

## **ENVIRONMENTAL SERVICES**

The mission of the Environmental Services Department is to deliver world-class utility services and programs to improve our health, environment and economy.

## ENVIRONMENTAL SERVICES

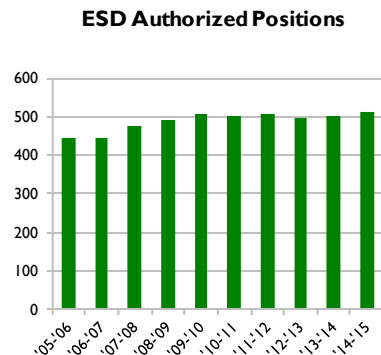
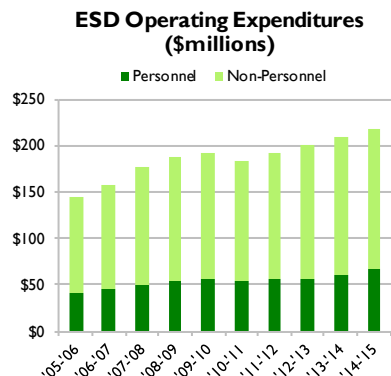
The Environmental Services Department (ESD) provides recycling and garbage services, wastewater treatment, potable water delivery, stormwater management, and recycled water management. ESD also manages programs to conserve water and energy resources and achieve other environmental goals.

ESD provides City-wide coordination of efforts to protect and conserve air, land, water, and energy resources through policy development, education, and grant-seeking. This work is guided by the City's Green Vision (see last page of this section) and regulatory requirements.

Most ESD revenue comes from various customer fees and charges; less than 1 percent of its budget comes from the General Fund (about \$285,000 in 2014-15, down from \$1.2 million ten years ago).

In 2014-15, ESD operating expenditures totaled \$217 million,\* up 4 percent from the previous year and 51 percent from ten years ago. Staffing in 2014-15 included 514 full-time equivalent positions, a slight increase from 2013-14 and a 15 percent increase from ten years ago.

\* In addition, ESD spent about \$1.2 million in Citywide expenses. Departmental expenditures also do not include capital expenditures, reserves, and some other program expenditures paid through ratepayer funds (including City overhead).



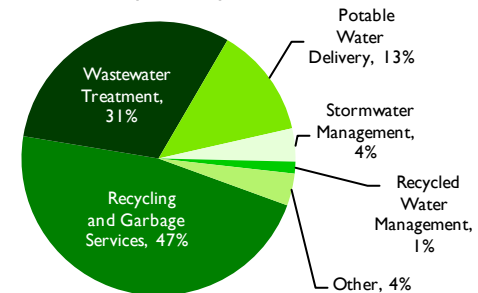
### THE NATIONAL CITIZEN SURVEY™

% of San José residents surveyed who rated the following as "excellent" or "good"

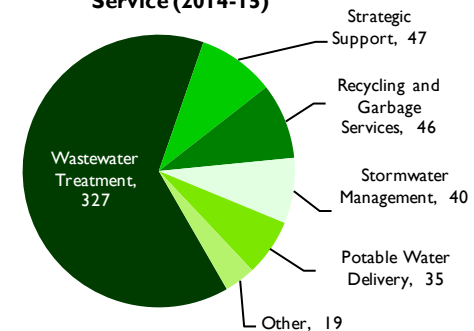
Cleanliness of San José	25%	Air quality	37%
Quality of overall natural environment in San José	43%	Preservation of natural areas such as open space, farmlands, and greenbelts	38%

**81%** of San José residents made efforts to make their homes more energy efficient during the past 12 months

### ESD Operating Expenditures Breakdown (2014-15)



### ESD Staffing Breakdown by Positions per Service (2014-15)



## ENVIRONMENTAL SERVICES

### RECYCLING & GARBAGE SERVICES

ESD provides recycling and garbage services to more than 300,000 residential households in San José through contracted service providers, including California Waste Solutions, Garden City Sanitation Inc., Green Team of San José, and GreenWaste Recovery. Operating expenditures for recycling and garbage services have increased 65 percent over the past ten years, from \$61.7 million to \$102.1 million.

