

# CITY CLIMATE LEADERSHIP AWARDS

## San Francisco Climate Close-Up

### Fast Facts

- California's GDP per capita is \$46,029.
- More than 38 million people live in California, and the population is growing at a rate of 1%.
- Close to 90% of California's residents live in metropolitan areas.
- California emits 9.9 tons of energy-related CO<sub>2</sub> emissions per capita.

- San Francisco has one of the highest per capita GDP levels of any city in the United States at \$60,300.
- The population of the greater San Francisco metropolitan area is about ten times the size of the city, with over 8 million residents in 2013.
- The San Francisco Bay Area faces the greatest impacts from climate change in terms of ecological change, infrastructure flooding and land use modification of any coastline area in California. Assuming the sea level rises by 140 cm, estimates show that 270,000 people and \$62 billion worth of infrastructure are at risk from floods.
- On a per capita basis, the city emits 6.57 tons of CO<sub>2</sub> (eq.).

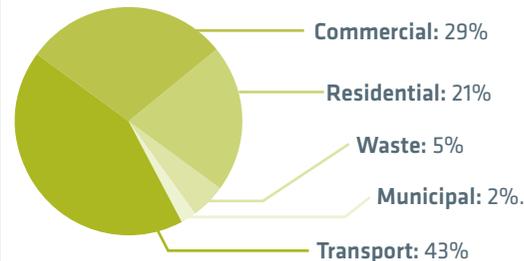
### Population Projections



	2010	2020	2035
City of San Francisco	806,254	852,788	886,167

Sources: California Department of Finance, Summary Population Projections by Race/Ethnicity and by Major Age Groups, <http://www.dof.ca.gov/research/demographic/reports/projections/P-1>; Bureau of Business & Economic Research, UNM/ Real Per Capita Gross Domestic Product by State, <http://bber.unm.edu/econ/st-gdp5.htm>; United States Census/ People Quick Facts, <http://quickfacts.census.gov/qfd/states/06000.html>; U.S Energy Information Administration/ State-Level Energy-Related Carbon Dioxide Emissions, 2000-2010, <http://www.eia.gov/environment/emissions/state/analysis/>.

### Sources of CO<sub>2</sub> (eq.) emissions



Source: San Francisco Climate Action Strategy, released March 2014 by the City and County of San Francisco Department of the Environment, <http://www.sfenvironment.org>. Note: Waste emissions of 5% are based only on landfill methane emissions and do not include other discarded material lifecycle emissions that would be much greater and largely occur outside San Francisco

### CO<sub>2</sub> (eq.) emissions



Annual CO<sub>2</sub> (eq.) emissions: 5.3 million tons (2010)

**Emissions reduction targets, compared with 1990 emissions:**  
25% reduction by 2017  
40% reduction by 2025  
80% reduction by 2050

Source: C40, C40 cities - San Francisco, <http://www.c40.org/c40cities/san-francisco>.

## Solid Waste Management winner 2013: Zero Waste Program

### Summary

San Francisco won the 2013 C40 & Siemens Climate Leadership Solid Waste Management Award for its Zero Waste Program. San Francisco adopted a zero waste policy in 2002, after the beginning of its signature 3-stream refuse collection service rollout and followed by other comprehensive waste management reforms. This has resulted in an unprecedented 80% landfill diversion rate. An impressive 600+ tons of primarily food scrap compostables are collected per day as part of a total 1.6 million tons of materials diverted from landfill per year, putting the city well on its path toward its ambitious goal of zero waste by 2020.

### Challenges

San Francisco is a dense, diverse, relatively wealthy city located in the highest consuming and disposing country in the world. Nonetheless, San Francisco has committed and expended significant effort to strive toward no material going to landfill or high temperature destruction, and highest and best use of resources. Zero waste also means following the waste reduction hierarchy; reduce, reuse, and then recycle or compost. San Francisco is thus trying to improve the way products are made too, though it has limited influence because few are manufactured locally.

### Actions

To meet its zero waste goal, the City and County of San Francisco has partnered with Recology, its long-term materials management service provider, to employ a five prong approach;

create convenient programs, conduct extensive public outreach and education, provide generator and service provider incentives, process trash to recover materials, and adopt leading waste reduction policies. In addition to its 3-stream collection service for all sectors, recovery programs have been instituted for reusables, bulky items, construction & demolition debris, and a wide range of other materials. Outreach and education is done in every form, from grassroots to electronic, and in multiple languages with photos. Generators and Recology can save or make more money if they landfill less. The City adopted numerous policies such as requiring everyone to recycle and compost, construction & demolition debris recovery, foodware to be recyclable or compostable, checkout bags to have a charge and be recyclable or compostable, and City government environmentally preferable purchasing.

### Projected Outcomes

San Francisco's Zero Waste efforts have had a tremendous impact over the last two decades. From 1990 to 2010, landfill diversion increased from 35 to 80 percent. San Francisco disposed 428,048 tons of material in 2012, the lowest level on record and less than half the material landfilled in 2000. Mandatory recycling and composting doubled compostables collection, furthering San Francisco as the largest urban food scrap composting program in the United States. The construction & demolition debris recovery ordinance recovered tens of thousands of tons of additional material annually. San Francisco continues to encourage source separation, for highest and best use of discarded materials, and is also testing low temperature, mechanical/biological technologies to recover more recyclables and compostables from landfill trash bins, and make further progress toward its zero waste goal.

