

# Greenhouse Gas Emissions in Somerville

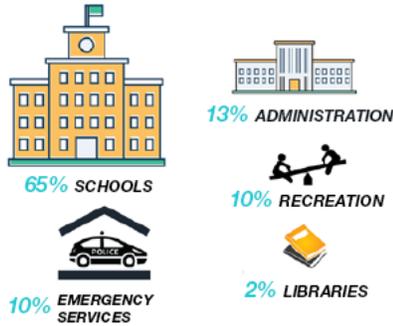
## Local Government Operations (LGO)

In 2015, the City of Somerville conducted its first greenhouse gas inventory using data from 2014, establishing a baseline for future reference. This report provides an update to the baseline, based on data from 2016. For more detailed information on the methodology and sources used in the creation of this and the baseline inventories, visit [somervillema.gov/sustainaville](http://somervillema.gov/sustainaville).

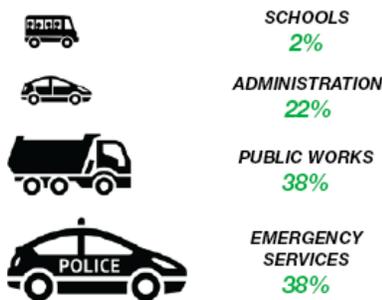


### Local Government Emissions Overview 2016

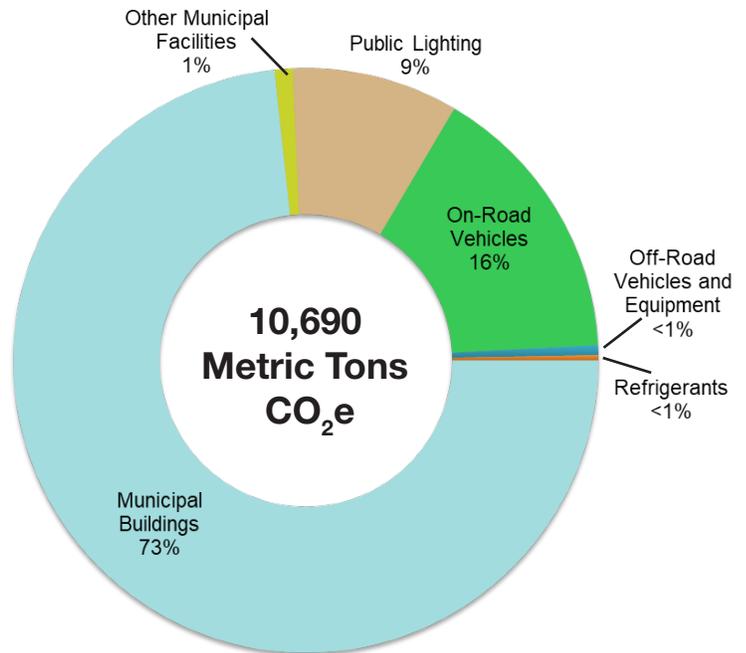
#### Split of Municipal Building Emissions



