CUPERTINO

2016 Climate Action Plan Progress Report & GHG Inventory Update

Prepared by City of Cupertino, Sustainability Division

2016 CLIMATE ACTION PROGRESS HIGHLIGHTS

Projects and Policies

- **Silicon Valley Clean Energy** officially launched in April 2017, offering 100% carbon free electricity to all Cupertino residents and businesses. The City upgraded all its municipal electricity accounts to Green Prime (100% renewable energy).
- **Mandatory Commercial Organics Ordinance** phase two went into effect on January 20, 2016 for businesses that generate 3 cubic yards or more of organic waste per week or generate a solid waste stream that is comprised of 25% or more organic food waste material.
- Cupertino signed onto the Association of Bay Area Governments Regional Collaborative Services Agreement, expanding our **Property Assessed Clean Energy (PACE) program** to multiple PACE providers.
- City Council approved the updated **2016 Bicycle Transportation Plan** and dedicated $2 million towards implementation.
- **Safe Routes to School** program has expanded from the initial six-school pilot to include all fourteen public schools within Cupertino.

Data and Metrics

- **33% reduction in community water usage,** comparing 2016 usage to 2013.
- **Over 4,160 new trees added** to Cupertino's urban forest, including trees currently being planted at the Apple 2 Campus.
- **30% reduction in municipal building electricity usage**, comparing 2016 usage to the 2010 baseline.
- **25% reduction in municipal natural gas usage**, comparing 2016 usage to the 2010 baseline.
- **120,000 kWh electricity saved and roughly $7,000 saved annually** from PG&E upgrade of over 300 streetlights to LEDs.
- **1.7 MW of community solar capacity installed** from 2015 through 2016, meeting the CAP 2020 goal years ahead of schedule.
- **114 property owners converted turf to drought tolerant landscaping** through the SCVWD Landscape Rebate Program, with an estimated **3,608,000 gallons of water saved** annually.
- **12,710 lbs. of waste prevented** from businesses participating in Cupertino's new program to convert single use disposable food ware to reusable, ReThink Disposable.
- **3,171 MT CO2 greenhouse gas emissions saved and over 14 million pounds of waste diverted** from landfill to date from certified Green Businesses in Cupertino.

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INTRODUCTION

This report, prepared by the Sustainability Division within the Office of the City Manager, summarizes annual progress toward implementation priorities related to energy, water, and transportation measures set forth in the Climate Action Plan (CAP).

As directed by the city's General Plan Sustainably Element, the CAP identifies emissions reduction strategies that are informed by goals, values, and priorities of the Cupertino community. The CAP 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, which approximates a return to 1990 levels. The CAP provides a set of strategies intended to guide GHG emissions reduction efforts both in the community and within the city's municipal operations.

This report benchmarks and tracks the status and progress made on the near-term measures community-wide and in municipal operations in 2016. If data is not available for 2016, data is provided for the most recent year available. Tracking progress over time will help identify if adjustments to the CAP are needed to reach Cupertino's near-term GHG emissions reduction and sustainability goals for the year 2020 and beyond.

This progress report is organized according to the measures outlined in the CAP, as follows:

Reduce Energy Use / Improve Facilities

Encourage Alternative Transportation / Convert Vehicle Fleet

Conserve Potable Water

Reduce Solid Waste

Expand Green Infrastructure

This report tracks the status of progress made on the Near-term Measures to reach our GHG reduction and sustainability goals for the year 2020. Over time, the medium and long-term measures will be added to this annual progress report.

Where possible and practical, progress is quantified with data and metrics. For many of the measures, there is no relevant dataset available, or data is not yet consistently collected. In the first few years of CAP implementation, the development of a data collection framework and

establishing comparable metrics will be considered indicators of progress toward the 2020 emissions target.

CO-BENEFITS

Co-benefits describe desirable outcomes beyond GHG emissions reductions and are included in the measures outlined in this report. Below are the co-benefit icons that illustrate these desirable outcomes:


Improves air quality


Increases natural habitat


Reduces energy use


Reduces heat island effect


Promotes regional smart growth


Improves public health


Reduces traffic congestion


Creates local jobs


Reduces water use;
Extends community water supply


Reduces waste;
Extends landfill lifespan


Improves water quality;
Reduces storm water run-off


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


Improves local energy independence


Raises community awareness


Conserves natural resources

Reduces landfill methane

Regional Implementation Opportunities

2016 NEAR-TERM MEASURE STATUS AND METRICS SUMMARY

Outlined below is a summary of the implementation status of the Near-Term CAP Measures.

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

Color code key for "Status" columns:

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

Summary CAP Report Metrics

Below is a brief summary of CAP progress tracking measures, all data is 2016, unless noted otherwise.

Community Measures		
	Measure Name	**Metric**
C-E-1	**Energy Use & Data Analysis**	
	Reduction in community-wide electricity usage (comparing 2016 to 2010 baseline)	7,027,550 kWh
	Reduction in community-wide natural gas usage (comparing 2016 to 2010 baseline)	1,902,413 therms
C-E-2	**Retrofit Financing**	
	PACE projects financed (2014-2016)	10 projects $308,917 financed
	Single-family retrofit program energy savings (cumulative to Feb. 2017)	7,253 kWh 2,007 therms
	Commercial retrofit program energy savings	156,288 kWh
C-E-3	**Home and Commercial Building Retrofit Outreach**	
	GreenBiz program savings (2010 – 2016)	58 businesses 3,171 MT CO2 emissions 3,412,312 kWh electricity 10,206,100 gal. water 14,331,376 lbs. waste
C-E-5	**Community Wide Solar Photovoltaic Development**	
	Solar PV systems installed (excluding Apple 2 Campus)	0.74 MW solar capacity
	Percent increase in residential solar permits (comparing 2016 to 2010)	104% increase
	Apple 2 Campus estimated capacity	26,700 MWh / year
C-T-7	**Community-Wide Alternative Fuel Vehicles (2016)**	
	# of hybrids and electric vehicles owned by residents	3,309 hybrids 1,466 plug-in electric vehicles
	# charging stations installed (home and public)	41 charging stations
C-W-1	**SB-X7-7 Water Reduction**	
	Community water usage reduction (comparing 2016 to 2013)	33% reduction
	Landscape rebate program	114 rebates 180,400 sq. ft. converted 3,608,000 gal. est. water savings
C-SW-1	**Zero Waste Goal**	
	Diversion rate (2015)	64% - population 75% - employment
C-SW-3	**Construction & Demolition Waste Diversion Program**	
	Diversion of construction and demolition materials	70% diversion
C-G-1	**Urban Forest Program**	
	Number of new trees planted	169 new trees

Municipal Measures		
	Measure Name	**Metric**
M-F-1	**Sustainable Energy Portfolio**	
	Percent of municipal electricity usage coming from renewable sources (starting April 2017)	100% renewable sources
M-F-2	**Renewable or Low-Carbon Electricity Generation**	
	Generation of solar PV at Service Center	158,000 kWh
	Generation of solar PV at Environmental Education Center (March 2016 – March 2017)	9,809 kWh
M-F-3	**Advance Energy Management Activities**	
	Reduction in municipal building electricity usage (comparing 2016 to 2010)	30% reduction
	Reduction in municipal natural gas usage (comparing 2016 to 2010)	25% reduction
M-F-6	**Complete Citywide Public Realm Lighting Efficiency**	
	Estimated annual savings from PG&E streetlight replacements	120,000 kWh $7,000
M-F-7	**Conserve Water Through Efficient Landscaping**	
	Municipal water usage reduction (comparing 2016 to 2008)	36% reduction
M-VF-1	**Low Emission and Alternative Fuel Vehicles**	
	Percent of vehicle fleet comprised of zero or low emissions vehicles (plug-in electric and all electric)	15% clean vehicles

COMMUNITY MEASURES

Detailed below are each of the City's near-term community measures and status updates, organized according to the reduction strategy categories outlined above (reduce energy, encourage alternative transportation, conserve potable water, reduce solid waste, and expand green infrastructure).