ESD also provides waste management programs and services for San José businesses, large events, public areas, and City facilities. ESD manages a franchise agreement with Republic Services for commercial collection and recyclables processing, a contract for organics processing with Zero Waste Energy Development (ZWED) Company, and approximately 25 non-exclusive franchise agreements with haulers providing construction waste collection services in the City of San José.

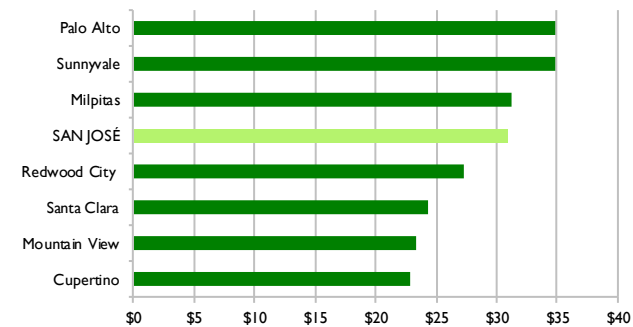
The State monitors each jurisdiction’s “per capita disposal rate” and requires that 50 percent of solid waste be diverted\* from landfills. The Department of Resources Recycling and Recovery has taken a statewide approach to meet the State’s goal of achieving 75 percent “recycling” by 2020; it regulates AB341 (Mandatory Commercial Recycling) and AB 1826 (Mandatory Commercial Organics Recycling, effective 2016). Since 2005, San José has diverted at least 60 percent of waste, including 70 percent in 2014.\*\*

\*“Diversion” refers to any combination of waste prevention, recycling, reuse, and composting activities that reduces waste disposed at landfills. (Source: CA Integrated Waste Management Board)

\*\* For more information, see the Office of the City Auditor’s 2015 audit entitled [Curbside Recycling: The City Can Enhance Its Single-Family Residential Recycling Program to Improve Waste Diversion](#).

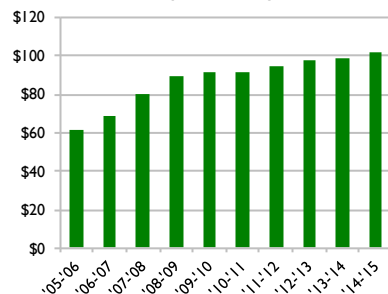
THE NATIONAL CITIZEN SURVEY™		
% of San José residents who rated the following utility services as “excellent” or “good”		
<b>91%</b> of San José residents surveyed reported recycling at home “usually” or “always”	Yard waste pick-up	<b>66%</b>
	Recycling	<b>72%</b>
	Garbage collection	<b>72%</b>
	Utility billing	<b>53%</b>

Comparison of Monthly Residential Garbage and Recycling Rates (2014-15)

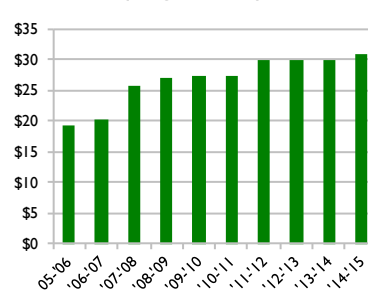


Sources: Rates listed on local government websites for those municipalities provided

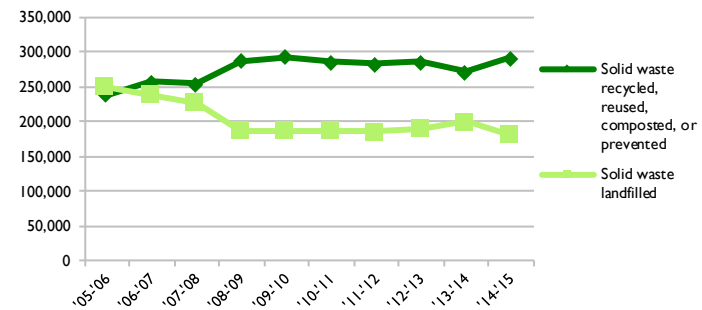
Operating Expenditures Recycling & Garbage Services (\$millions)



