# Greenhouse Gas Emissions in Somerville

## *Monitoring Our Collective Progress*

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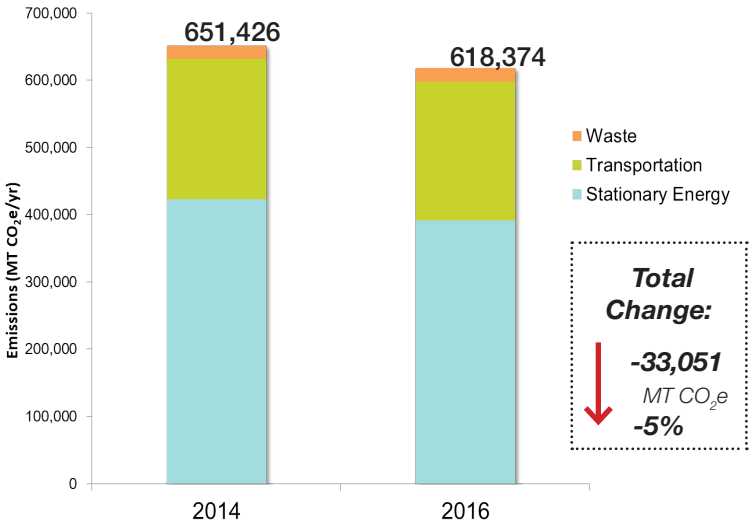
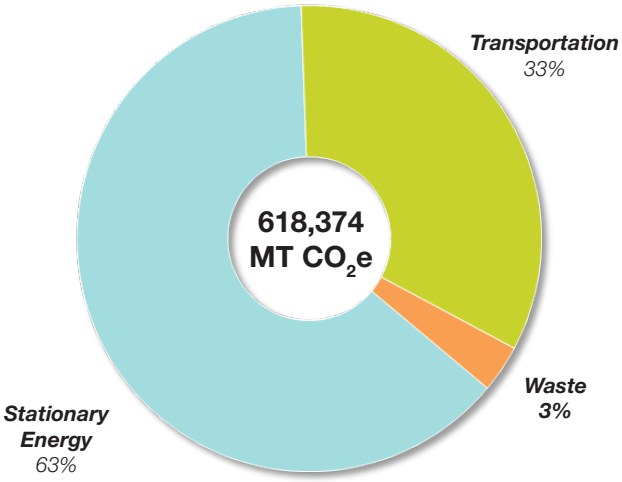
*In 2014, Mayor Curtatone set an ambitious goal for Somerville to become carbon neutral by the year 2050. Somerville's first community-wide greenhouse gas inventory was completed in 2015, based on data from 2014, thus establishing a baseline for future monitoring. This report is intended to provide an 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.*

# Community Inventory Overview 2016

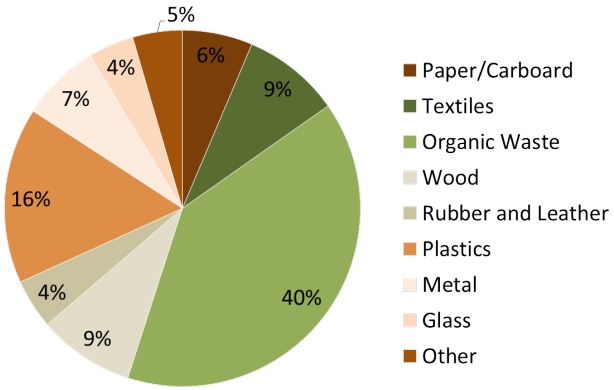
### Baseline (2014) vs. Monitoring Year (2016)