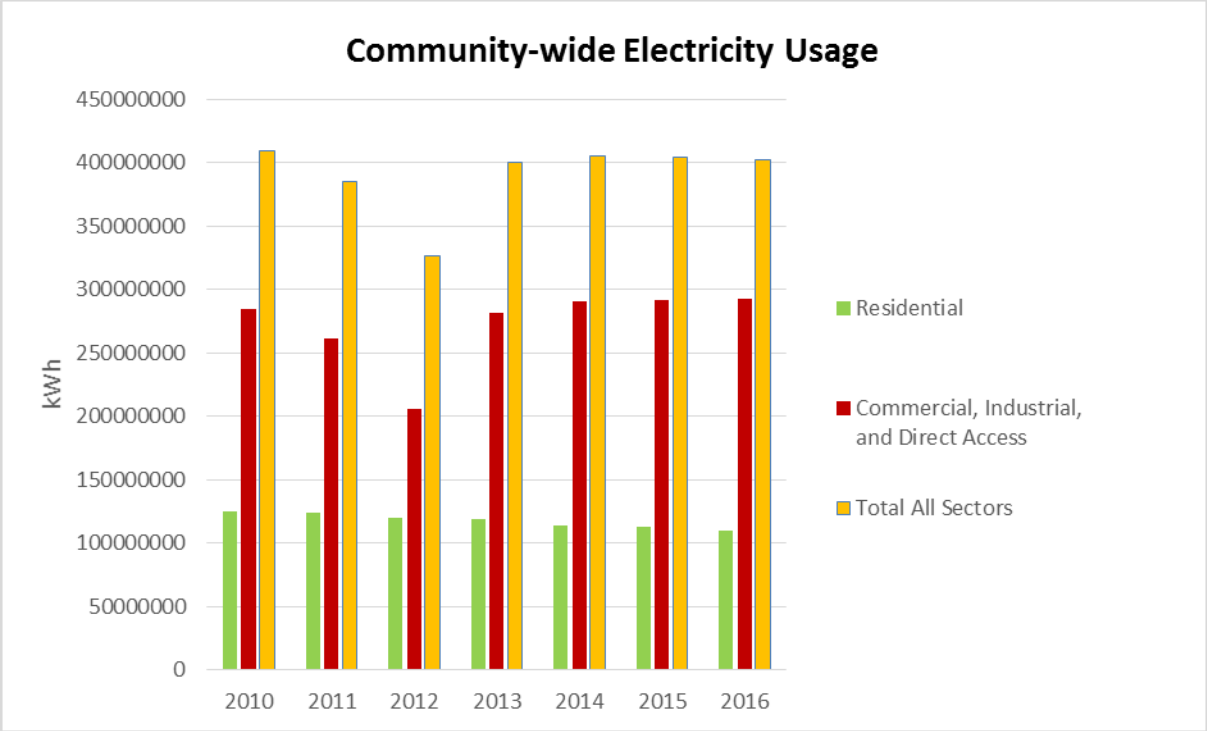
Reduce Energy Use Community-wide

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) participates in advanced analytics program; 775,000 kWh/yr. saved • 10% of nonresidential square footage in 2010 baseline year (1.27 million sq. ft.) participates in advanced analytics program; 2,200,000 kWh/yr. saved
Status	**Action**
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: Although the HAN program is no longer being offered by PG&E, the City is in the planning stage of developing targeted energy savings programs for residents. The City will work closely with the newly formed Silicon Valley Clean Energy toward other energy savings initiatives to benefit Cupertino customers.

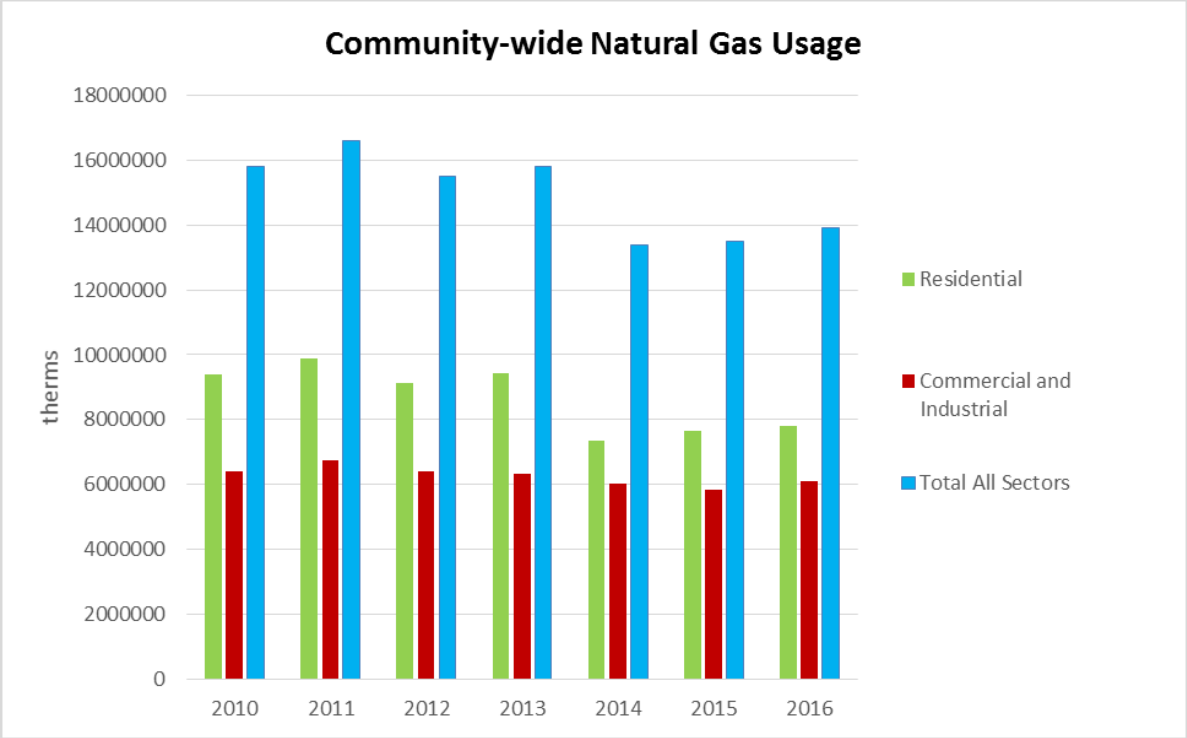
Electricity usage

Community-wide electricity usage in 2016 was 402,291,574 kWh, a 2% reduction compared to 2010 usage. Below is a breakdown of electricity usage comparing residential and nonresidential sectors from 2010 to 2016:



Natural gas usage

Natural gas usage in the community in 2016 totaled 13,903,086 therms, a 12% reduction compared to the 2010 baseline. This reduction was mostly due to a 17% drop in natural gas usage in the residential sector comparing 2016 to 2010, as reflected in the chart below:



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
Status	**Action**
Ongoing	A. Continue to participate in CaliforniaFIRST to make PACE financing available to commercial, industrial, multi-family residential (5+ units), and non-profit-owned buildings
Complete	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 CaliforniaFIRST 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: Cupertino started participating in the CaliforniaFIRST Property Assessed Clean Energy (PACE) program in 2014, which provides funding for energy efficiency, renewable energy, and water efficiency improvements, to be paid back over time on property tax bills. Since the CaliforniaFIRST program began in August 2014 through December 2016, ten projects have been funded or are under construction, with a total of $308,917 financed and 35 kW of solar installed.

The City recently opened the local market to other PACE providers to do business in Cupertino. In February 2017, Cupertino City Council approved resolutions to sign onto the Association of Bay Area Governments (ABAG) Regional Collaborative Services Agreement and join the following joint power agencies and participate in their PACE programs:

- California Enterprise Development Authority (Figtree PACE Program)
- Golden State Finance Authority (Ygrene PACE Program)
- Western Riverside Council of Governments (California HERO PACE Program
- California Statewide Communities Development Authority (Open PACE Program)

Subsequent progress reports will provide metrics on these new program offerings.

Regional Energy Efficiency Programs: Below are updates from the four regional programs serving Cupertino residents and businesses with energy efficiency incentives:

Program Name and Description	Type	Number of Projects	Energy Savings	Timeframe
Bay Area Regional Energy Network (BayREN)'s Home Upgrade Program: Basic upgrades. Provides incentives up to $3,000.	Single family Residential	26 projects completed, $56,150 in incentives	7,252.7 kWh; 2,007.1 therms	Cumulative to 2/14/17
BayREN's Multifamily Building Enhancement Program: Comprehensive retrofit upgrades and to save 10% or more of a building's energy use. Provides $750 per unit in rebates.	Multi-family Residential	None for 2016 311 units completed in 2014	-	(No new projects for 2016) Savings to date: kWh:405 Therms: 30
PG&E's Advanced Home Upgrade: Advanced upgrades. Provides incentives up to $5,500	Single family Residential	69 projects completed	*Data not provided*	Cumulative to October 2016
Silicon Valley Energy Watch: Commercial retrofit programs through a partnership with Ecology Action, a nonprofit organization.	Commercial	10 projects completed	156,288 kWh annual savings; 12.20 kW total demand savings	Calendar year 2016

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	
Progress Indicators	*Supporting Measure - progress indicators and goals not provided*
Status	**Action**
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: The City will work with experts in Community Based Social Marketing (CBSM) for strategy development and program planning to design a pilot to engage residents in energy and / or water savings.