San José Garbage and Recycling Rates (32-gallon bin)



Tons of Residential Solid Waste Recycled vs. Landfilled



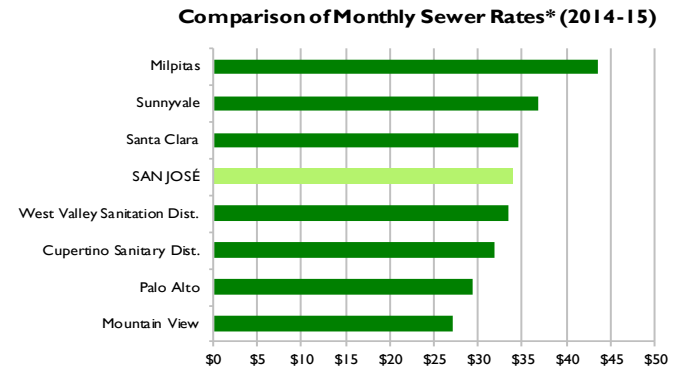
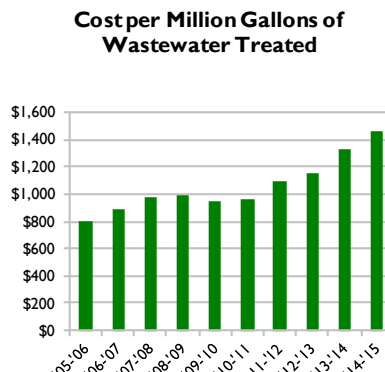
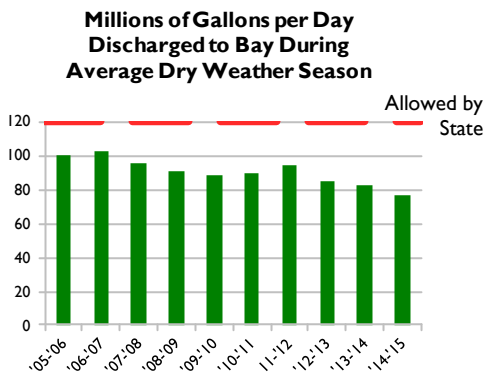
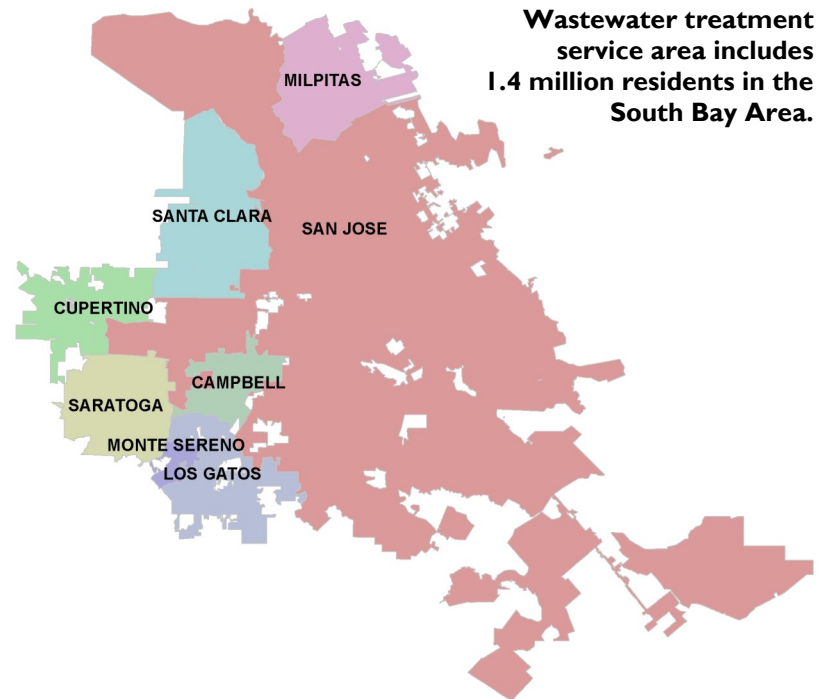
## ENVIRONMENTAL SERVICES