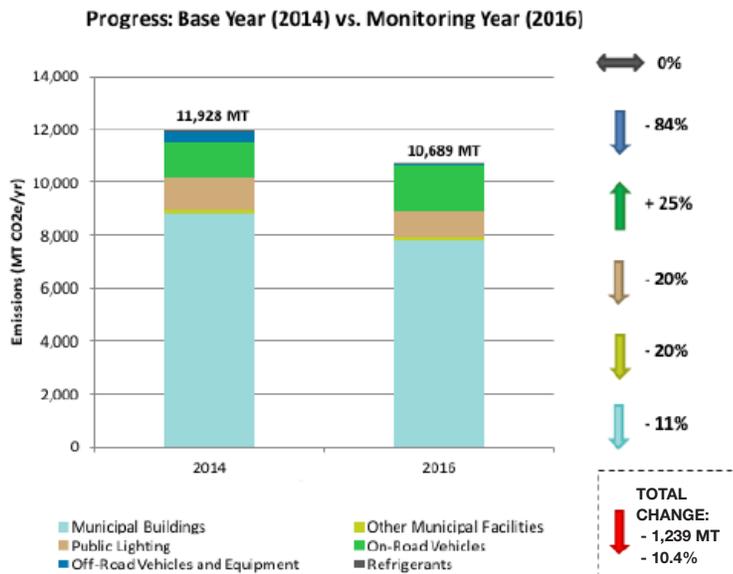
#### Split of Vehicle Fleet Emissions



#### Emissions by Sector



### Progress: Base Year (2014) vs. Monitoring Year (2016)



- Since 2014, the efficiency of the New England electrical grid has increased (EPA eGRID, 2014). This may account for some of the reductions in municipal buildings and facilities emissions.
- In 2016, the City began converting all public lighting to high-efficiency LED. This process continued into 2017, therefore reductions should continue to be seen in this sector in future inventories.
- Between 2014 and 2016, the size of the City vehicle fleet increased by 13.4%, yet average emissions per vehicle decreased by 12%. Increases in fuel efficiency and the impact of City-owned electric and hybrid vehicles may contribute to this trend.

It would take 12,590 acres, or 4.8 times the size of Somerville, of mature forest to sequester 10,690 metric tons of CO<sub>2</sub> in one year.



\*Other Municipal Facilities includes fire pumps and traffic control boxes.

Source: EPA Greenhouse Gas Equivalencies Calculator, <https://www.epa.gov/energy/greenhouse-gas-equivalencies-calculator>

# LGO Emissions and Energy Use 2016

## What is in the Inventory?



### SCOPE 1

What we combust (e.g. natural gas, heating oil, transport fuel)



### SCOPE 2

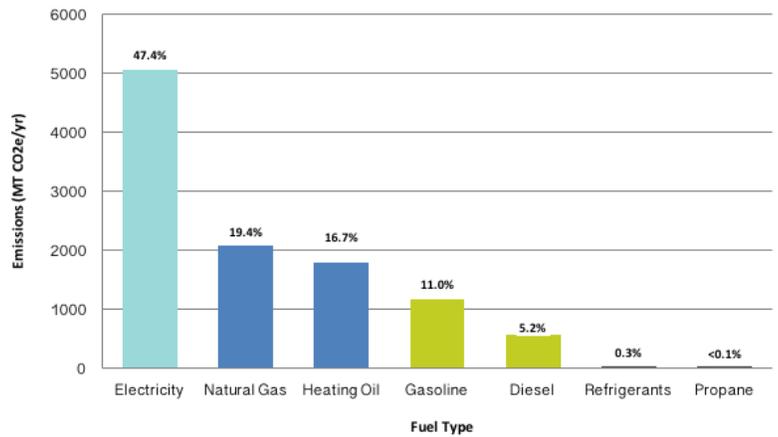
Purchased emissions from energy we consume (e.g. grid-supplied electricity)