LEED Projects in Cupertino: Leadership in Energy and Environmental Design (LEED) 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. The City tracks LEED buildings constructed and operating within Cupertino via the U.S. Green Building Council's website. Current LEED Project counts:

LEED Certification Level	Projects
Platinum	**3**
Homes	1
New Construction	2
Gold	**2**
Commercial Interiors	1
Core and Shell	1
Silver	**3**
Core and Shell	1
New Construction	2
Certified	**5**
Commercial Interiors	2
New Construction	3
In Progress	**12**
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 Program: The City's GreenBiz Program (www.cupertino.org/greenbiz) shepherds local Cupertino small to mid-sized businesses through the statewide California Green Business Program. As the chart below reflects, since 2010 GreenBiz has helped 58 businesses achieve Green Business certification, saving over 3,000 metric tons of carbon dioxide annually. Please note that some of the kWh energy savings reported in the chart below might also be reported in Measure C-E-2 under the

Silicon Valley Energy Watch incentive program, as some of the green businesses utilize these incentives.

California Green Business Program Metrics for Cupertino

	2010	2011	2012	2013	2014	2015	2016	Total to Date
# businesses certified	9	5	13	4	3	5	19	**58**
GHG Emissions Saved (MT CO2)	70	88	602	504	592	626	689	**3,171 MT CO2**
Energy Saved (kWh)	149,758	177,605	518,850	563,272	581,183	678,129	743,515	**3,412,312 kWh**
Water Saved (gallons)	567,133	815,564	1,544,086	1,691,466	1,716,193	1,871,258	2,000,400	**10,206,100 gallons**
Solid Waste Diverted from Landfill (lbs.)	928	2,165	618,102	3,368,120	3,411,388	3,412,625	3,518,048	**14,331,376 lbs.**

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. *This is a long-term measure with 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.*

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.

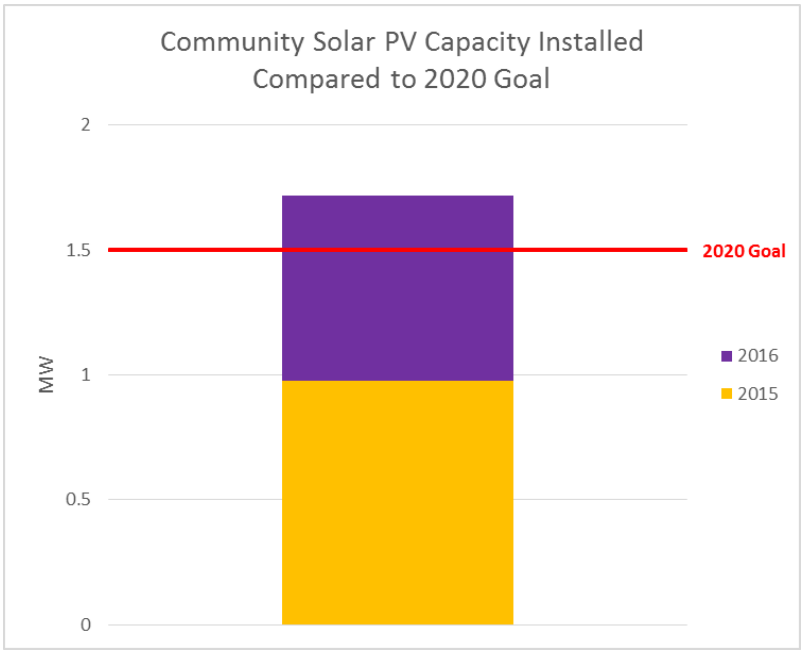
Progress Indicators	• 1.5 MW of new solar PV capacity installed community-wide (residential and nonresidential combined) ○ Note: 5.5 MW of existing solar PV was installed from 2010-2014 • Apple Campus 2 solar PV systems installed to generate 15 million kWh/yr.
Status	**Action**
Complete	F. Work with 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: Since the creation of the CAP in 2015, the emergence of a Community Choice Energy program, Silicon Valley Clean Energy, has grown. As of July 2017, Silicon Valley Clean Energy will be the default electricity provider for all Cupertino residents and businesses. SVCE provides 100% carbon free electricity with the option to upgrade to its 100% renewable option, Green Prime, for a small fee. SVCE's Green Prime is similar to PG&E's Community Solar Choice program, in that it provides electricity from 100% renewable solar from the grid. The City will share data regarding PG&E's Community Solar program on the city website as well as SVCE's program offerings.

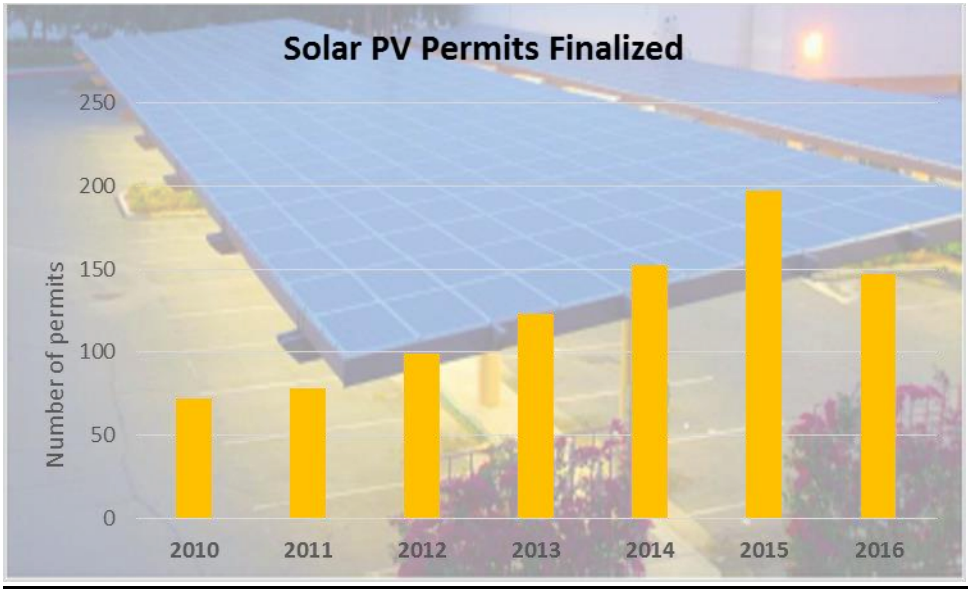
New Community Solar PV Capacity

In 2016 there were 147 solar PV permits finalized to install an estimated 0.74 megawatts (MW) of solar capacity. Combined with the 0.97 MW of solar capacity estimated for 2015[1], there has been roughly 1.7 MW of solar capacity installed or planned since the beginning of 2015. Below is a snapshot of progress toward the CAP goal for new PV capacity. The data below does not include the solar project at the Apple Campus 2. As the chart below shows, Cupertino is has already exceeded its 2020 solar installation goal for the community:

[1] This PV capacity figure differs from what was reported in the 2015 CAP Progress Report due to enhanced software capacity. This is the most current count of permits for 2015.



Solar PV installations have steadily increased in the community over the past several years. Cupertino's solar permits have increased by 104% from 2010 to 2016, as reflected in the chart below. The number of permits spiked in 2015, likely due to concerns over the federal solar investment tax credit, which was set to expire in 2016 but was renewed for another five years in late 2015.



Apple Campus 2 Solar PV Update: Although the solar PV system at Apple Campus 2 is not yet fully operational, it is estimated to produce 26.7 million kWh per year of electricity. This amount will vary year to year.

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: From 2000 – 2016, a total of 24 permits were finalized for installing solar thermal systems in Cupertino. Staff will continue to work with the Building Dept. to track this data point through the deployment of their new software. Staff will also work to identify barriers or reasons for the low uptake of solar thermal systems in the community as part of the program planning and development of this long-term measure.

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 Indicators	The CAP did not identify progress indicators because this is a long measure. In 2017, staff will be tracking impact of SVCE on Cupertino emissions and electricity profile.
Status	**Action**
Complete	A. Work with other Santa Clara County partners to conduct feasibility study of developing multi-jurisdiction CCE program

Complete	B. If study determines CCE 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 Update: Ahead of the implementation schedule outlined in the CAP, the City of Cupertino joined eleven municipalities in forming Silicon Valley Clean Energy (SVCE). The community choice energy (CCE) officially launched on April 3, 2017 and will complete enrollment of most residents and businesses by the end of July 2017.

