



City of Charlottetown

COMMUNITY GREENHOUSE GAS INVENTORY REPORT

2023



Summary

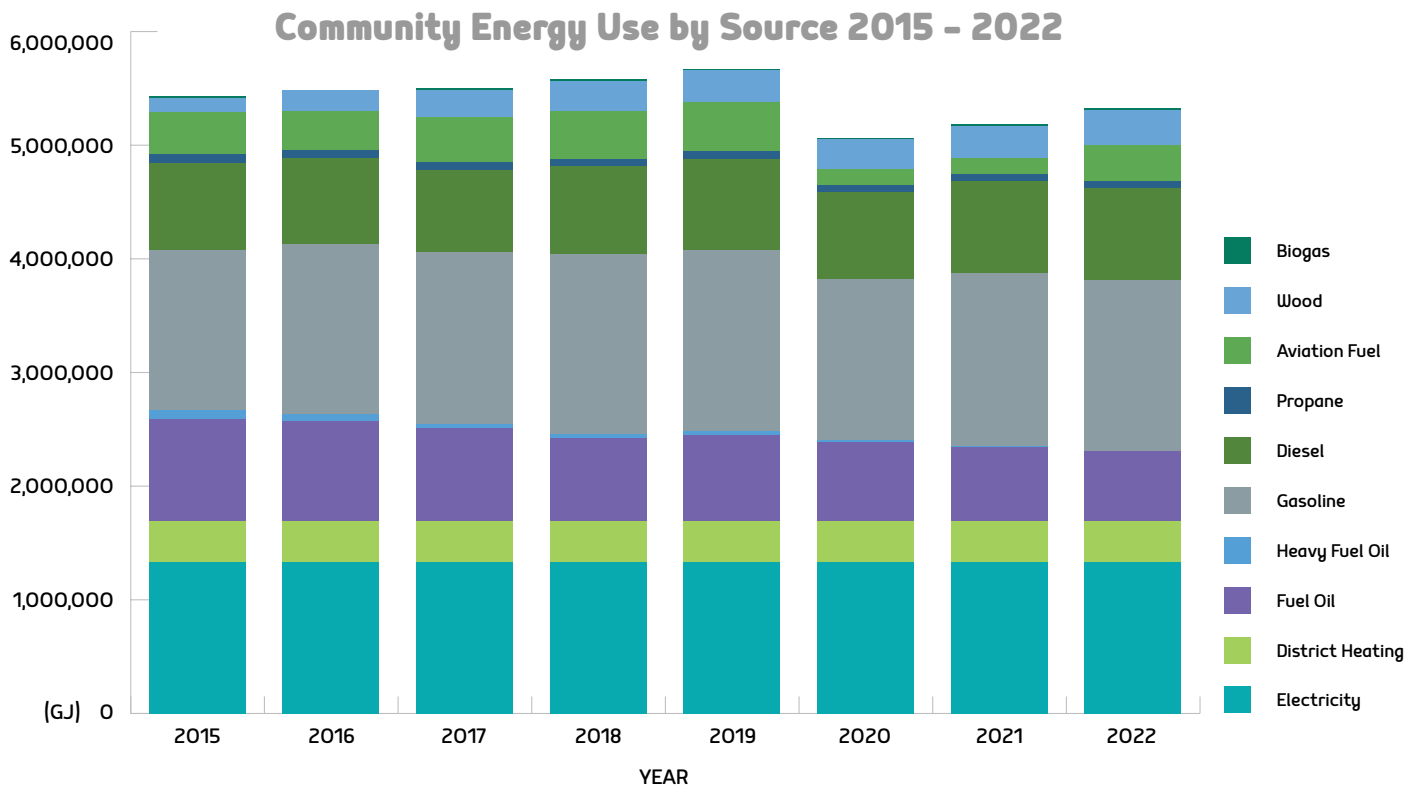
This document provides an estimate of energy use and greenhouse gas (GHG) emissions attributable to the entire Charlottetown community. In 2023, Charlottetown's population is estimated to be 40,500 (extrapolating 2021 census results according to PEI's population growth). This report uses 2022 data as some 2023 data was unavailable at the time of producing this report.

The scope of the report includes electricity and fuel consumption for the residential, commercial, industrial, and transportation sectors as well as emissions from solid waste, and agriculture. Energy and emissions are measured in the report as total energy consumption (GJ), total GHG emissions (tCO₂e), and energy expenditures (\$).

