



CLIMATE ACTION PLAN

2018 Biennial Progress Report

July 2018



Sunnyvale

Climate Action Plan

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The Climate Action Plan (CAP 1.0), adopted in 2014, is the City's path toward creating a more sustainable, healthy, and livable community. The economic, social, and environmental impacts of climate change are a significant threat, and mitigating climate impacts by reducing greenhouse gas (GHG) emissions is critical. This 2018 Biennial Progress Report outlines how our community's greenhouse gas emissions have declined through successful climate action as well as local, state, and federal policies. We present accomplishments of our actions as of 2016 (2016 Highlights) and summarize efforts that will pave the way for further emissions in coming years (Active Initiatives).

CAP 1.0 At-A-Glance

- 129 actions in 10 goal areas
- Targets reductions by 2020 and 2035
- Baseline emissions inventory for 2008
- Focuses on energy, transportation, and waste emissions
- Community Choice Energy is the single action with the largest GHG impact

“Sunnyvale has achieved the State's target greenhouse gas reductions ahead of the 2020 schedule through the combined efforts of our community, partners and City staff! We remain committed to sustainability as a way of life in Sunnyvale, and look forward to continuing our work together to reduce our climate impact and improve our community's livability for future generations.”

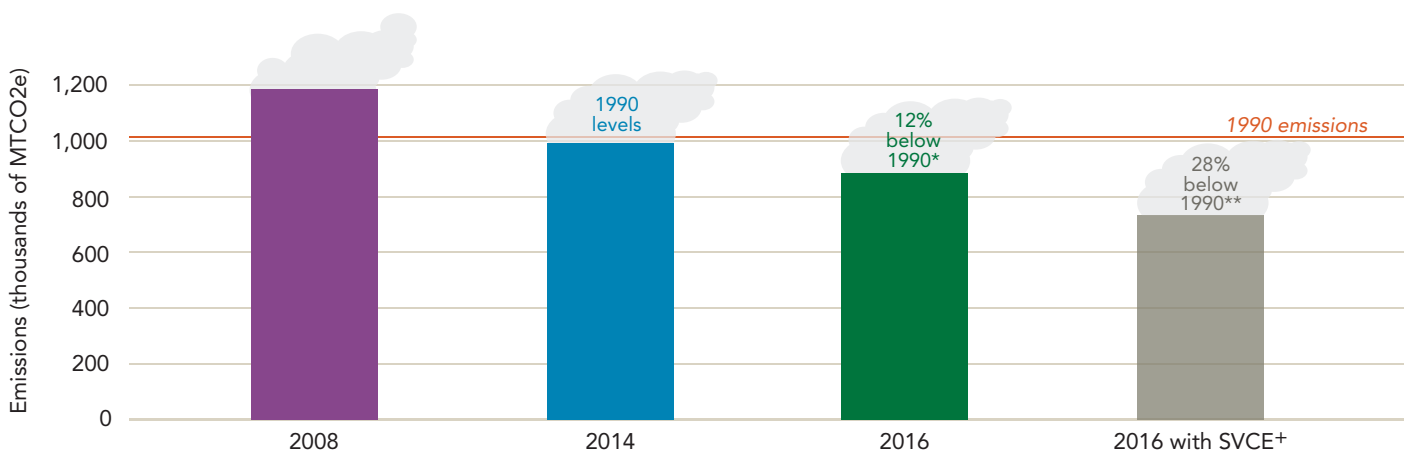
– Mayor Glenn Hendricks

City Reaches 2020 Target Ahead of Schedule

2016 Emissions 12% Below 1990 Levels

Sunnyvale's community-wide GHG emissions were first estimated in 2008. To meet the state's 2020 emissions target, the City has aimed to reduce emissions to 1990 levels by 2020 (equivalent to 15 percent below the 2008 baseline).† The City's community-wide emissions inventory provides an update on our progress towards this target. It is updated every two years and follows nationally and internationally accepted protocols for developing community GHG inventories.

Community-wide emissions in 2016 were approximately 12% below 1990 levels. Silicon Valley Clean Energy – the action with the greatest GHG reduction potential in the CAP – was launched in 2016 and started providing service in 2017. To recognize the large impact of this single action, 2016 emissions are shown with 2017 SVCE data (grey column) to demonstrate that an estimated 28% reduction below 1990 levels is possible. Our community's achievements are notable and integral to creating a systemic change to achieve more ambitious, longer term emissions targets.