SVCE is offering two services: GreenStart is the default option and will be a mix of hydroelectricity and renewable energy, and GreenPrime offers 100% renewable energy for a premium. Both options are 100% carbon free. The City of Cupertino has opted for the GreenPrime service for all of its municipal electricity accounts. As the electricity sector makes up 28% of Cupertino's community greenhouse gas emissions, the success of SVCE in transitioning the community to 100% carbon-free electricity will have a significant impact on our community greenhouse gas inventory and move the needle toward our GHG reduction targets. Staff will begin to track this impact in 2017.

Encourage Alternative Transportation / Convert Vehicle Fleet

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	
Progress Indicators	*Supporting Measure - progress indicators and goals not provided*
Status	**Action**
Complete	A. Update City's Bicycle and Pedestrian Transportation Plans to reflect current bicycle and pedestrian safety and access needs; prioritize new projects identified
Ongoing	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
Ongoing	D. 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
Ongoing	E. 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: City Council approved the updated 2016 Bicycle Transportation Plan in May 2016 and dedicated $2 million in the 2016/17 CIP towards implementation of the plan. The plan proposes a network of separated (Class IV) bicycle lanes along major corridors, Class III bike boulevards along selected local streets, and off-street bike/ped trails along the UPRR and I-280 corridors. Since approval of the plan, staff has been working closely with a transportation consultant to develop conceptual designs for the Class IV separated bike lanes along Stevens Creek Blvd. and McClellan Road, and for the Class III bike boulevards. Initial construction of the improvements is expected to occur later in 2017. Feasibility studies for the two trail segments will be initiated in spring 2017.

Staff is also in the process of updating the Pedestrian Transportation Plan, to be completed during summer 2017. The Pedestrian Transportation Plan will contain a prioritized list of

pedestrian-related improvements and outline programs and policies for identifying and prioritizing future improvements. Ultimately, the recommendations contained within the two plans will guide right-of-way improvements into the future to help transform Cupertino into a truly multi-modal city.

Cupertino's Safe Routes to School program has expanded from the initial six-school pilot to include all fourteen public schools within Cupertino. The program has been educating the school community and the public through regular newsletters, newspaper articles, working groups, bike rodeos, etc. Walk audits have been performed or scheduled at all schools to identify and ultimately implement safety improvements in and around the schools. Bike safety education has begun to be incorporated into the CUSD curriculum, with more CUSD cooperation and involvement anticipated in the future. In-school student surveys are performed twice a year in order to monitor the program's progress towards our goal of a 40% bike and pedestrian school commute mode split.

MEASURE C-T-2 Bikeshare Program	
Goal	Explore feasibility of developing local bikeshare program.
Co-Benefits	
Progress Indicators	*Supporting Measure - progress indicators and goals not provided*
Status	**Action**
Ongoing	A. Continue to operate municipal bike fleet for City employee use and encouragement of bike fleets at large employers

Implementation Update: The City continues to operate a municipal bike fleet for municipal employee use. There are three bicycles that are available at City Hall at any time for staff to take for meetings around town. An evaluation is being conducted to determine if more bikes are needed at other municipal buildings for staff.

As a part of the GreenBiz program, employers are encouraged to offer bikes for employee use. Outreach to employers will continue through GreenBiz with the possible addition of periodic Commuter Benefits compliance evaluations through the Bay Area Air Quality Management program. Staff continues to monitor regional discussions and planning efforts for Bay Area bike share and exploring ways to bring the 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 vehicle miles traveled (VMT) reductions associated with transportation demand management (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.
Status	**Action**
Ongoing	A. Support regional efforts to implement SB 1339 commute benefit requirements for employers with more than 50 employees

Implementation Update: On September 22, 2016, California's Governor signed into law SB 1128, making permanent a pilot that provides employees in the Bay Area with tax-free transit benefits. Under the program, employers in the Bay Area with at least 50 full-time employees must provide their workers with the option of tax-free transit and vanpool benefits. The original pilot had a sunset date of January 1, 2017. The new legislation removes the sunset clause from the program of SB 1339.

Staff contacted BAAQMD to get a list of all the local businesses that are in and out of compliance with the Commuter Benefits Program. All businesses that are required to participate in the program are in compliance. Staff will continue to monitor the compliance rate in the city and support businesses in promoting commuter benefits programs and active mobility opportunities with area employers through GreenBiz.

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	
Progress Indicators	*Supporting Measure - progress indicators and goals not provided*

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.

MEASURE C-T-5 Transit Priority	
Goal	Improve transit service reliability and speed.
Co-Benefits	
Progress Indicators	*Supporting Measure - progress indicators and goals not provided*
Status	**Action**
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 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 of transit signal priority.

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	
Progress Indicators	*Supporting Measure - progress indicators and goals not provided*
Status	**Action**
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. Cupertino's Complete Streets Policy and various elements of its recently adopted General Plan work to embed this approach into all future development projects.

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. Vallco Shopping District would be a Priority Housing Site upon adoption of a Specific Plan for that Special Area.

In 2016, the City reviewed and approved two of the five priority housing sites: Marina Plaza and Hamptons. Through development agreements, both proposals included public benefits for transit and incentives to promote use of transit alternatives.

Marina Plaza requested a density bonus and a lower number of parking spaces than required by the Parking Ordinance. The project's five-year development agreement included funding toward a Transportation Management Association for a citywide shuttle should a stop be located within 400 feet of the property and a bus shelter/benches within the project vicinity.

The Hamptons' site plan and development agreement included private funding for a transportation coordinator, on-demand/rideshare facilitation with designated stop areas, walking and biking routes, formal safe route connection to Apple Park, bicycle hub open to the public, and unbundled parking. The developer requested a lower number of parking spaces

than that mandated by the Parking Ordinance. Upon review of an independent parking study, the City approved the reduced parking request. The Development Agreement has a five-year term.

The City is currently reviewing a project that proposes to construct 19 affordable senior housing units within the city's PDA. The developer, Charities Housing, is requesting a density bonus and a lower number of parking spaces as allowed by Density Bonus law.In addition, City Council 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 for that Special Area.

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
Status	**Action**
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)

Ongoing	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
Ongoing	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
Ongoing	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
Ongoing	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
Ongoing	G. Continue to provide links to maps identifying EV charging stations and alt fuel stations

Implementation Update: Driving to Net Zero: 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, and a policy and program platform that will inform future agency decision-making across a variety of sectors.

EV ownership: Through the Driving to Net Zero project, staff obtained registration information on electric vehicle (EV) ownership for Cupertino. Below are the number and type of EVs and hybrid vehicles registered in Cupertino as of March 2016:

Type of Vehicle	**Number of vehicles**	**Percent of total vehicles* registered in Cupertino**
Hybrid	3,309	7.5%
Battery electric vehicle (BEV)	1,029	2.3%
Plug-in hybrid electric vehicle (PHEV)	437	1.0%
Total hybrids and EVs:	**4,775**	**10.8%**

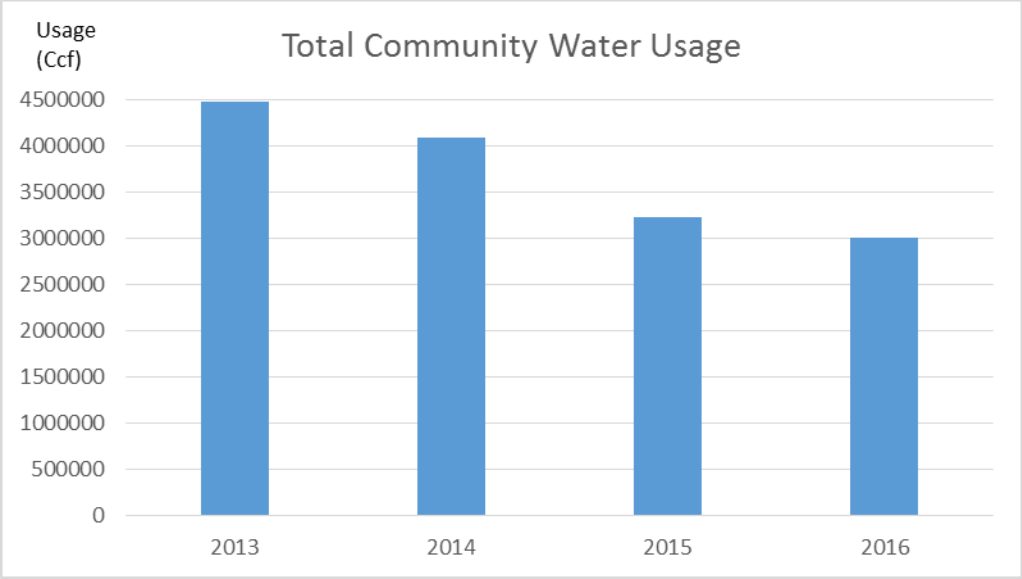
**Total vehicles registered in Cupertino: 44,127*

EV charging stations: According to the City's GIS permit database, there were 41 EV charging station permits finalized in 2016 in Cupertino, including home chargers and public chargers. The number does not include Level 1 charging, which does not require a charger to be installed and therefore does not require a permit.