### WASTEWATER TREATMENT

The City's Department of Transportation maintains the City's sanitary sewer system (see Transportation chapter) that flows to the San José-Santa Clara Regional Wastewater Facility. ESD staff at the Facility provide wastewater treatment for 1.4 million residents in San José, Santa Clara, Milpitas, Campbell, Cupertino, Los Gatos, Saratoga, and Monte Sereno. The Facility is co-owned with the City of Santa Clara; however, it is managed and operated by ESD. ESD also manages pretreatment programs to control for pollutants at their source. For 2014-15, operating and maintenance expenditures totaled nearly \$67 million. ESD wastewater treatment operations account for the largest share of ESD employees: 327 full-time budgeted positions out of 514 total.

The Wastewater Facility continues to meet the Regional Water Quality Control Board's permit requirements for water discharged into the San Francisco Bay. In 2014-15, pollutant discharge requirements were met or surpassed 100 percent of the time.

According to ESD, although there has been a decline in influent over the past several years, increasing maintenance and capital costs due to aging infrastructure at the Facility have contributed to high operational costs (reaching \$1,460 per million gallons treated). In accordance with the Plant Master Plan adopted in 2013, the City is moving forward with over \$2 billion in long-term capital improvement projects to upgrade and rebuild the facility over the next 30 years, with over \$1 billion in improvements occurring within the first 10 years. The City has retained a consultant to assist ESD in implementing the capital improvement program.



\* Sewer rates pay for costs of the sewer system as well as wastewater treatment. Sources: Rates listed on local government websites for those municipalities provided

**RETAIL WATER DELIVERY**

ESD operates and maintains the City of San José’s Municipal Water System (Muni Water) which serves about 27,000 customers in North San José, Alviso, Evergreen, Edenvale, and Coyote Valley. For 2014-15, operating expenditures totaled about \$28 million, up 69 percent over a ten-year period. According to ESD, this increase is primarily due to increases in wholesale water costs.

Other local San José water retailers include Great Oaks Water Company (which serves Blossom Valley, Santa Teresa, Edenvale, Coyote Valley, and Almaden Valley) and the San José Water Company (which serves the San José Metropolitan area).

In 2014-15, Muni Water delivered 7,219 million gallons of water to its customers, down 9 percent from the prior year. According to ESD, water delivery levels are influenced by economic improvements and the volume of local rainfall during winter months. In the midst of exceptional drought conditions, 98 percent of City residents who responded to The National Citizen Survey™ indicated they made efforts to conserve water the past year. Muni Water met federal water quality standards in 99.8 percent of water samples taken.

Muni Water rates increased by 11 percent in 2014-15, and have increased by 94 percent over ten years. Other San José retail water providers have also increased their rates dramatically (75 percent over ten years).

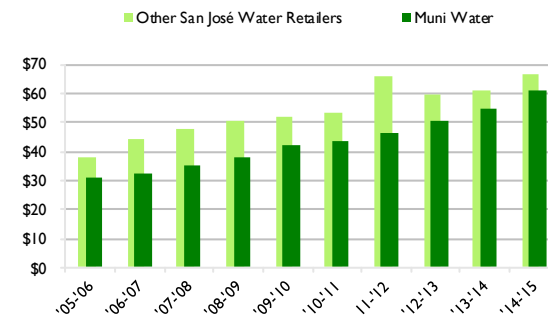
**THE NATIONAL CITIZEN SURVEY™**

**98%** of San José residents indicated they made efforts to conserve water during the past 12 months

**52%** of San José residents\* surveyed rated the delivery of drinking water as “excellent” or “good”

\* Note: This includes Muni Water and non-Muni Water customers.

