



2. Greenhouse Gas Inventory and Emissions Forecast

This chapter summarizes the greenhouse gas (GHG) emissions inventory update for 2010 associated with municipal operations of San Jose. Where available, the results are summarized in comparison with the 2005 baseline year data provided by Joint Venture Silicon Valley (JVSV).

For a comprehensive description of the boundaries of analysis, methodology, assumptions, data and calculations used to develop San Jose's 2010 municipal GHG inventory, see **Appendices A and B**.

2.1 Summary of Greenhouse Gas Inventory 2010 Update

The 2010 municipal operations inventory update quantifies GHG emissions resulting from activities under the direct operational control of the City government, including those related to the operation of buildings and facilities, City vehicle fleets, municipal solid waste disposal, and employee commute. The municipal operations GHG inventory serves purposes similar to the community inventory, but provides more detailed energy and emissions information (typically at the facility level). The 2010 municipal inventory includes the following local government sectors: buildings and facilities, streetlights, water, airport, stationary sources, vehicle fleet, wastewater treatment plant, solid waste, and employee commute. The 2005 municipal inventory also includes these same government sectors, except for stationary sources, vehicle fleet, wastewater treatment plant, and employee commute.

2.1.1 Municipal Operations Emissions

The San Jose 2010 Municipal Operations inventory was developed by the DNV KEMA and ESA consultant team. Table 1 presents San Jose municipal emissions by local government sector for 2010, along with the 2005 data that was available from JVSV. Notably, GHG emissions from natural gas consumption in buildings decreased, while electricity consumption increased slightly. Similarly, emissions from water supply and streetlights also decreased, while airport emissions increased.

**Table 1: 2005 and 2010 Municipal Emissions by Sector (MT CO2e)**

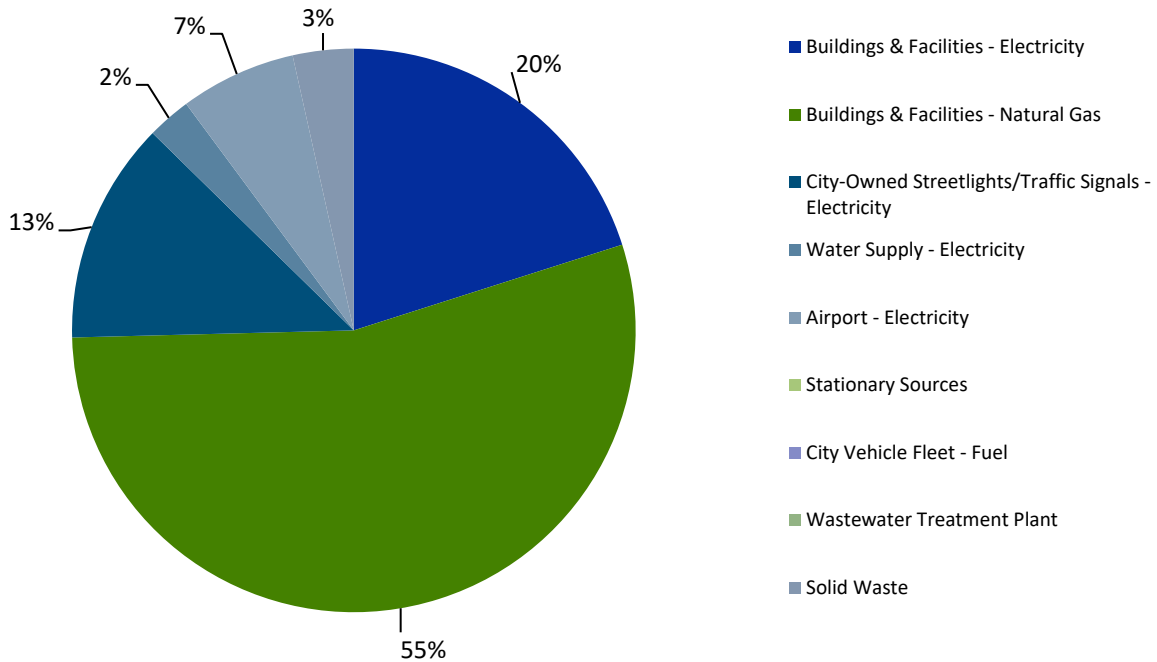
Emission Sector	2005 Total	2010 Total	% Change
Buildings & Facilities - Electricity	11,790	15,418	30.8%
Buildings & Facilities – Natural Gas	32,005	24,199	-24.4%
Streetlights	7,481	7,123	-4.8%
Water Supply	1,477	883	-40.2%
Airport	3,908	5,474	40.1%
Stationary Sources	no data	110	N/A
City Vehicle Fleet	no data	12,700	N/A
Wastewater Treatment Plant	no data	118,705	N/A
Solid Waste	2,047	389	N/A
Employee Commute	no data	61,682	N/A
Total	58,708	246,682	

2.1.1.1 2005 Baseline Year

For the sectors where data was provided by JVSJ in 2005, the total emissions for the government operations of San Jose totals 58,708 MT CO₂e. **Figure 1** and **Table 1** show total GHG emissions by sector. Building and facilities natural gas consumption accounted for of the largest portion of overall municipal emissions, at 55 percent. Contributions from other sectors include: buildings & facilities electricity consumption (20%), streetlights (13%), airport (7%), solid waste (3%), and water supply (2%).



Figure 1: 2005 Municipal Emissions by Sector



2.1.1.2 2010 Update

Emissions in 2010 totaled 246,682 MT CO₂e. **Figure 2** and **Table 1** show total GHG emissions by municipal operations sector. In 2010, the wastewater treatment plant accounted for the largest portion of emissions, at 48 percent. Since the City manages this plant, all emissions associated with its operations have been attributed to the municipal government for the purposes of this inventory. Employee commute is also a major sector, accounting for 25 percent of the inventory; this is in large part explained the large government workforce, given that the City had approximately 5,252 full-time-equivalent (FTE) employees in 2010. Contributions from other sectors include buildings & facilities natural gas (10%), buildings & facilities electricity (6%), vehicle fleet (5%), streetlights (3%), airport (2%), solid waste (>1%), and stationary sources (0%).



Figure 2
2010 Municipal Emissions by Sector