Conserve Potable Water

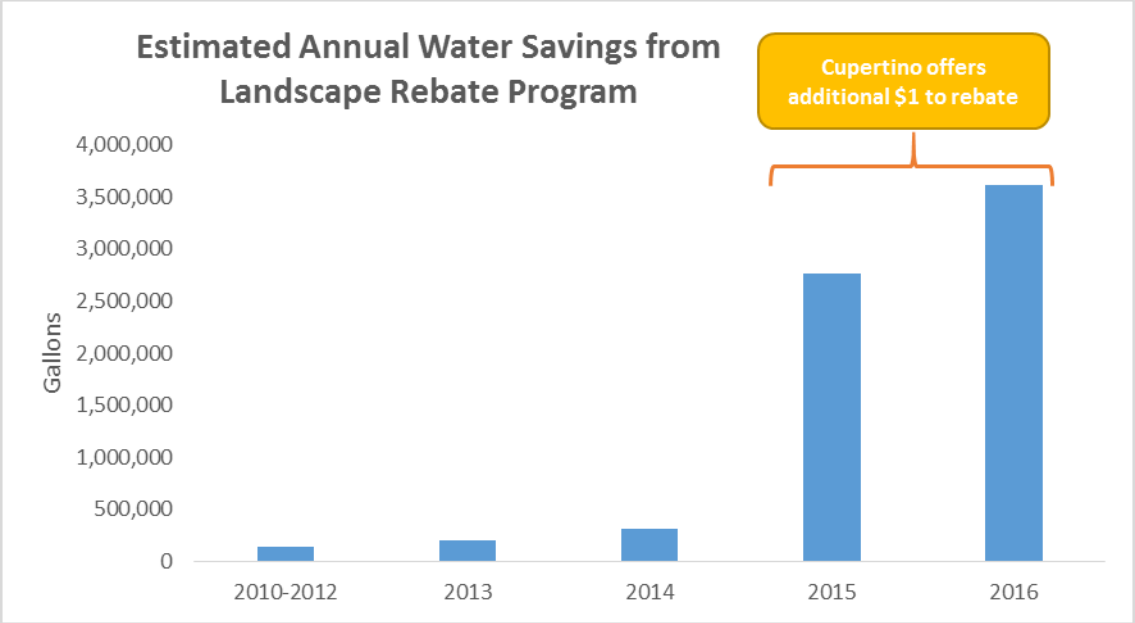
MEASURE C-W-1 SB-X7-7	
Goal	Implement water conservation policies contained within Cupertino's Urban Water Management Plan to achieve 20 percent per capita water reductions by 2020.
Co-Benefits	
Tracking Mechanism	Track per capita water use compared to 2010 baseline levels.
Progress Indicators	Reduce water use 20% less per capita than 2010 baseline usage.
Status	**Actions**
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: The city's water service providers, California Water Service (CAW) and San Jose Water Company (SJW), provided water usage data from 2013 – 2016. Since 2013, community water usage has decreased by 33%. Below is a breakdown of water usage in the community over this timeframe:



Education & Training: Since 2015, the City has maintained drought information webpages and flyers to provide updates to the community. In March 2016, the City hosted a Graywater Laundry to Landscape Seminar for the community to explain how water from residential washing machines can be used to water their yards. In 2017, the City plans to host three additional graywater workshops.

Financial Incentives: The City partners with Santa Clara Valley Water District (SCVWD) to encourage participation in the Landscape Rebate Program which provides incentives to property owners for water efficient upgrades. The SCVWD offers $1 per square foot of landscape that is converted to be drought tolerant. Starting in 2015, Cupertino offered an additional $1 for residents and businesses to participate in the program. As the charts below show, participation in the SCVWD program and gallons of water saved increased significantly in 2015 and 2016 since Cupertino added $1 per square foot to the rebate:



Cupertino Participation in SCVWD Landscape Rebate Program

	# Rebates	Sq. Feet Converted	Est. Annual Savings (Gallons)[2]
2010-2012	5	7,196	143,920
2013	8	9,933	198,660
2014	16	15,585	311,700
2015	106	138,121	2,762,420
2016	114	180,400	3,608,000

In 2016, out of the total 114 rebates in Cupertino, 86 rebates received Cupertino cost-sharing funds for a total of $74,973 contributed by the City towards the program. Note: in the 3rd and 4th quarters of 2015, the SCVWD depleted its funding for the program, and new applicants, including those from Cupertino, were placed on a waiting list. Also, in 2015 the SCVWD offered $2 per square foot, which was decreased to $1 per square foot in July 2016 in order to provide funding to more individuals.

Municipal Water Efficient Landscape Ordinance (MWELO) Update: The MWELO 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. Since the MWELO went into effect in 2016, a total of 27 permits and estimated 63,598 square feet of landscape area have fallen under the MWELO ordinance. MWELO is triggered for

[2] Experts estimate that 20 gallons per square foot of lawn converted is saved annually.

projects with landscaped areas of 500 sq. ft. or more that require a permit, plan check, or design review.

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	
Progress Indicators	*Supporting Measure - progress indicators and goals not provided*
Status	**Action**
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: Apple Campus 2 will be the first property in the city to use recycled water for irrigation. The Campus is scheduled to open in spring of 2017, and the recycled water connection to the Campus is scheduled to be completed by June 2017. Apple anticipates using the water shortly thereafter for cooling towers, toilet flushing and turf lawn irrigation needs. This represents approx. 70% of Apple Park's total water needs. This will avoid the use of over 30 million gallons of fresh water annually.

The Hamptons, located near Apple Campus 2, has committed to extending the recycled water main further south to serve their property. This project is currently on hold, so the schedule for this extension is currently unknown. The Vallco project had proposed to extend the recycled water main even further south to Wolfe and Stevens Creek and utilize recycled water for irrigation of the green roof, but this project is currently cancelled with no discussion of it reopening anytime soon.

No other projects or plans for extension or use of recycled water have been proposed for permitting at this time, but staff continues to monitor regional discussions regarding expansion of existing recycled water systems in neighboring jurisdictions and within Cupertino.

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

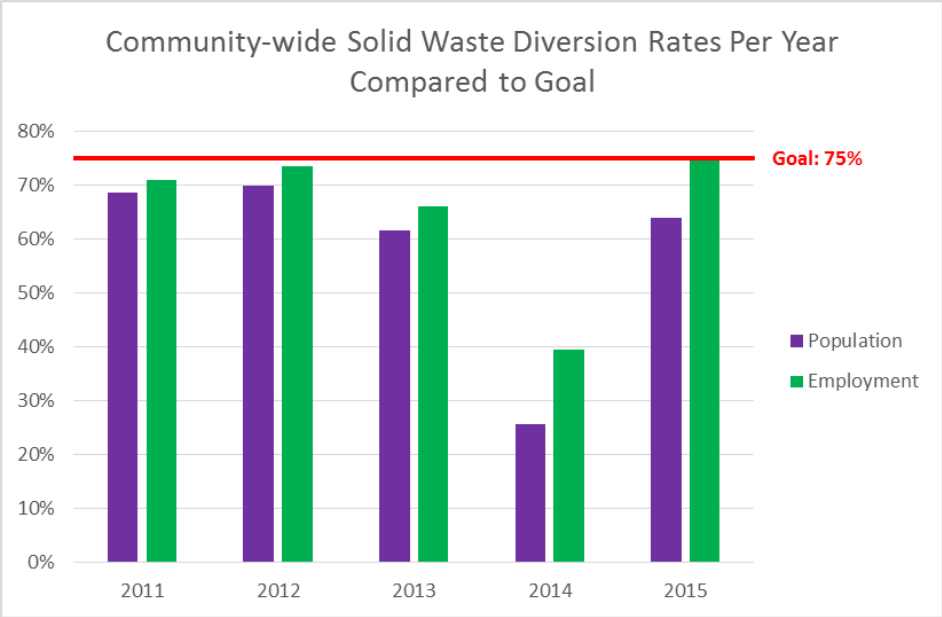
Implementation Update:

The City of Cupertino reports waste tonnage and diversion to CalRecycle each year. For each jurisdiction, CalRecycle calculates a disposal rate and diversion rate for population and for employment. In 2015, Cupertino's population was 59,756 and the number of people employed was 44,728. Below are the most recent available figures from CalRecycle for Cupertino.