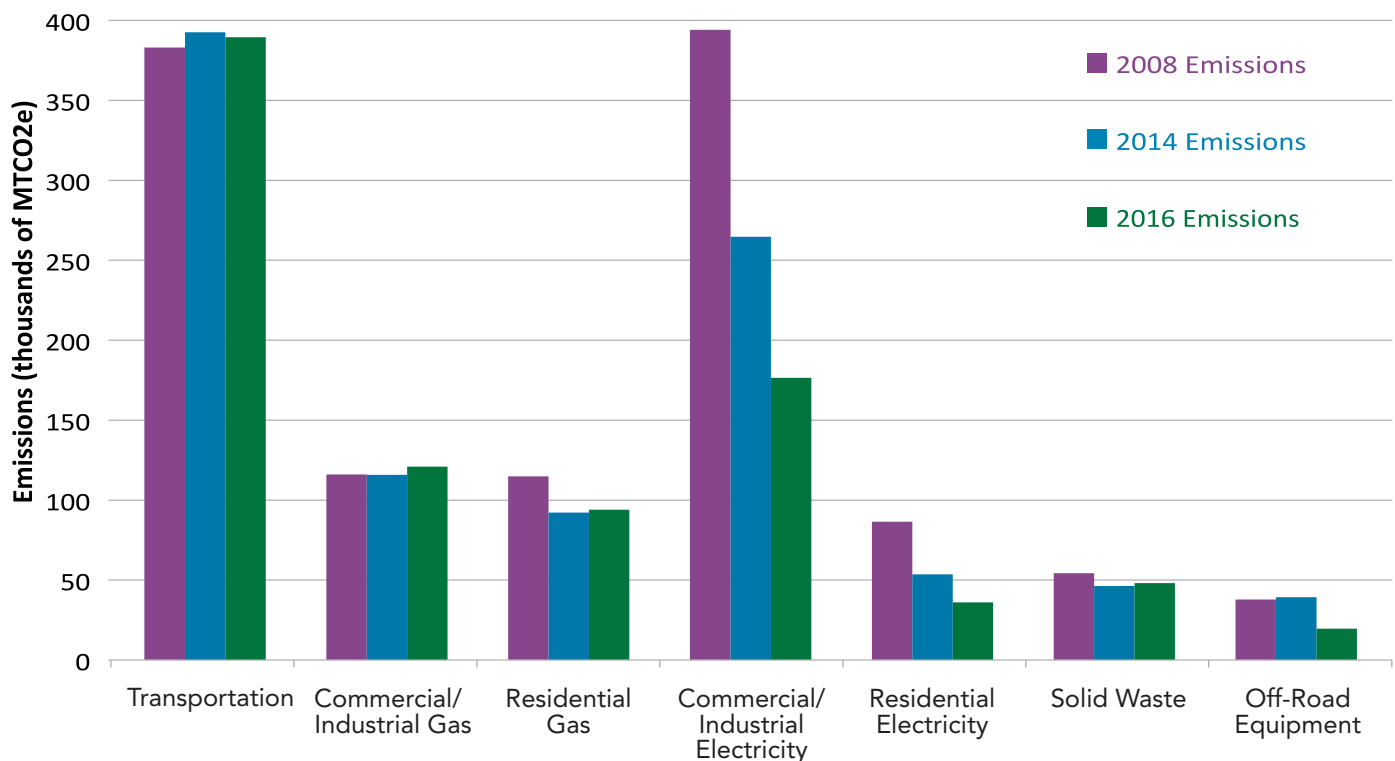


†The 2008 baseline is referenced in lieu of 1990 throughout this report, as 1990 data are not readily available.

**25% below 2008. **39% below 2008. + Estimated impact of SVCE by applying 2017 SVCE enrollment data to the City's 2016 emissions.

