

Greenhouse Gas Emissions in Somerville

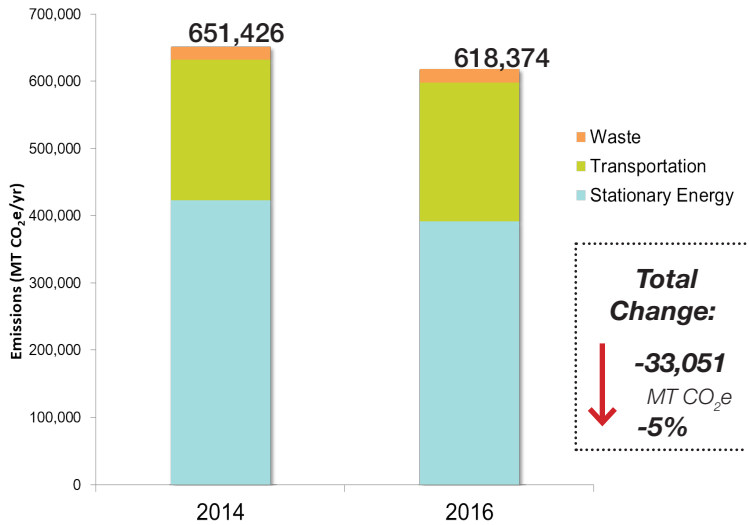
Monitoring Our Collective Progress

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 somerillema.gov/sustainville.

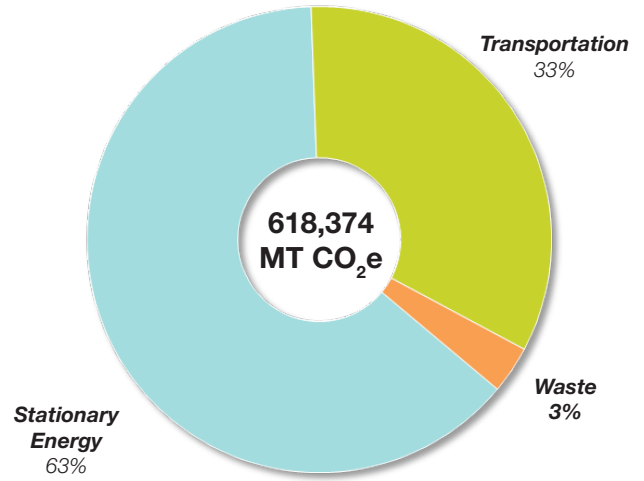


Community Inventory Overview 2016

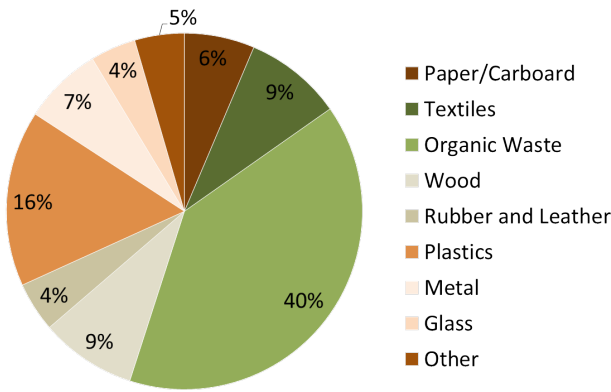
Baseline (2014) vs. Monitoring Year (2016)