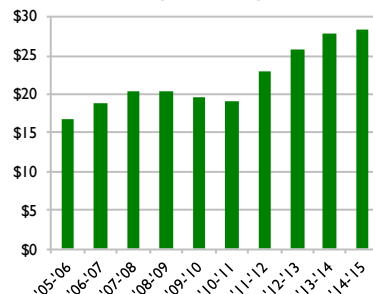
**Comparison of Monthly Residential Water Bills**



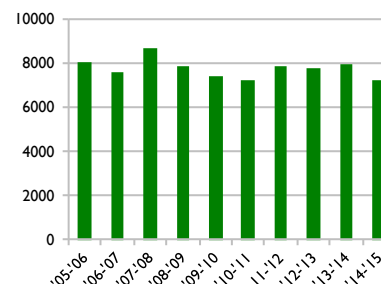
Source: ESD and Auditor Analysis

Note: Monthly bill based on 15 HCF/month usage. Average of other San José water retailers’ rates weighted based on number of customers served.

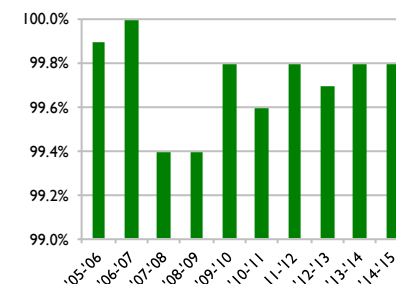
**Operating Expenditures Retail Water Delivery (\$millions)**



**Millions of Gallons of Water Delivered to Muni Water Customers**



**% of Water Samples Meeting State and Federal Water Quality Standards**



## ENVIRONMENTAL SERVICES

### STORMWATER MANAGEMENT

ESD, with the Departments of Public Works and Transportation, oversees the City's storm drains and storm sewer system in order to sustainably manage stormwater, preventing flooding of streets and neighborhoods by conveying rainwater into creeks and eventually the South San Francisco Bay. ESD accounts for roughly one-third of storm sewer expenditures.

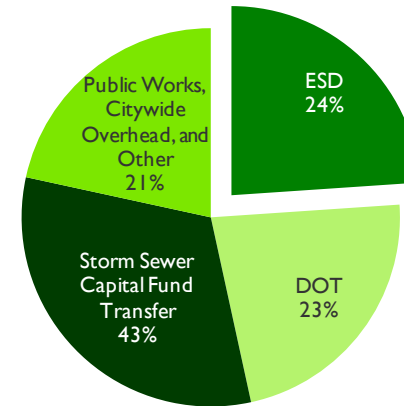
Specifically, ESD manages regulatory programs, initiatives, and activities to prevent pollution from entering the storm sewer system and waterways. These efforts protect water quality and the health of the South Bay watershed and the San Francisco Bay. These programs and activities are largely directed by the City's National Pollutant Discharge Elimination System (NPDES) permit for municipal storm sewer systems.

One such program is the litter/creek cleanup program. Overall, 594 creek cleanup events were held and about 1,469 tons of trash were removed in 2014-15. This included cleanups by the Housing Department's Homeless Encampment Response Program; the Parks, Recreation & Neighborhood Services Department's Watershed Protection Team; and the City's time-limited, federally funded Clean Creeks, Healthy Communities project.

The annual fee per residential unit in 2014-15 was \$94.44,\* a 97 percent increase since 2005-06. According to ESD, rate increases are a result of increased costs to support infrastructure maintenance, fund rehabilitation and replacement projects, and meet regulatory requirements.

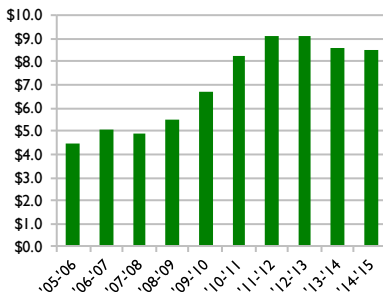
\* This rate is for a single-family residence.

**Breakdown of Storm Sewer Fund Budgeted Expenditures**

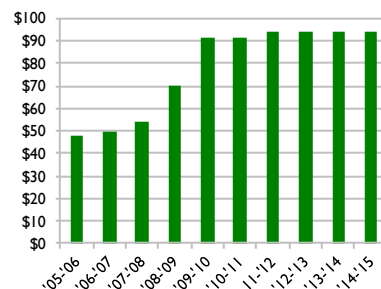


Source: 2015-16 Adopted Operating Budget

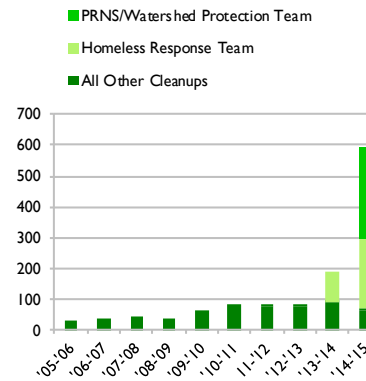
**ESD Operating Expenditures Stormwater Management (\$millions)**