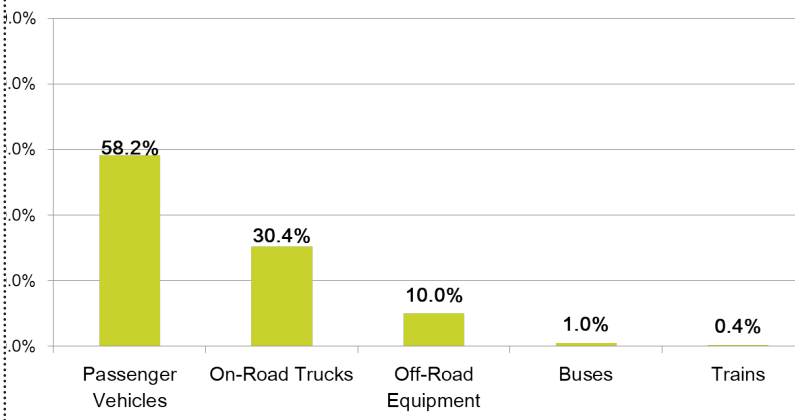

### 2016 Emissions by Sector



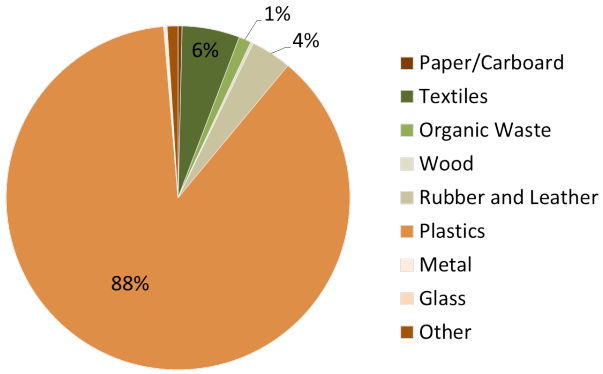

### Composition of Incinerated Waste




### Transportation Emissions Breakdown




### Breakdown of Emissions from Incinerated Waste




### 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)

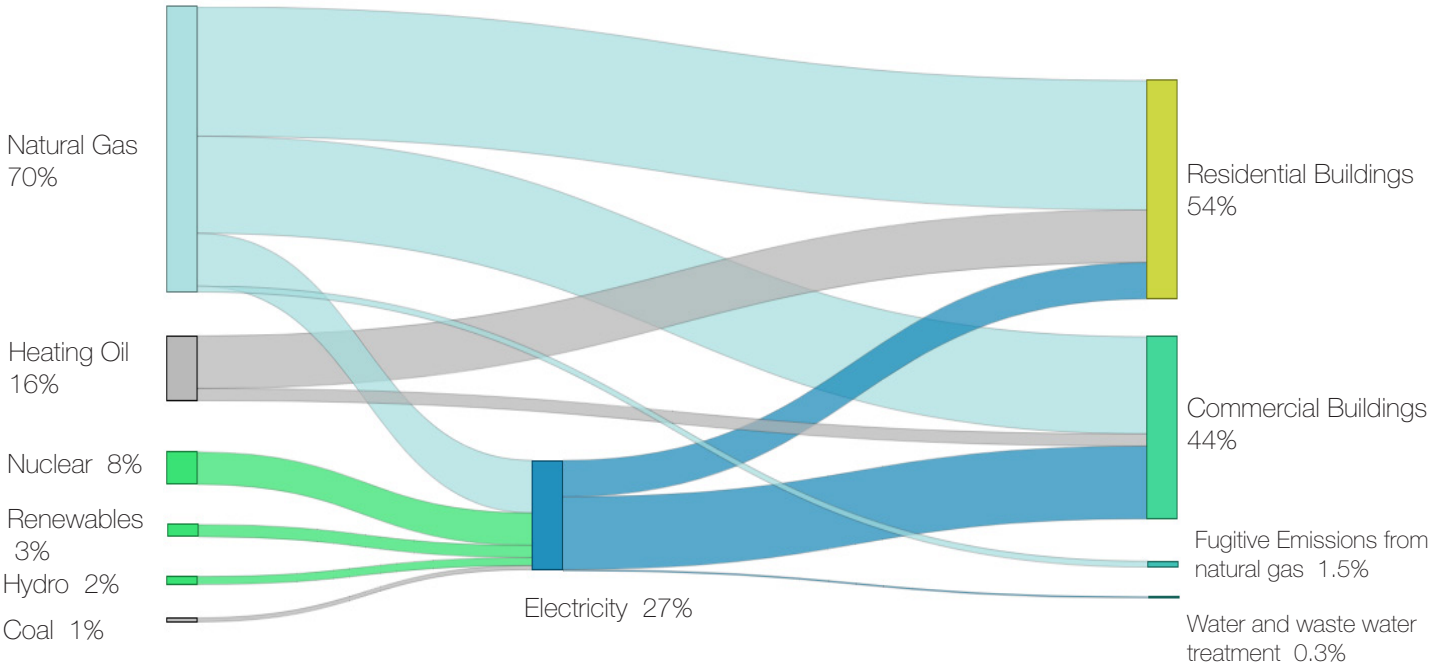
**SCOPE 3** — Other indirect emissions (e.g. waste disposal, wastewater treatment, losses from energy transmission)


It would take a forest of 728,540 acres, or 270 times the size of Somerville, to sequester 618,374 MT $CO_2e$ in one year.

