenance, and reporting functions are established for effective staff oversight; Develop Alternative Vehicle Fueling Infrastructure (AVFI) standards and plan to define prospective locations and siting criteria (e.g., design guidelines, standard drawings, specifications) to facilitate on-street and off-street applications ; Install additional electric vehicle charging stations for municipal fleet use; as share of electric vehicles in fleet increases, ensure adequate access to charging stations for municipal vehicles through additional installations or controlled access Install portion of electric vehicle charging stations in areas accessible to community members, such as Civic Center parking lots; consider new electricity load created from EV charging stations during building design phase of Civic Center Master Plan to provide opportunities to offset this increased load through additional installation of rooftop PV systems

Implementation Update: This measure was written in the CAP as a medium and long-term measures, so implementation is anticipated after 2020. The number of dual port electric charging stations installed by the City as of 2015, and are available to the public, include:

1 dual –port station on Rodriguez Ave (public – grant funded)
2 dual-port stations in Library parking lot (public – grant funded)
1 dual-port station at Service Center (private – purchased by the City)
2 dual port stations at Quinlan Community Center (public – grant funded)

The first charging station on Rodriguez Ave was installed March 2012. In 2015, the City of installed two new ChargePoint Level 2 electric vehicle (EV) charging stations next to the Cupertino Library and two new ChargePoint Level 2 EV charging stations within the Quinlan Community Center Parking Lot, all of which became fully operational in December 2015. The stations have been installed and will be maintained as part of a wider effort known as the Bay Area Charge Ahead Project, a grant program funded by the California Energy Commission. All stations managed by the City allow free City vehicle fleet charging, to ease use for all employees.

Additionally, as a partner on the Driving to Net Zero regional Sustainable Community Planning Grant received by the County of Santa Clara Office of Sustainability from the Strategic Growth Council, the City will be provided with resources for increased electric vehicle charging infrastructure and receive technical assistance to develop an implementation platform that includes a feasibility study, siting plan, permitting and regulatory standards, training, education and outreach. The project had its kickoff meeting in the beginning of 2016 and staff will be actively participating in the project to ensure its results align with the needs of the City.

MEASURE M-VF-3 Promote Behavior/Fuel Optimization

Goal: Encourage and promote fuel-efficient driving.

Co-Benefits	
Tracking Mechanism	Track fuel savings in vehicles equipped with telematics hardware and/or route optimization practices.
Progress Indicators	Assumes 10% fuel savings over 2010 baseline for all passenger and light-duty trucks (i.e., 2,100 gallons of gasoline saved per year); assumes full implementation of Measure VF-1, Action A assumptions

Implementation Update: This measure is to be implemented in the mid or long-term. Currently the Building department is using route optimization for inspections and the city continues to implement the anti-idling policy within the Vehicle Use Policy.

REDUCE SOLID WASTE

MEASURE M-SW-1 Waste Reduction

Goal: Reduce municipal waste through procurement policies, waste diversion goals, and waste stream monitoring and analysis.

Co-Benefits	
Tracking Mechanism	Track reductions in municipal solid waste disposal by waste category.
Progress Indicators	Assumes 80% reduction in organic waste (e.g., food scraps and compostable paper, landscape debris/trimmings, scrap lumber, paper/cardboard) from 2010 baseline; emissions reductions are shown next to actions that address specific organic waste sources (i.e., M-SW-1 B, M-SW-2 A, M-SW-3 A). Assumes 80% diversion of municipal office paper over 2010 baseline levels
Near-Term Measure Implementation Status	
A. Conduct Waste Characterization Audits and Track Materials/Diversion	
In Progress	Continue to perform waste audits at various City facilities to; determine type / quantity of waste being produced; measure effectiveness of existing waste diversion practices; identify opportunities for new waste diversion practices; establish baseline data for measuring progress towards waste reduction and diversion goals using CalRecycle data or EPA ReTrac Tool; Establish regular waste audit cycle to track implementation of various waste reduction practices

Implementation Update: Cupertino was one of the first cities to pilot paperless agenda. The Agency's current Environmental Purchasing Policy, revised in 2015, outlines guidelines on office paper reduction. Staff is researching ways to implement this measure and track progress. Ideas include reducing the source at time of procurement (buy less paper) and reducing the amount of paper used (use paper with one side printed as scrap paper, or print less). Council will be updated as this measure progresses.

MEASURE M-SW-2 Food Scrap and Compostable Paper Diversion

Goal: Continue to divert food scraps and compostable paper from municipal waste stream.

Co-Benefits	

	
Tracking Mechanism	Track diversion of food scrap and compostable paper diversion of municipal waste stream
Progress Indicators	Assumes 90% diversion of municipal food waste and plant waste over 2010 baseline levels
Near-Term Measure Implementation Status	
A. Expand Municipal Collection and Composting Program	
In Progress	Continue implementation of food scrap / compostable paper collection program at municipal buildings

Implementation Update: Compost bins to collect food waste are available in all city facilities and a growing number of city parks for employee and public use. Staff is working on a method of tracking municipal food waste diversion or conducting food waste audits in coordination with Recology.

MEASURE M-SW-3 Construction and Demolition Waste Diversion

Goal: Enhance construction and demolition waste diversion rates for municipal projects.