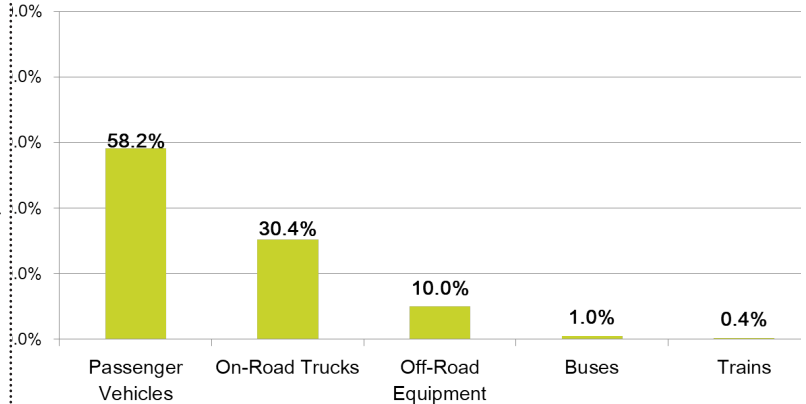
2016 Emissions by Sector



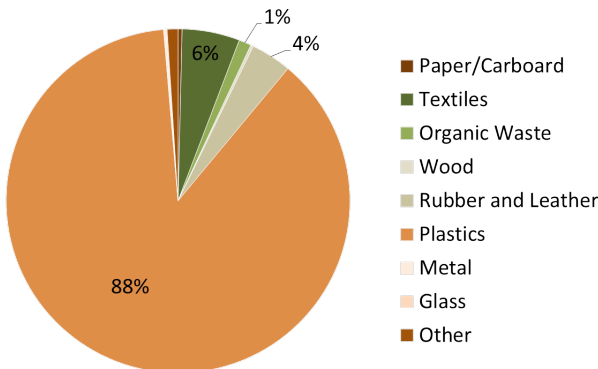
Composition of Incinerated Waste



Transportation Emissions Breakdown



Breakdown of Emissions from Incinerated Waste



What is in the Inventory?

- SCOPE 1** (Icon: Flame): What we combust (e.g. natural gas, heating oil, transport fuel)
- SCOPE 2** (Icon: Power line tower): Purchased emissions from energy we consume (e.g. grid-supplied electricity)
- SCOPE 3** (Icon: Trash can): Other indirect emissions (e.g. waste disposal, wastewater treatment, losses from energy transmission)

