

TO: Nimisha Agrawal, City of Santa Clara
FROM: Andrea Martin and Angela Pietschmann, Cascadia Consulting Group
SUBJECT: Progress Analysis of the City of Santa Clara’s 2013 Climate Action Plan
DATE: April 2020

INTRODUCTION

Cascadia Consulting Group reviewed the City of Santa Clara’s 2013 Climate Action Plan (CAP), 2016 and 2018 CAP progress reports, and other related documents to assess the City’s progress in implementing CAP measures and reducing greenhouse gases against the recommended baseline. This review was supplemented with a series of interviews in March 2020 with the following City staff and key stakeholders:

- Ann Hatcher - Assistant Director of Electric Utility
- Carol Shariat - Principal Transportation Planner
- Craig Johnson – Building Official
- Dan Sunseri – Fleet Manager
- Dave Staub – Deputy Director of Public Works
- Diane Asuncion- Acting Compliance Manager, Water & Sewer Utilities
- Michelle Templeton – Sustainability Manager
- Shilpa Mehta - Engineering Services Division Manager, Water and Sewer Utilities
- Sudhanshu Jain – Planning Commissioner

The following tables summarize progress to date across the 2013 CAP’s 19 climate action measures.

PROGRESS AS OF MARCH 2020

FOCUS AREA 1: COAL-FREE AND LARGE RENEWABLES

Goal: Eliminate coal from SVP’s portfolio and increase use of natural gas and renewable energy.

Ref	Measure	Performance target	Lead Department	2020 Status
1.1	Coal-free by 2020 Replace the use of coal in Silicon Valley Power’s (SVP) portfolio with natural gas by 2020.	100% of coal power replaced with natural gas.	<ul style="list-style-type: none"> • Silicon Valley Power 	Completed. As of January 1, 2018, SVP (1) has completely divested from coal, eliminating the amount of coal in the City’s energy mix; and (2) provides all residential customers with carbon-free energy.
1.2	Renewable energy resources Investigate the use of City-owned property for large-scale renewable energy projects.	N/A	<ul style="list-style-type: none"> • Silicon Valley Power 	Since the 2013 CAP was adopted, SVP developed a 20 MW wind farm in the Altamont Pass area and a 20 MW solar installation in Kern County.

Ref	Measure	Performance target	Lead Department	2020 Status
1.3	Utility-installed renewables Develop up to five solar PV projects with a total installed capacity of 3 to 5 MW.	New solar PV projects generating a total of 5 MW.	<ul style="list-style-type: none"> Silicon Valley Power 	By 2016, SVP installed 515 kW of solar projects in Santa Clara. Additional projects to date include: Hope Rehabilitation Services (4.0 kW), YMCA of Silicon Valley (30.450 kW), Pacific Autism Center for Education (47.150 kW), Belovida Santa Clara (32.400 kW), Muslim Community Association (35.020 kW). Three additional projects are currently in progress.

FOCUS AREA 2: ENERGY EFFICIENCY PROGRAMS

Goal: Maximize the efficient use of energy throughout the community.

Ref	Measure	Performance target	Lead Department	2020 status
2.1	Community electricity efficiency Achieve City-adopted electricity efficiency targets to reduce community-wide electricity use by 5% through incentives, pilot projects, and rebate programs.	(2020): 159,100 MWh electricity savings.	<ul style="list-style-type: none"> Silicon Valley Power 	Completed. Combined savings from 2008 to 2017 amount to 165,260 MWh of community energy savings through incentives, pilot projects, and rebate programs, exceeding the original goal of 159,100 MWh.
2.2	Community natural gas efficiency Work with community and social services agencies to provide information from Pacific Gas & Electric (PG&E) to promote voluntary natural gas retrofits in 5% of multi-family homes, 7% of single-family homes, and 7% of nonresidential space through strategic partnerships connecting residents and business owners to available financing resources.	1,700 single-family homes, 1,000 multi-family homes, 410 commercial accounts, and 130 industrial accounts complete natural gas efficiency upgrades.	<ul style="list-style-type: none"> Silicon Valley Power PG&E 	While SVP is a municipally owned utility, PG&E is not, making progress on this measure challenging. The City will pursue more effective measures as part of the 2020 CAP update.
2.3	Data centers Encourage new data centers with an average rack power rating of 15 kW or more to identify and implement cost-effective and energy-efficient practices.	10% of new data centers utilizing energy-efficient practices.	<ul style="list-style-type: none"> Planning & Inspection 	Completed. 100% of new data centers since 2013 have utilized energy-efficient economizers, exceeding the goal of 10% of new data centers.