Co-Benefits	
Tracking Mechanism	Track diversion of construction and demolition waste for municipal projects.
Progress Indicators	Assumes City continues to achieve 60% diversion of construction and demolition waste from municipal projects

Implementation Update: All municipal projects use Recology, wherein all Construction & Demolition (C&D) materials are sorted and all recyclable materials are recycled, on average resulting in 75-90% diversion.

CONCLUSION

This document both chronicles and showcases the laudable actions taken by the City and its community partners to abate climate impacts through demonstrable emissions reductions efforts deployed since the Climate Action Plan was adopted in January 2015. Below is summary of key accomplishments that can be quantified to date:

Summary of Metrics Across All Measures

Community Measures		
#	**Measure Name**	**Metric**
C-E-1	**Energy Use & Data Analysis**	
	Reduction in Community-wide Electricity Use from 2010 baseline	635,755,123 kWh
	Reduction in Community-wide Natural Gas Use from 2010 baseline	2,306,969 therms
C-E-2	**Retrofit Financing- PACE**	
	Single and Multi-Family Retrofit Program (2013-2015) Energy Savings	8,474 kWh 2,620 therms
	Commercial Retrofit Program (2014-2015) Energy Savings	945,943 kWh
C-E-3	**Home and Commercial Building Retrofit Outreach**	
	GreenBiz Program Savings (2010-2015)	39 businesses 2,668,797 kWh electricity 8,205,700 gallons water 10,813,328 lbs solid waste
C-E-5	**Community-Wide Solar Photovoltaic Development**	
	Solar PV systems installed (2010-2014)	5.5 MW
	Solar PV systems installed (2015)	811.36 kW
C-T-7	**Community-wide Alternative Fuel Vehicles**	
	# of electric vehicles owned by residents (2010-2015)	Estimate 1,692-2,193 EV's
	# charging stations installed (home and public)	154 charging stations
C-W-1	**SB-X7-7 Water Reduction**	
	Landscape rebate program (2010-2015)	135 rebates 170,835 sq. ft. Water savings: 3,136,170 gallons

Community Measures		
C-SW-2	**Food Scrap and Compostable Paper Diversion**	
	Commercial Participation rate in organics collection (2015)	18%
	% of compost in total tons collected (2015)	27%
C-SW-3	**Construction & Demolition Waste Diversion Program**	
	Diversion of construction and demolition materials	average 75%-90% diversion
C-G-1	**Urban Forest Program**	
	Number of trees planted (2010-2015)	1,263 trees planted
Municipal Measures		
#	**Measure Name**	**Status**
M-F-1	**Sustainable Energy Portfolio**	
	Reduction in Municipal Electricity Use from 2010 baseline	1,523,104 kWh
	Reduction in Municipal Natural Gas Use from 2010 baseline	14,700 therms
M-F-2	**Renewable/Low Carbon Electricity Generation**	
	Generation of Solar PV since installation at Service Center (Dec. 2014)	163,661 kWh
M-F-4	**Grow Existing Building Energy Retrofit Efforts**	
	Reduction in Municipal Electricity Use for Building Retrofits from 2010 baseline	96,781 kWh
M-F-6	**Complete Citywide Public Realm Lighting Efficiency**	
	Estimated Reduction in Municipal Electricity Use for Public Lighting from 2010 baseline	104,751 kWh
M-F-7	**Conserve Water Through Efficient Landscaping**	
	% below 2008 baseline as of 2015	30%
M-VF-1	**Low Emission and Alt Fuel Vehicles**	
	Make up of Fleet Vehicles (2015)	Hybrid- 13%, All Electric- 2%, Diesel- 23%, Gas- 62%
M-VF-2	**Alternative Fuel Infrastructure**	
	EV Chargers installed by City	5 dual-port public stations 1 dual port private station for City fleet

Of note, while the City does not yet have quantifiable data for Measure C-E-7, Community Choice Energy Option (CCE), this measure deserves special recognition as it was successfully accomplished with the creation of the Silicon Valley Community Choice Energy

Authority (SVCEA) on April 13th, 2016, years in advance of this CAP target. Cupertino was the first City to take action to join and form SVCEA, and was a leader in its development along with the cities of Sunnyvale, Mountain View and the County of Santa Clara. The potential of a local CCE on the reduction of greenhouse gas emission in the electricity sector is promising. Staff will continue to monitor its progress, and development as SVCE brings new options for renewable energy to Cupertino residents and businesses in the spring of 2017.

Despite the progress noted in this Report, CAP objectives are ambitious and many measures remain outstanding. Over the coming year, the City will continue to develop its institutional knowledge in the area of emissions generation sources, reduction opportunities and emissions inventories. Additionally, over time, data collection, monitoring and tracking methods will continue to improve. As data continues to be collected, trends will be evaluated to gauge the agency's relative progress towards achieving its adopted goals and GHG reduction targets to determine new opportunities to pivot, shift or realign measures as needed to advance communitywide and municipal goals.

This report is just the beginning of a long journey towards reducing emissions sources in the community and making Cupertino a more attractive place to live by lowering energy and water bills through conservation, improving cyclist and pedestrian safety, addressing traffic concerns, improving local air quality and improving the overall quality of life for all.