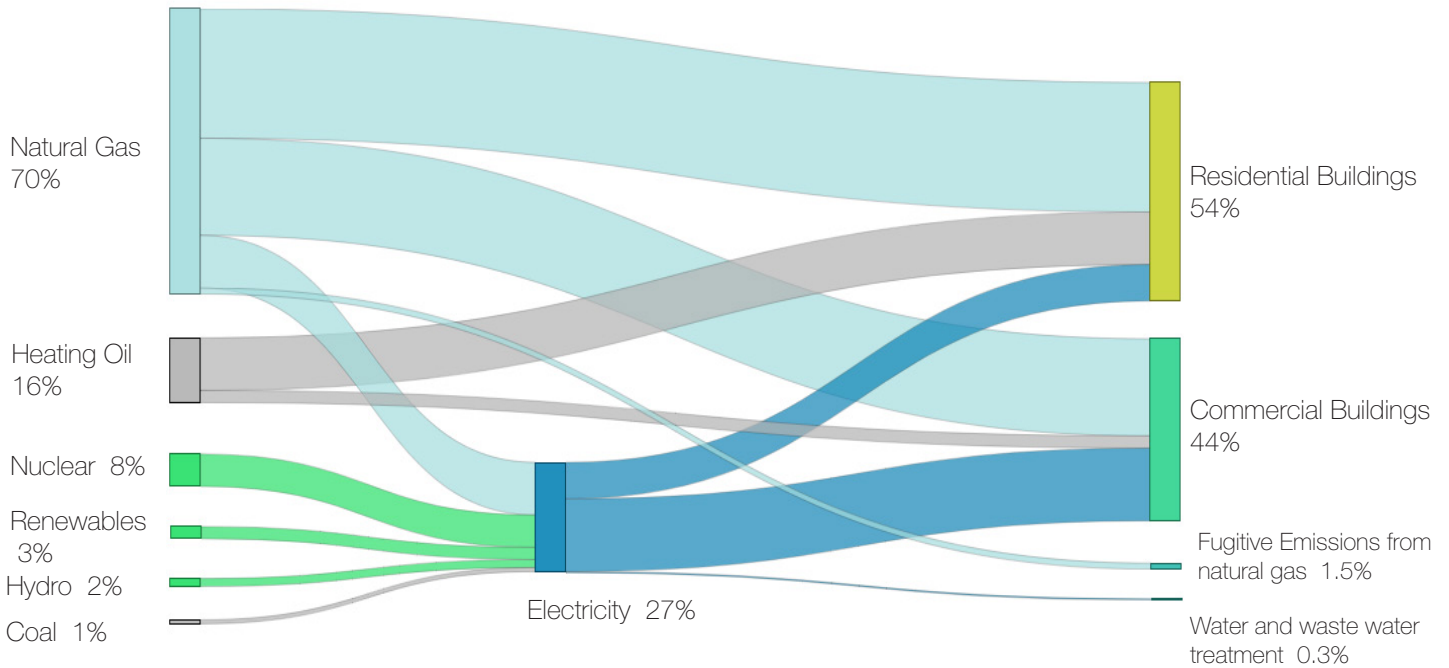


It would take a forest of 728,540 acres, or 270 times the size of Somerville, to sequester 618,374 MT CO₂e in one year.

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?



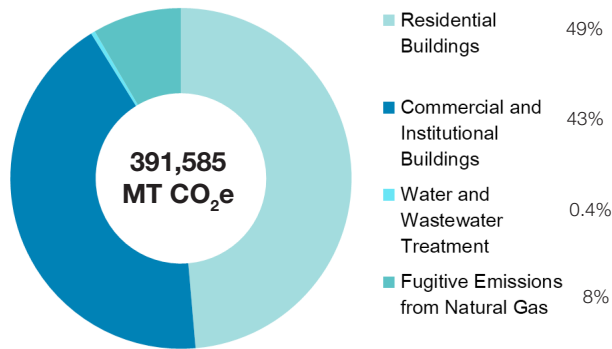
Percentage breakdown of primary fuels consumed

Secondary energy sources

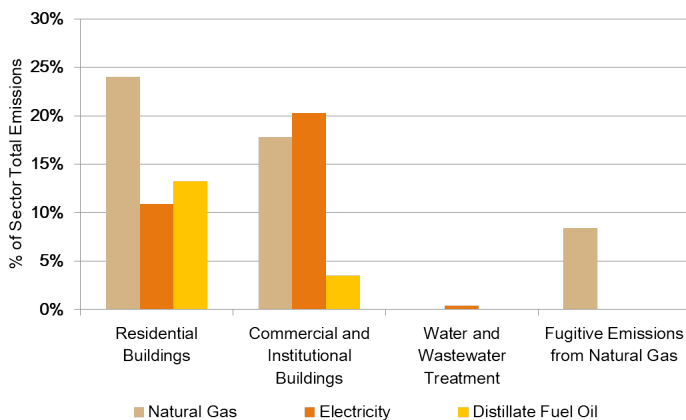
Percentage of total energy use by sub-sector

*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>

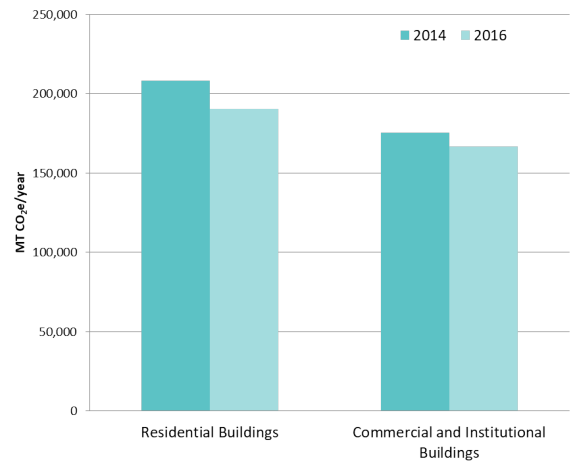
Stationary Energy Emissions Breakdown



Emissions by Fuel Source



Building Emissions 2014 v. 2016



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.