Disposal Rate: The calculated disposal rate is based on how many pounds of solid waste (on average) are sent to the landfill per person per day in the City of Cupertino. In 2015, Cupertino succeeded in falling below the target ceiling disposal rates for both population and employment:

Disposal Rates (pounds per person per day)		
	Population	**Employment**
Our rate	2.6	3.5
Target rate	*4.3*	*8.1*

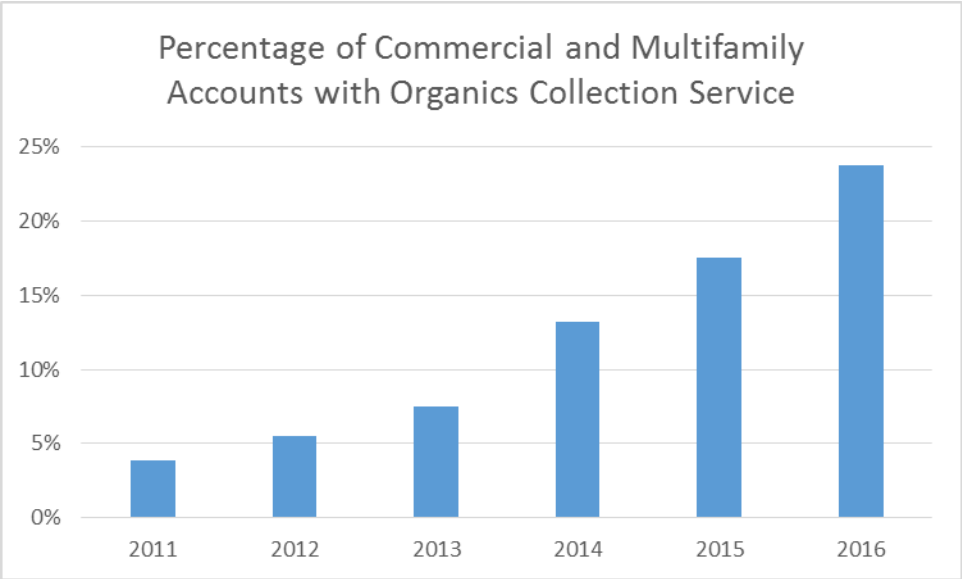
Diversion Rate: The diversion rate takes into account tonnage sent to the landfill and source reduction from efforts such as our citywide garage sale, citywide collection of organics for composting, the City's door-to-door residential hazardous waste collection program, and quarterly communitywide recycling events at De Anza College. In 2015, Cupertino achieved its 75% diversion goal for employment but is still at 64% for the population. There will likely be an increase in 2016 because our second tier of commercial businesses that began recycling organics went into effect in January 2016.



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
Status	**Action**
Ongoing	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: Mandatory Commercial Organics Ordinance: Businesses and properties generating at least 3 cubic yards of organic waste per week or generating a solid waste stream that is comprised of 25% or more organic food waste material were required to separate organic material for recycling as of January 20, 2016. This was the second group of businesses affected by the mandatory commercial organics collection ordinance. Thirty-one new business and multifamily accounts were subscribed to organics service in 2016, with 119

businesses subscribed total in December 2016. From 2015 to 2016, the percentage of commercial and multifamily business accounts subscribed to organics collection service increased from 18% to 24%.

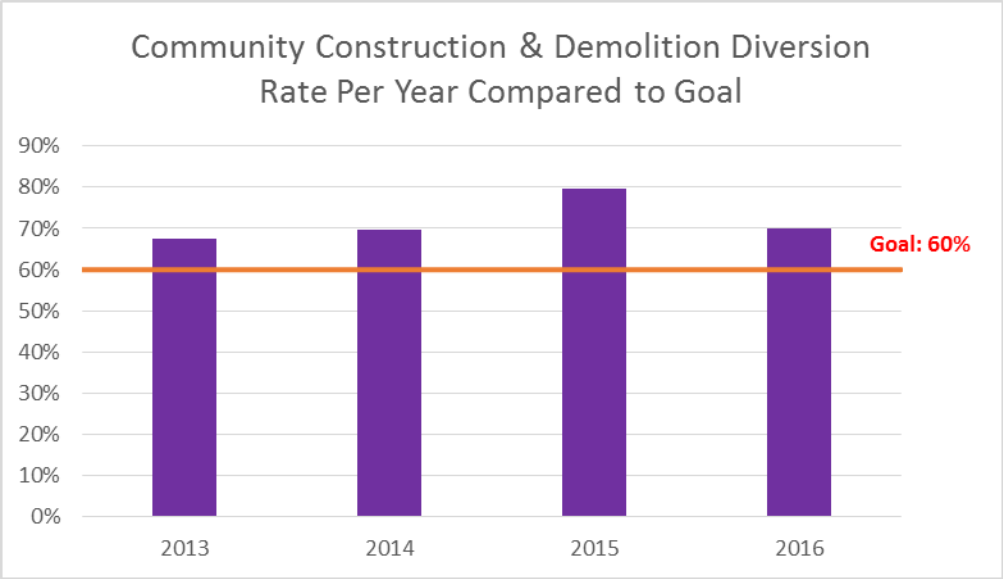


Community Outreach: Cupertino staff conducted 141 site visits in 2016 to aid businesses in implementation of the ordinance and provide free equipment, customized signage, employee training, and technical assistance regarding kitchen set-up for separating organic waste. In 2016, staff developed a strategic plan for direct, customized education to multifamily tenants and property managers in preparation for implementing the final tier of the mandatory commercial organics ordinance in July 2018.

Regional Partnerships: In 2016, Cupertino worked with the nonprofit group Clean Water Action to implement the ReThink Disposable program to help Cupertino businesses convert single use disposable food ware to reusable options. The three businesses currently participating in the program are preventing 12,710 lbs. of waste annually, equivalent to 51 metric tons of carbon dioxide reduction. Staff also aids businesses in recycling, composting, and waste reduction efforts by providing technical assistance through our green business certification program, GreenBiz Cupertino.

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.
Status	**Action**
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: Below are the community diversion rates for roll-off collection of construction and demolition (C&D) materials. The data below excludes self-hauled C&D material. As the chart reflects, Cupertino exceeded its goal of 60% C&D diversion in 2016.



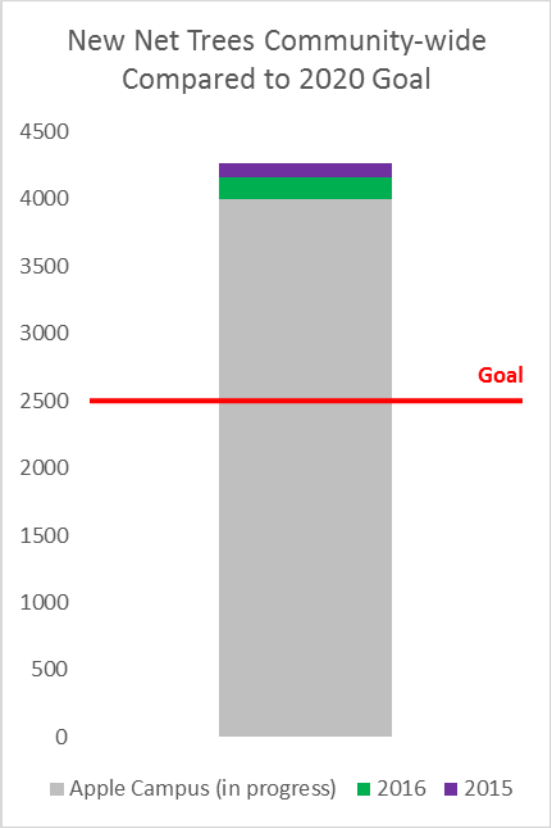
Expand Green Infrastructure

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.
Status	**Action**
Ongoing	A. Continue implementing landscaping requirements in City's Development Standards, Design Guidelines, and other regulatory documents.

Implementation Update: Below are the net new trees planted in the city per year (not including the Apple 2 Campus):

Year	Net New Tress Planted
2010	96
2011	40
2012	147
2013	470
2014	410
2015	100
2016	**169**

A total of 3,994 new net trees are currently being planted at the Apple 2 Campus. As the chart below shows, we are exceeding our 2020 target for new net trees with the addition of these trees currently underway at the Apple 2 Campus.



MUNICIPAL MEASURES

Detailed below are each of the CAP near-term municipal measures and status updates, organized according to the reduction strategy categories.