Emissions Sources & Trends

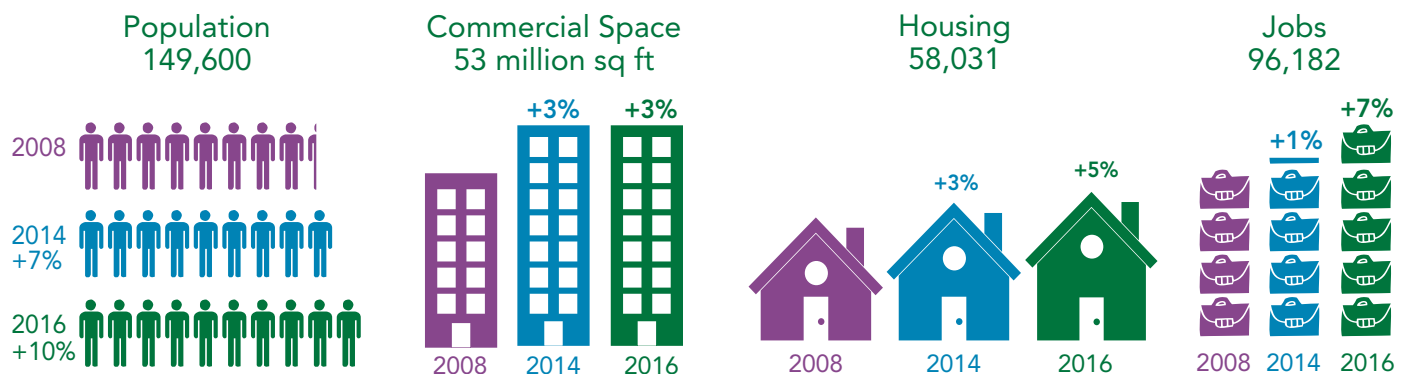
Emissions declined compared to 2008 and 2014 across several sectors and increased for Natural Gas, Transportation and Waste.



Emissions from water, wastewater, and Caltrain, which are <2% of community-wide emissions, are not shown.

Demographic Drivers

Sunnyvale's emissions are greatly influenced by our community's demographics, including population growth, available jobs and housing, and development. Emissions are also influenced by available technologies, energy procurement practices, and individual behaviors. Since 2008, Sunnyvale experienced significant growth in population, jobs and construction. These upward trends are correlated with higher emissions from: Transportation, as more single-occupancy vehicles commute to and from Sunnyvale; and waste, as more construction and demolition waste is generated from the rapid pace of development. Despite these upward trends, however, overall emissions decreased. This decrease can largely be attributed to significantly cleaner electricity supplied by PG&E, more energy efficient buildings, and increased energy conservation efforts.



2014 and 2016 data reference 2008 as baseline.

Mobility

Driving vehicles powered by gasoline and diesel is the single largest source of emissions in Sunnyvale. Driving an electric vehicle reduces emissions. Choosing to walk, ride a bicycle, or take public transit offsets emissions and helps alleviate traffic congestion. The indicators below represent Sunnyvale's progress in using and promoting alternative modes of transportation.

2016 Highlights



2016:
1.6% commuters
ride bikes to work

2014: 1.4%
2008: <1%



2016:
38% students walk or
ride bicycles to school

2014: 41%
2008: 14%



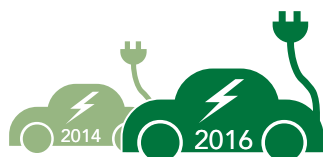
2016:
132 miles of exclusive bicycle
paths and separated lanes

2014: 121 miles
2008: n/a



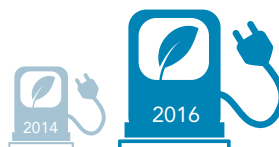
Safer Bicycle Lanes

Nearly 11 miles of new designated on-road lanes for bicycles were added. Safer bicycle lanes may encourage more riding and less driving.



2016:
1,860 electric
vehicles in use

2014: 810
2008: n/a



2016:
2,034 public & workplace
EV chargers

2014: 467
2008: n/a



2016:
15.9 daily vehicle miles
traveled per person

2014: 15.7 miles
2008: 15.7 miles



2016:
909,000 Caltrain
rides per year

2014: 746,000 rides
2008: 496,000 rides

Integrated Bicycle and Pedestrian Safety Plan

The new integrated Bicycle and Pedestrian Safety Plan (expected 2019) aims to improve roadway safety and mobility for all road users. Safer streets will encourage walking or bicycling and help reduce transportation emissions.



Energy Efficiency and Clean Energy

Energy use is the second largest contributor to Sunnyvale's community-wide emissions. Electricity used in our homes and offices, if generated from conventional sources, such as natural gas, produces carbon emissions. Further, combustion of natural gas for space and water heating in our buildings directly generates carbon emissions. Improving building energy efficiency, reducing natural gas use, and sourcing electricity from renewable sources reduce emissions from energy use.

2016 Highlights

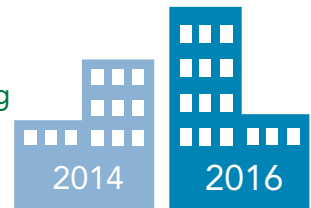
2016:
900 residential units
exceeding green
building standards

2014: 630 units
2008: n/a



2016:
3.8 million square feet of
commercial space exceeding
green building standards

2014: 2.6 million sq. ft.
2008: n/a

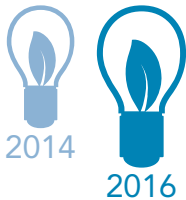


Green Buildings

Green building square footage increased by 45% since 2014 with the City's award-winning incentive-based Green Building Program.