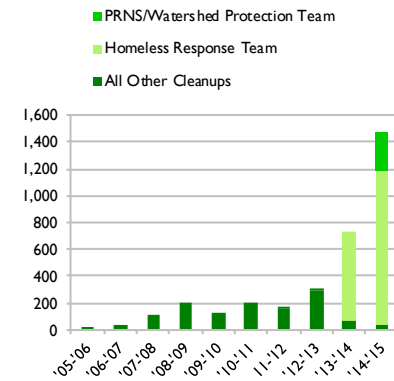
**Annual Fee for Household Storm Sewer Service**



**Litter / Creek Cleanups**



**Tons of Litter Collected at Creek Cleanups**



**RECYCLED WATER**

The City invests in South Bay Water Recycling (SBWR) in order to reduce wastewater effluent and protect the ecosystem of the South Bay, including the habitat of two federally endangered species, the Salt Marsh Harvest Mouse and the California Clapper Rail. SBWR serves the cities of Milpitas, Santa Clara, and San José.

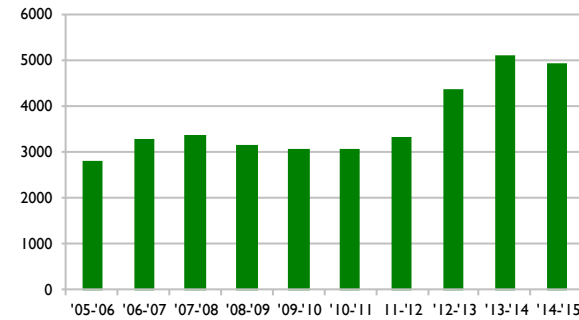
In 2014-15, 19 percent of wastewater influent was recycled for beneficial purposes during the dry weather period, up from 11 percent ten years ago. SBWR met recycled water quality standards 100 percent of the time during the same period.

In 2014-15, SBWR delivered over 4,900 million gallons of recycled water to 801 customers, who paid between \$1.47 and \$2.11\* per hundred cubic feet of water, depending on the use. SBWR customers used recycled water for cooling towers and to irrigate parks, golf courses, schools, and commercial landscape. In March 2014, the Santa Clara Valley Water District, partnering with San José and Santa Clara, opened the Silicon Valley Advanced Water Purification Center; it produces up to 8 million gallons per day of highly purified water used to enhance the quality and supply of recycled water.

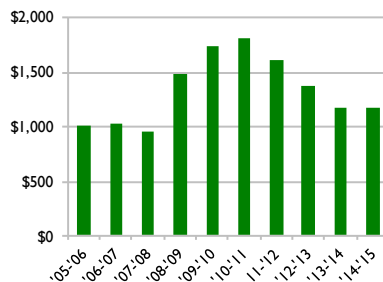
The cost per million gallons of recycled water delivered has decreased from a high of \$1,821 in 2010-11 to \$1,171 in 2014-15; it has decreased by 36 percent over a five-year period. According to ESD, the decrease is due to staffing and capital investment reductions and other cost control measures.

\* This rate is for City of San José Municipal Water customers; other SBWR provider rates may vary.