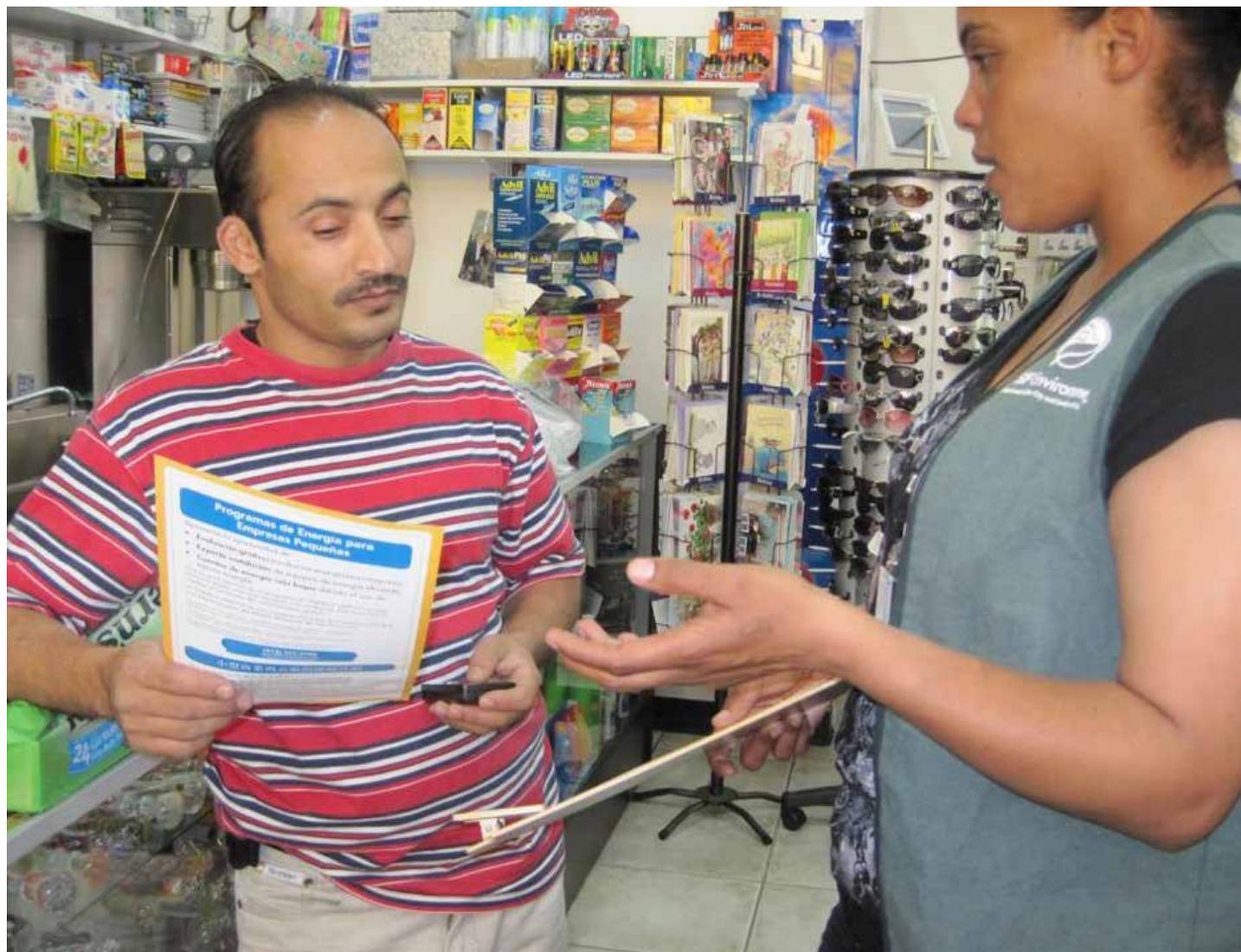


## In detail

### Mandatory Recycling and Composting Ordinance

To progress toward zero waste, San Francisco adopted a law in 2009 mandating that everyone (single and multi-family residences, restaurants, hotels, offices and other businesses, etc.) separate their refuse into recyclables, compostables and landfill trash. The law requires managers of multi-tenant residential and commercial properties to provide conveniently located, color-coded and labelled containers for separate collection of recyclables, compostables and landfill trash, along with information and training to tenants, employees, and contractors, including custodians, on how to properly participate in the source separation program.

The law has been very effective in leveraging outreach, as City representatives and Recology go door to door, visit apartment buildings, traverse commercial corridors, look in bins, and ensure that everyone has the information and resources needed to comply. This has resulted in almost all residences (including apartments) and businesses having recycling and composting collection service. The law provides enforcement such as fines, property liens and not picking up contaminated bins, to supplement the refuse rate based and other mechanisms the City and Recology have to gain compliance.



## In detail

### Mandatory Construction and Demolition Debris Recovery Ordinance

To progress toward zero waste, San Francisco also adopted a law in 2006 to maximize the recovery of construction & demolition debris. The law mandates that mixed debris transporters must be registered with the City and can only take mixed debris to registered recycling facilities, not landfills. San Francisco has over 400 registered transporters and a dozen local registered facilities recovering hundreds of thousands of tons material annually.





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