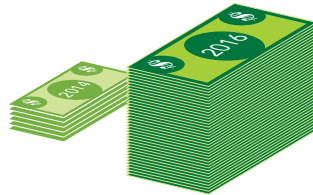
Clean Energy

As of 2017, 98% of residential and commercial accounts receive carbon-free electricity from Silicon Valley Clean Energy. All City facilities are powered by 100% renewable electricity.



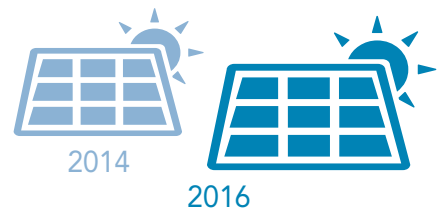
2016:
1,910 street lights
converted to LED

2014: 1,860
2008: 0



2016:
18 energy efficiency
rebates through PACE

2014: 9 rebates
2008: PACE not operational



2016:
13,230 kW of rooftop
solar on homes & offices

2014: 9,790 kW
2008: n/a



Low-energy Lighting

The City is converting 9,500 streetlights across residential and downtown neighborhoods. The new "smart" streetlights use 75% less energy.

Natural Resources

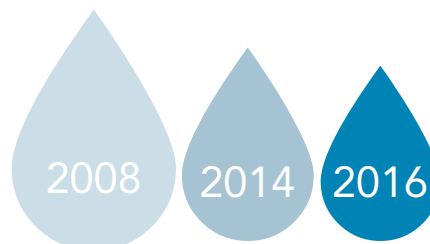
Producing, manufacturing and transporting natural resources, like water or everyday goods and services, generates GHG emissions. Reducing the resources we use and responsibly disposing of waste lowers our community's emissions.

2016 Highlights

2016:
273 net new
trees planted
2014: 160 net
removed
2008: n/a



2016:
101 gallons of
daily water
use per person
2014: 114 gal
2008: 156 gal



Expansion of Recycled Water System

With large-scale capital improvements underway at the Water Pollution Control Plant, the City is continuing to improve its recycled water infrastructure and distribution network.



2016:
64% of waste diverted from landfill
2014: 64%
2008: 60%



2016:
3.6 lbs. of waste disposed daily per person
2014: 3.6 lbs.
2008: 4.1 lbs.

Less Landfilled Waste

55% of residential food scraps were collected in fall 2017 through the new FoodCycle program. Converting food scraps into animal feed will continue to reduce landfilled waste.



Active Initiatives



Climate Action Plan Update (CAP 2.0)

Sunnyvale's updated CAP 2.0 will contain strategies for reducing emissions by 40% by 2030 and by 80% by 2050 or sooner (relative to 1990 emissions). CAP 2.0 is expected to be adopted December 2018, with implementation planned in the coming years.

New Green Civic Center

The new City Hall will be a LEED-Platinum building with sustainable features including living roofs, natural lighting and ventilation, and on-site solar generation.

Green Building Program Update

The City is revamping its Green Building Program to meet or exceed the state's CalGreen Tier 1 standards.



Heat Pump Water Heater Study

The City Council has approved a study for 2018 to assess the benefits and feasibility of implementing a program to encourage fuel switching from natural gas to electric heat pump water heaters.



Be A Climate Hero!

The Sunnyvale community has shown a strong commitment to climate action. Much remains to be done to accomplish the state's longer term target of reducing emissions by 80% below 1990 levels by 2050. The City is committed to continuing collaborative efforts with the community for immediate and effective climate action.



*It's easy to do
your part to
reduce emissions!*



- **Drive less;** walk or ride more. It's good for the air and your health! Use the new Sunnyvale Bike Map (available on the City's website) to find your best route.



- **Opt-up to 100% renewable electricity** through Silicon Valley Clean Energy's GreenPrime program.

- **Separate your food scraps.** Help meet our community's zero waste goal by 2020.

- **Shop local, eat healthier, waste less.** Support local farmers so that food travels shorter distances. Buy in bulk to reduce packaging trash.



- **Understand your carbon impact.** Download the free IGreenSunnyvale app on your smart phone and track the environmental impact of your sustainable actions.

- **Get the latest sustainability news and events.** Follow Sunnyvale Environmental Services on Facebook or subscribe to the Sustainable Sunnyvale e-newsletter (email green@sunnyvale.ca.gov).

Contact

Environmental Services Department

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