Ref	Measure	Performance target	Lead Department	2020 status
2.4	Customer-installed solar Incentivize and facilitate the installation of 6 MW of customer-owned residential and nonresidential solar PV projects.	New solar PV projects generating 6 MW in total installed capacity on homes, nonresidential buildings, parking garages, parking lots, and other feasible areas. Equivalent to 900 residential and 330 nonresidential installations.	<ul style="list-style-type: none"> Silicon Valley Power Planning & Inspection 	Completed. 16.1 MW of commercial and residential solar were installed between 2013-2018.
2.5	Municipal energy efficiency Reduce municipal electricity use by 10% through comprehensive energy retrofits of existing equipment and implementation of previously identified energy efficiency projects with a benefit-cost ratio of one or greater.	Replace inefficient equipment in 50% of municipal buildings and facilities. Complete all previously identified cost-effective identified energy efficiency projects.	<ul style="list-style-type: none"> Public Works 	Most City facilities are equipped with energy efficient computers, printers and air-cooled air conditioning units. The City installs/retrofits with LED lighting. When motors, boilers, and chillers are replaced (due to age or condition), the City uses energy efficient models. The City will continue efforts and investigate ways to participate in energy efficient programs.
2.6	Municipal renewables Install 1 MW of solar or other renewables at City-owned facilities.	New solar PV projects generating 1,000 kW in total installed capacity.	<ul style="list-style-type: none"> Public Works 	The City has begun the process of completing this measure; two City facilities have been selected to attain solar panels, the Northside Library and the Police Department building. These solar panels are planned for installation by the end of 2020. The City will continue to determine other City facilities that could install solar panels and reach the goal of 1MW solar installs.

FOCUS AREA 3: WATER CONSERVATION*Goal: Reduce GHG-intensive water use practices.*

Ref	Measure	Performance target	Lead Department	2020 status
3.1	Urban Water Management Plan targets Meet the water conservation goals presented in the 2010 Urban Water Management Plan to reduce per capita water use by 2020.	Meet the water conservation goals presented in the 2010 Urban Water Management Plan to reduce per capita water use by 2020.	<ul style="list-style-type: none"> Water & Sewer Utilities Planning & Inspection 	Completed. The City saved 6,328 acre-feet (2,060,000,000 gallons) of water from 2008 through 2016.

FOCUS AREA 4: WASTE REDUCTION*Goal: Increase recycling opportunities for all disposed materials.*

Ref	Measure	Performance target	Lead Department	2020 status
4.1	Food waste collection Support the expansion of existing food waste and composting collection routes in order to provide composting services to 25% of existing restaurants.	Participation of 120 restaurants in Santa Clara.	<ul style="list-style-type: none"> Public Works 	While 124 businesses are currently signed up for the commercial organics program, only 30 are restaurants. However, this total includes hotels, grocery stores, and other businesses with a food service component. The City expects its new relationship with Green Waste Recovery's mixed waste processing facility (beginning in 2021) will be more effective than this measure's attempt to source-separate organics from garbage.
4.2	Increased waste diversion Work with regional partners to increase solid waste diversion to 80% through increased recycling efforts, curbside food waste pickup, and construction and demolition waste programs.	Increase the waste diversion rate from 58% to 80%.	<ul style="list-style-type: none"> Public Works 	The City's current diversion rate is approximately 58%. The City expects its new relationship with Green Waste Recovery's mixed waste processing facility (beginning in 2021) will be more effective than this measure's attempt to increase diversion through source-separation.