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

# Spotlight on Stationary Energy 2016

## *Where does our energy come from and how is it used?*



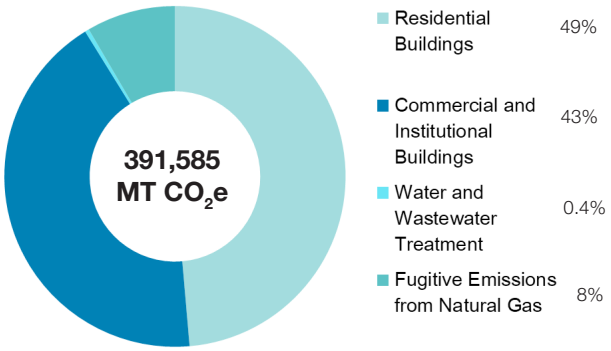

*Percentage breakdown of primary fuels consumed*

*Secondary energy sources*

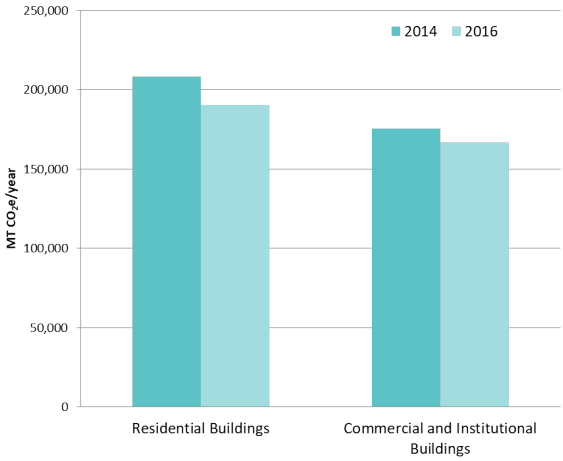
*Percantage of total energy use by sub-sector*

*Primary fuel percentages reflect proportion of total kilowatt hours consumed from each energy source. End-use sector percentages reflect proportion of total kilowatt hours consumed per sub-sector in 2016. **Source**: ISO New England, *https://www.iso-ne.com/about/key-stats/resource-mix*

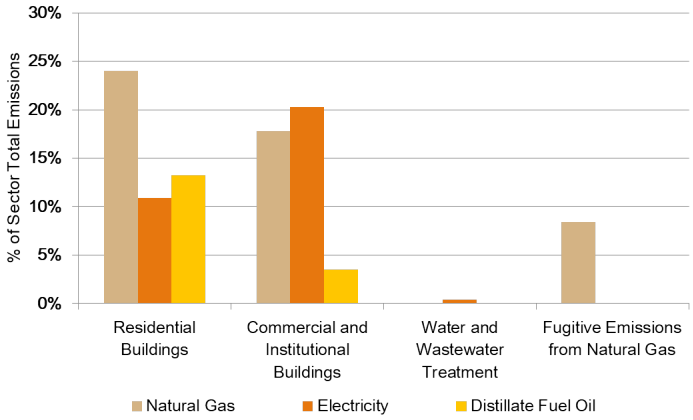
## *Stationary Energy Emissions Breakdown*




## *Building Emissions 2014 v. 2016*




## *Emissions by Fuel Source*




*As renewable energy continues to account for an increasing share of our grid mix, emissions per kilowatt hour from electricity will continue to drop. In contrast, emissions per kilowatt hour from fossil fuel sources, such as natural gas, will remain largely the same as time goes on. This is a compelling rationale for investment in renewables, and electrification of formerly fossil-fuel-reliant sectors such as vehicles. Through programs like Somerville Community Choice Electricity (CCE), Somerville is helping to increase the share of our electricity that comes from renewable sources. In conjunction with the Massachusetts Renewable Portfolio Standard for electricity production, programs like Somerville CCE will begin to shift the mix of our electrical grid toward more sustainable sources in the future.*

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