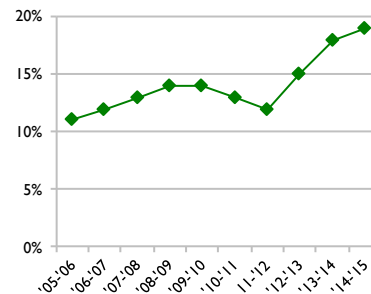
**Millions of Gallons of Recycled Water Delivered Annually**



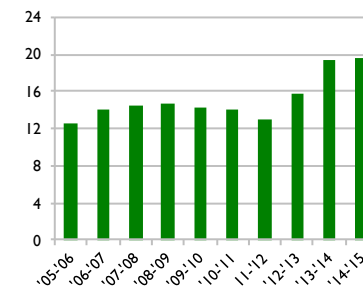
**Cost per Million Gallons of Recycled Water Delivered**



**% of Wastewater Recycled for Beneficial Purposes During Dry Weather Periods**



**Millions of Gallons per Day Diverted During Dry Weather Periods**



## GREEN VISION

**On October 30, 2007, the San José City Council adopted the Green Vision, a 15-year plan to transform San José into a world center of clean technology innovation, promote cutting-edge sustainable practices, and demonstrate that the goals of economic growth, environmental stewardship, and fiscal responsibility are inextricably linked.**

The Green Vision lays out ten ambitious goals for the City, in partnership with residents and businesses, to achieve by 2022. To date, San José has received more than \$175 million in grant funding related to Green Vision projects. In 2014 there were limited state and federal grant and funding opportunities. The City received modest awards of approximately \$5 million to advance Green Vision goals.

San José Green Vision Goals	Calendar Year 2014 Green Vision Key Achievements*
Create 25,000 clean tech jobs as the world center of clean tech innovation	More than 12,008 clean tech jobs in San José have been created to date.
Reduce per capita energy use by 50 percent	During the 2013-14 program cycle, Silicon Valley Energy Watch delivered 850 energy efficiency retrofit projects to Santa Clara County PG&E utility customers, reducing energy use by over 11.5 million kilowatts per hour (kWh) – enough to power nearly 1,060 U.S. homes for one year.
Receive 100 percent of its electrical power from clean renewable sources	By the end of 2014, 9,055 solar photovoltaic (PV) systems with a total capacity of approximately 80.8 megawatts (MW) had been installed at homes, businesses, and industrial facilities in San José.
Build or retrofit 50 million square feet of green buildings	Nearly one million square feet (SF) of certified private sector green building space was added in 2014. More than 2.1 million SF of City facilities have achieved green building certification since 2004.
Divert 100 percent of the waste from its landfill and convert waste to energy	In 2014, the City and partner Zero Waste Energy Development Company (ZWED) opened Phase One of the world's largest dry fermentation anaerobic digestion facility, which now accepts the City's commercial organic waste for conversion into 1.6 MW of renewable energy and 32,000 tons of compost.
Recycle or beneficially reuse 100 percent of its wastewater (100 million gallons per day)	A record 785 customers used an average of 14.1 million gallons of recycled water per day, made possible by a 142-mile network of recycled water pipelines.
Adopt General Plan with measurable standards for sustainable development	In 2014, the City of San José Department of Transportation established a new Transportation Options Program to increase biking, walking, and transit use, with a goal of reducing the community's dependence on solo driving.
Ensure that 100 percent of public fleet vehicles run on alternative fuels	The City maintained 41 percent of its vehicle fleet to run on alternative fuel, with a total of 991 alternative fuel vehicles.
Plant 100,000 new trees and replace 100 percent of streetlights with smart, zero-emission lighting	Through a partnership with Our City Forest, 1,749 new trees were planted. A total of 12,289 trees have been planted since 2007, sequestering approximately 479.3 metric tons of carbon dioxide equivalents, comparable to the annual greenhouse gas emissions of 101 passenger vehicles.  San José converted nearly 2,130 streetlights to smart Light Emitting Diode (LED) streetlights in 2014. To date, approximately 5,530 LED streetlights have been installed, saving the City more than 1.88 million kWh of electricity annually.
Create 100 miles of interconnected trails	The City completed 19 miles of onstreet bikeways for a total of 240 miles of onstreet bikeways. In addition, the City has reached 56.8 miles of offstreet trails to date.  San José bicyclists took 19,562 trips, offsetting 14,278 pounds of carbon dioxide, through the Bay Area Bike Share Program.

\* As reported in the [2014 Green Vision Annual Report](#). Some figures—based on calendar year, including some estimates—may be inconsistent with figures in other sections of this report that are based on fiscal year.