FOCUS AREA 5: OFF-ROAD EQUIPMENT

Goal: *Ensure efficient operations of off-road equipment.*

Ref	Measure	Performance target	Lead Department	2020 status
5.1	<p>Lawn and garden equipment Support and facilitate a community-wide transition to electric outdoor lawn and garden equipment through outreach, coordination with BAAQMD, and outdoor electrical outlet requirements for new development.</p>	Exchange 1,170 leaf blowers and 130 lawn mowers with electric models.	<ul style="list-style-type: none"> Planning & Inspection 	As of 2016, only three residents used the program successfully. The program is no longer operational due to limited interest. The City will explore alternative strategies for off-road equipment as part of the 2020 CAP update.
5.2	<p>Alternative construction fuels Require construction projects to comply with BAAQMD best management Practices, including alternative-fueled vehicles and equipment.</p>	30% of construction equipment switches from conventional technologies to hybrid, compressed natural gas (CNG), electric, or biodiesel.	<ul style="list-style-type: none"> Planning & Inspection 	<p>As of July 2016, 12% of construction equipment (defined as forklifts, backhoes, loaders, rollers, chippers, stump grinders, cranes, concrete saws, and mowers) were upgraded to use alternative fuel technologies, nearly halfway to the 30% conversion target established in the CAP.</p> <p>All development approvals have requirements in their environmental documents to use BAAQMD best management practices, which includes the encouragement of fuel switching to alternative fuels.</p> <p>The City can make further progress on this measure by adding the use of alternative fuels in construction vehicles to the conditions of approval for new development permits and updating project monitoring software to account for the type of fuel used for construction vehicles at each development site. The City conducts pre-construction meetings to review developments' plans prior to construction; to further the progress of this measure; the City can open these meetings to include building and planning staff to ensure completion of CAP measures.</p>

FOCUS AREA 6: TRANSPORTATION AND LAND USE

Goal: Establish land uses and transportation options that minimize single-occupant vehicle use.

Ref	Measure	Performance target	Lead Department	2020 status
6.1	<p>Transportation demand management program Require new development located in the city's transportation districts to implement a TDM program to reduce drive-alone trips.</p>	<p>TDM reporting results in a 1% overall reduction in citywide VMT, with individual projects achieving a minimum 5% to 10% reduction in VMT based on implementation of TDM best practices.</p>	<ul style="list-style-type: none"> Planning & Inspection 	<p>Since the CAP's adoption, 46 new developments have been required to have a TDM Plan, and from those, 11 have been constructed and occupied, and two have implemented a TDM plan. The developments are required to create annual reports on their TDM plans to provide information to calculate overall VMT reduction. The City will continue to require TDM Plans in their conditions of approval for all new developments in transportation districts as well as monitor developments' annual report submissions.</p>
6.2	<p>Municipal transportation demand management Develop and implement a transportation demand management program for City employees to encourage alternative modes of travel and reduce single-occupant vehicle use.</p>	<p>Achieve a 20% reduction in commute related VMT from City employees</p>	<ul style="list-style-type: none"> Planning & Inspection 	<p>The City has taken steps to start a program by collecting and analyzing baseline data regarding employee commutes. The collected information expressed that 85% of employees drive alone to work resulting in approximately 102 MTCO2 emissions from City employee commutes. The City has also collected information regarding different departments' employee work schedule and has begun compiling possible TDM actions to reduce VMT. With the baseline data for City employee commute patterns, the City can begin development and implementation of targeted TDM measures.</p>
6.3	<p>Electric vehicle parking Revise parking standards for new multi-family residential and nonresidential development to allow that a minimum of one parking space, and a recommended level of 5% of all new parking spaces, be designated for electric vehicle charging.</p>	<p>430 parking spaces in new commercial, industrial, and multi-family development that utilize EV charging stations.</p>	<ul style="list-style-type: none"> Planning & Inspection 	<p>Completed. The City of Santa Clara completed this measure as of 2018 with 455 charging stations installed in public spaces.</p>

FOCUS AREA 7: URBAN HEAT ISLAND EFFECT

Goal: Mitigate the heat island effect through shading and cooling practices.

Ref	Measure	Performance metric	Lead Department	2020 status
7.1	Urban forestry Create a tree-planting standard for new development and conduct a citywide tree inventory every five years to track progress of the requirements.	Each new development incorporates a minimum of two shade trees near south-facing windows for a total tree-planting goal of 2,500.	<ul style="list-style-type: none"> Planning & Inspection 	Completed. The City created a mandatory 2:1 replacement rule for developments, requiring 2 trees to be planted for every 1 tree removed during new construction. The City surpassed this goal by 2016 with the planting of 3,792 trees.
7.2	Urban cooling Require new parking lots to be surfaced with low-albedo materials to reduce heat gain, provided it is consistent with the Building Code.	All new uncovered parking lots and spaces utilize light-colored and/or permeable pavements.	<ul style="list-style-type: none"> Planning & Inspection 	While the City has not yet required new parking lots to be surfaced with low-albedo materials, the 2019 California Green Building Standards Code includes guidance in its "Non-residential Voluntary Measures."

NEXT STEPS

The consultant team will use the updated information summarized above to support development of targets, strategies, and actions in the updated CAP in 2020.