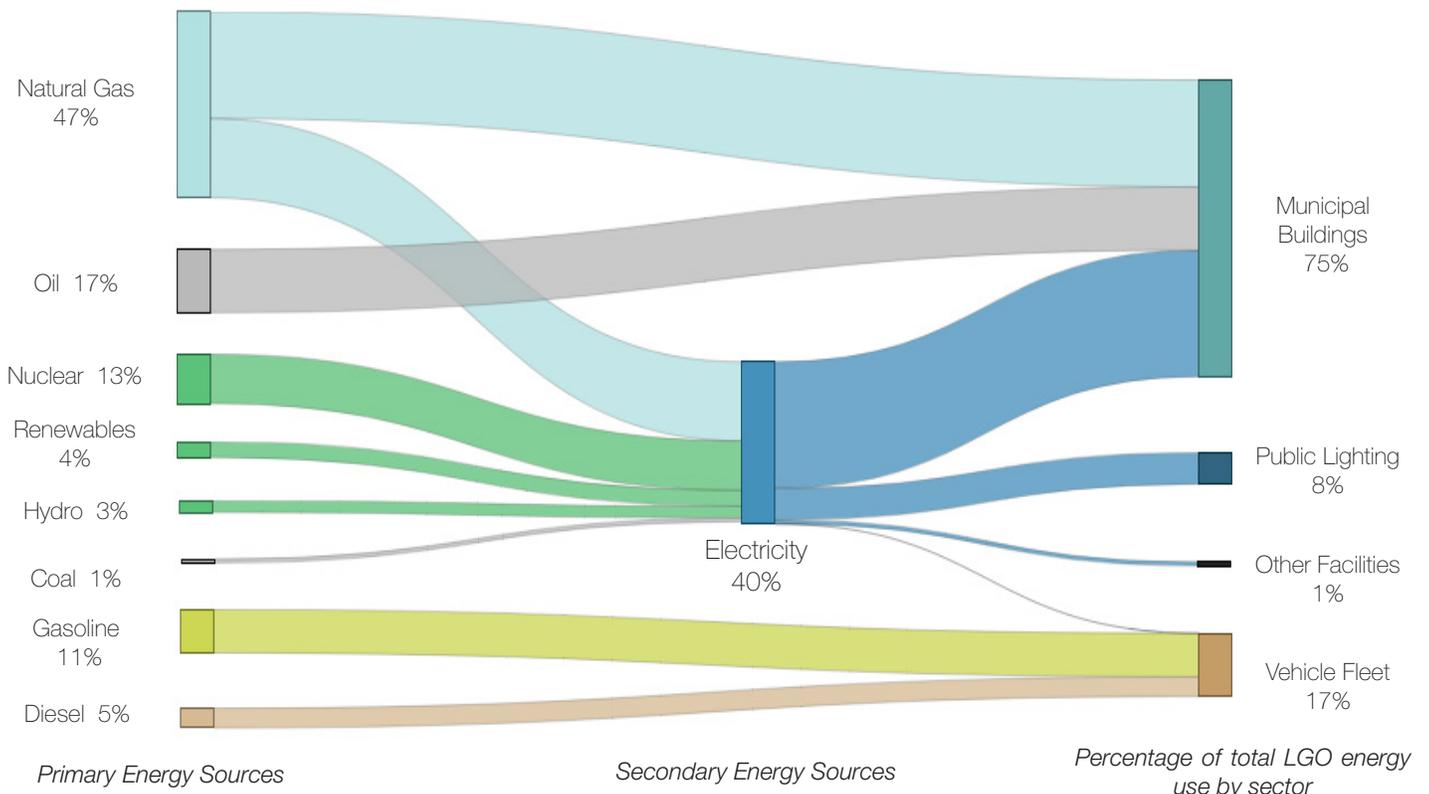
### SCOPE 3

Other indirect emissions (e.g. waste disposal, wastewater treatment, losses from energy transmission)

## Emissions by Fuel Source



## What fuels make up local government energy consumption?



\*Primary fuel percentages reflect proportion of total kilowatt hours consumed by local government operations generated from each energy source. End-use sector percentages reflect proportion of total kilowatt hours consumed per end-use sector.

Source: ISO New England, <https://www.iso-ne.com/about/key-stats/resource-mix>

The City of Somerville pursues projects to improve building and fleet efficiency every year. However, not all emissions from local government operations are directly influenced by municipal decisions and policies. For example, weather conditions play a role in how much energy is consumed from year to year, including how much heating or air conditioning is needed and how much gas and diesel are consumed for snow removal. As the impacts of climate change continue to be felt, energy demand, particularly in the summer, is likely to increase. The City is currently in the process of creating its first climate action plan, Somerville Climate Forward, which aims to address these and other related challenges. Learn more at [somervillema.gov/sustainaville](http://somervillema.gov/sustainaville).