Improve Facilities

MEASURE M-F-1 Sustainable Energy Portfolio	
Goal	Procure low-carbon electricity through utility-based programs or participation in a Community Choice Energy District.
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
Status	**Action**
Complete	B. Create Community Choice Energy option

Implementation Update: As reported above in Measure C-E-7, Silicon Valley Clean Energy is now the default electricity provider for Cupertino. The City has shown leadership by choosing to opt up all its municipal accounts to the GreenPrime service, which is 100% renewable and 100% carbon free. Starting in 2017, the City will have met its 2020 goal for Measure M-F-1, as all municipal electricity usage now comes from 100% renewable sources. Before joining SVCE, electricity emissions made up roughly half of the total emissions in the city's municipal greenhouse gas inventory; going 100% renewable for the municipal electricity portfolio will therefore create a dramatic drop in emissions for our municipal operations inventory and the building energy sector.

The City anticipates joining SVCE will also reduce administrative burden in analyzing energy metrics, as streamlining energy data access is one of the goals of SVCE and its partner municipalities.

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
Status	**Action**
Ongoing	A. Install solar PV installations on City buildings / property

Implementation Update: While no new PV systems were installed in 2016, the City is receiving clean energy from existing solar arrays at the Environmental Education Center and the Service Center. Below are the current solar energy generation figures for both sites:

Site (Year PV System Installed)	Capacity (kW)	Percent Progress Toward 2020 Capacity Goal (508 kW installed)	Current Annual Generation[3] (kWh/yr.)	Percent Progress Toward 2020 Generation Goal (818,000 kWh/yr.)
Service Center (2014)	103.7		158,000	
Environmental Education Center (2015)	6.9		9,809	
TOTAL ALL SITES:	**110.6**	**22%**	**167,809**	**21%**

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)
Status	**Action**
In Progress	C. Install energy management systems
In Progress	E. Design / implement facilities & equipment energy management policy

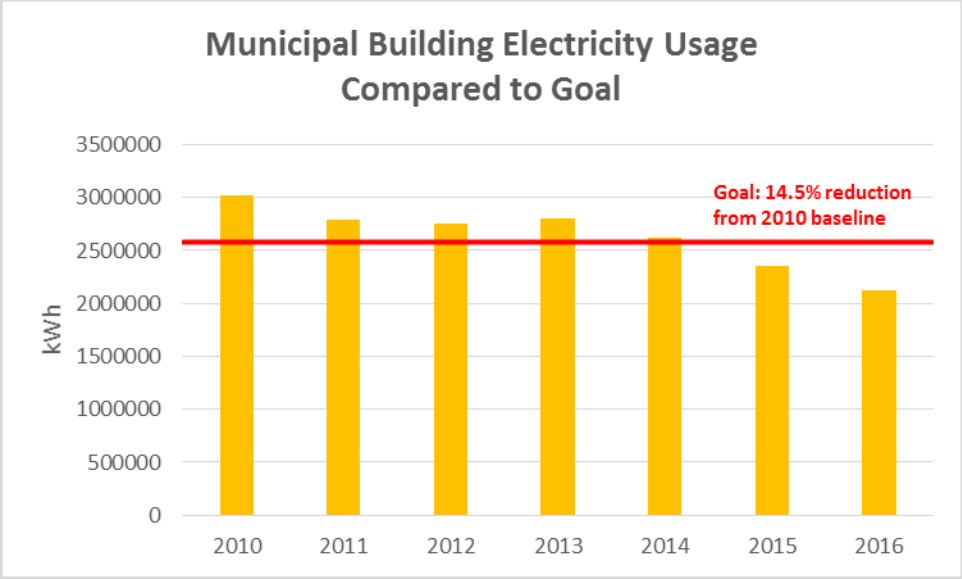
Implementation Update: Staff completed energy audits with Silicon Valley Energy Watch/Ecology Action for Quinlan Community Center, City Hall, the Sports Center, Blackberry Farm, the Senior Center, and the Library. As a direct result of these audits, the City is working to implement energy efficiency improvements for the pool pumps at Blackberry Farm as well as proposing LED tennis court upgrades. The City is piloting a Utility Data Management Solution to assist with tracking municipal energy and water usage and cost data.

Data and Analytics: Electricity data was provided by PG&E through two different reports; some discrepancies may arise if compared to future progress reports.[4] As the chart below illustrates,

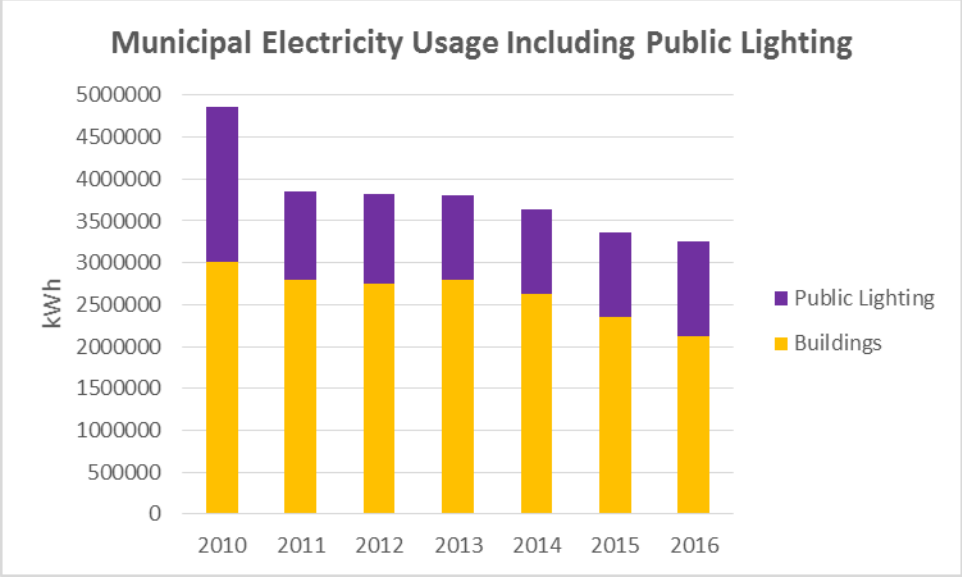
[3] Service Center: generation over 12 months, Jan-Dec 2016. Env. Education Center: generation over 12 months, Mar 9 2016 – Mar 9 2017.

[4] Note: although the historic data (2010-2015) and the current data (2016) are both from PG&E, they were drawn from different reports and there may be discrepancies because of this. "Buildings" category in electricity chart may include some miscellaneous accounts, such as irrigation and lighting other than streetlights and traffic lights.

we are exceeding our 2020 goal for municipal building electricity reduction. Building electricity usage has decreased by 30% comparing 2016 usage to the 2010 baseline. This decrease is in part due to the energy efficiency improvements completed since 2010, as well as the introduction of solar energy production on municipal facilities and other factors.

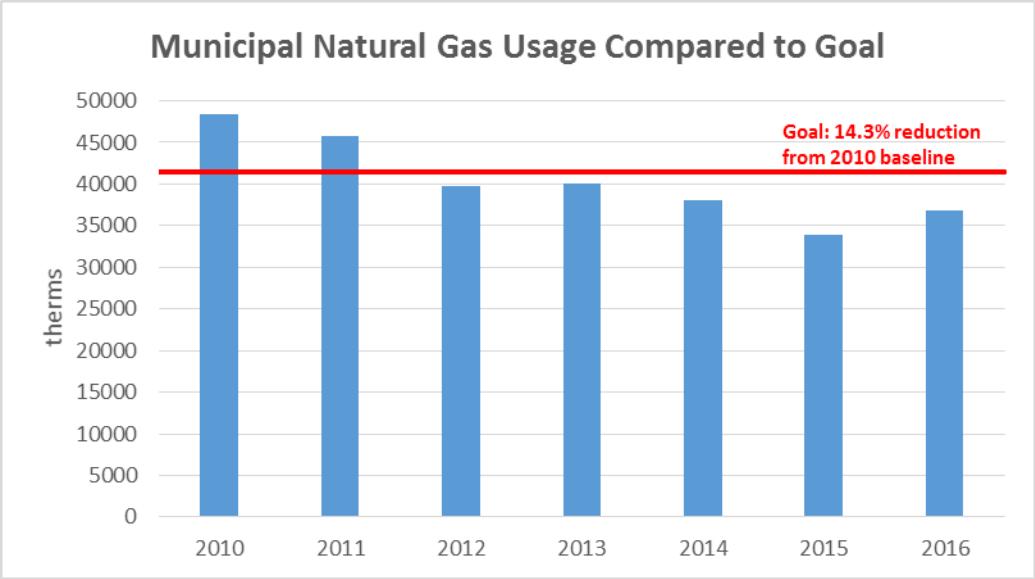


Municipal aggregate electricity and natural gas usage are detailed below. Electricity usage overall (including public lighting and all municipal electricity accounts) decreased 33% comparing 2016 to the 2010 baseline.



Natural gas usage data was provided by PG&E and the Association of Bay Area Governments (ABAG). We are also exceeding our 2020 goal for natural gas reduction. The City reduced its natural gas usage by 24% in 2016 compared to the 2010 baseline. As mentioned above, this

reduction over time is due in part to energy efficiency improvements. Year to year usage reductions or increases could also be due to weather fluctuations.



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)
Status	**Action**
In Progress	A. Complete building retrofits

Implementation Update: There were no recorded energy efficiency building retrofits in 2016.

MEASURE M-F-5 Expand New Building Energy Performance

Goal: Establish energy efficiency targets for new municipal buildings.

This is a long-term measure with 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.

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	872,000 kWh/yr. saved through street light retrofit program 75,000 kWh/yr. saved through park unit parking lot and pathway light retrofit program
Status	**Action**
Ongoing	A. Complete street light retrofits
Ongoing	B. Retrofit remaining parking lot and park facility lighting

Implementation Update:

In 2016, PG&E replaced over 300 streetlight fixtures with LEDs, resulting in an estimated energy savings of 120,000 kWh per year. Although these fixtures are owned by PG&E, the City of Cupertino pays for the electricity, and the LED replacement project is estimated to save the City almost $7,000 per year on its electricity bills.

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.

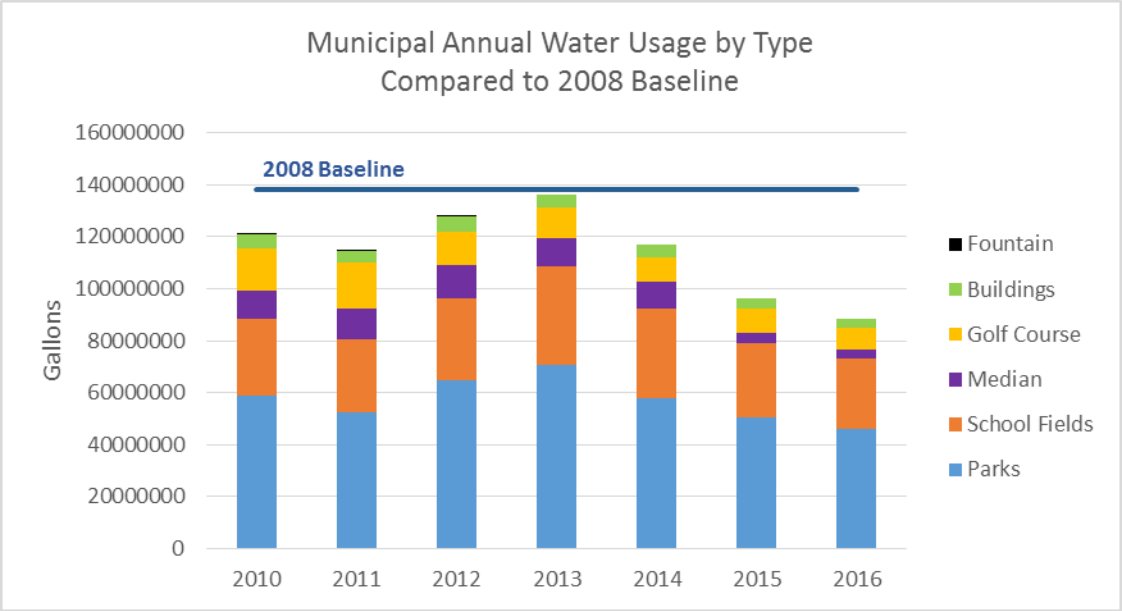
Progress Indicators	Achieve Bay Area Climate Compact's goal for 20% water savings by 2018 over 2008 baseline. Assumes 27.5 million gallons of water saved per year over 2008 baseline of 138 million gallons.
Status	**Action**
On Hold	A. Utilize weather-track system to reduce park & median water use
Ongoing	B. Benchmark & track water use per meter
In Progress	C. Adopt water budget & green grounds policy
Ongoing	D. Use bay-friendly landscaping techniques across parks & medians; install demonstration gardens
Ongoing	E. Install graywater and rainwater catchment systems in new construction and major retrofit projects
In Progress	F. Recognize staff "water wise" practices

Implementation Update: Drought Tolerant Landscape Conversions: These medians and park spaces were upgraded to drought tolerant landscaping in 2016:

- Sports Center (sign area)
- Stevens Creek Blvd. from Perimeter Dr. to Wolfe Rd. / Miller Ave.
- Stelling Rd. from Stevens Creek Blvd. to McClellan Rd.
- Prospect roadside by Seven Springs

The City is pursuing demonstration projects that showcase water efficient landscaping. The most prominent project is currently underway at City Hall, which will be drought tolerant landscaping with signs to educate the public on the names of the plants. This is a project of Public Works and broke ground in April 2017.

Water Usage Data: In 2016, municipal water usage was 36% lower than the 2008 baseline, as depicted in the chart below. (Note: statewide reporting uses 2013 as a baseline, and Cupertino's municipal water usage was 35% lower than the 2013 baseline). Staff will continue to implement water conservation programs and monitor water use annually.



Encourage Alternative Transportation / 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.
Status	**Action**
Ongoing	B. Expand City bike fleet, training, and promotion
Ongoing	C. Promote vehicle alternatives to reduce car-travel to City-sponsored events

Implementation Update: The City owns 98 vehicles. As of the end of 2016, City fleet vehicle composition is as follows:

All Electric:	2%
Plug-In/Hybrids:	13%
Diesel:	22%
Gas:	62%

Clean Vehicles make up 15% of City Fleet

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 fleet as clean vehicles. On a fully charged battery, the EV's range is about 76 miles.

The Public Works Department has an internal policy that, at time of vehicle replacement, staff uses a lifecycle cost calculator to estimate the true cost of vehicle ownership to inform procurement decisions. Staff continues to evaluate opportunities to right-size the fleet and procure vehicle types based on departmental and staff requirements which may further reduce pool vehicle size.

Bike Fleet Outreach: The City's internal Bike Fleet Committee maintains the bike fleet and coordinates training, maintenance, and policy and procedures. The Committee has recently revamped internal bike fleet policy and re-introduced the bike fleet to city employees. The details of this outreach and revamping effort will be reported in the 2017 progress report.

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
Status	**Action**
Ongoing	A. Install electric vehicle charging stations

Implementation Update: No new charging stations were added in 2016.

The City owns and maintains six dual port electric charging stations as follows:

- 1 dual-port station on Rodriguez Ave (available to the public)
- 2 dual-port stations in Library parking lot (available to the public)
- 1 dual-port station at Service Center (for municipal employee use)
- 2 dual-port stations at Quinlan Community Center (available to the public)

MEASURE M-VF-3 Promote Behavior/Fuel Optimization

Goal: Encourage and promote fuel-efficient driving.

This is a medium-term measure with implementation to occur within three to five years following CAP adoption. As the City is working to prioritize near-term (2020) goals in this early stage of implementation, there is no progress to report.

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
Status	**Action**
In Progress	D. Conduct waste characterization audits and track materials / diversion

Implementation Update: Electronic plan submittal was rolled out in 2016. City staff completed its first municipal waste audit of City Hall on February 23, 2017. Based on this audit, staff achieved 50% diversion from the landfill, but with correct sorting and janitorial practices, this could increase to over 70% diversion. This diversion number does not include any source

reduction measures. Findings of the City Hall audit will influence initiatives and practices such as further education of janitorial staff and employees. Staff plans to complete audits at the rest of the city facilities by the end of fiscal year 2019 / 2020.

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
Status	**Action**
Ongoing	A. Expand municipal collection and composting program

Implementation Update: Compost bins to collect food waste are available in all city facilities and a growing number in city parks for employee and public use. As mentioned above, staff conducted a waste audit of City Hall. Based on this audit, staff estimates that 41% of total food scraps and compostable paper thrown away is composted. With internal education efforts and adjusting of the collection process, staff estimates this rate could be increased to over 70% diversion. Audits will be conducted at the rest of city facilities by 2019/20.

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: Cupertino achieved a 70% C&D diversion rate in 2016, exceeded its goal of 60% diversion. California Green Building Code has been revised to require 65% diversion of C&D waste for all projects, effective January 2017. Cupertino's municipal code is being updated to reflect these changes.