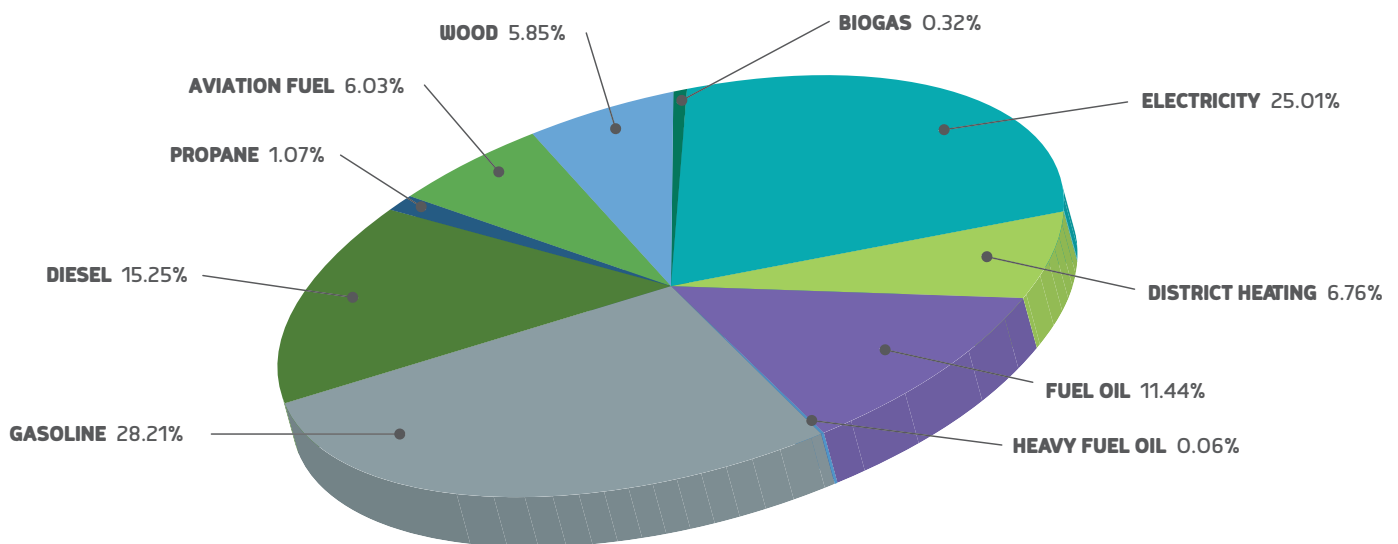
A GHG inventory was completed in 2018 which used 2015 as a baseline year to compare future years. Due to changes in methodology, the numbers from this report may differ from the original GHG inventory and are subject to change in future reports in an effort to increase accuracy.



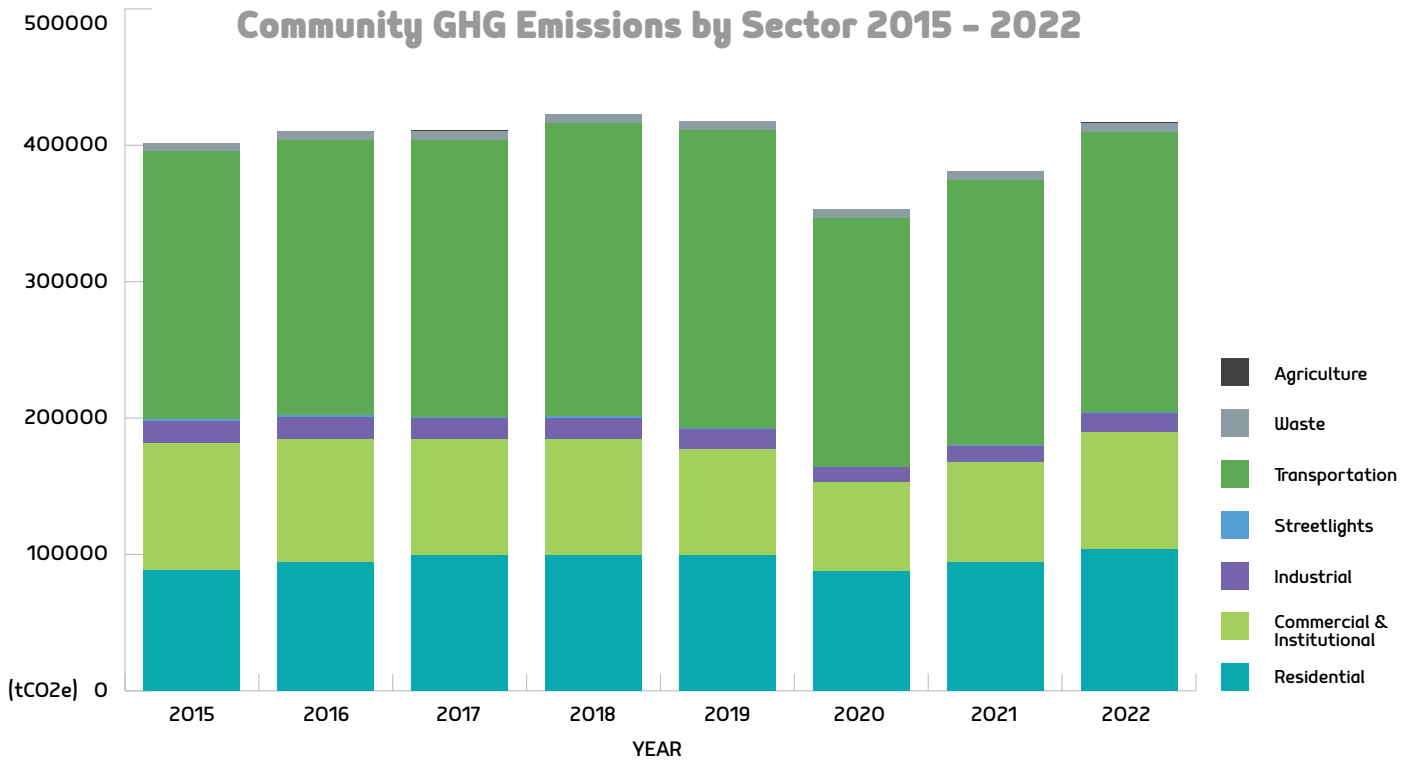
Community Energy Use by Source



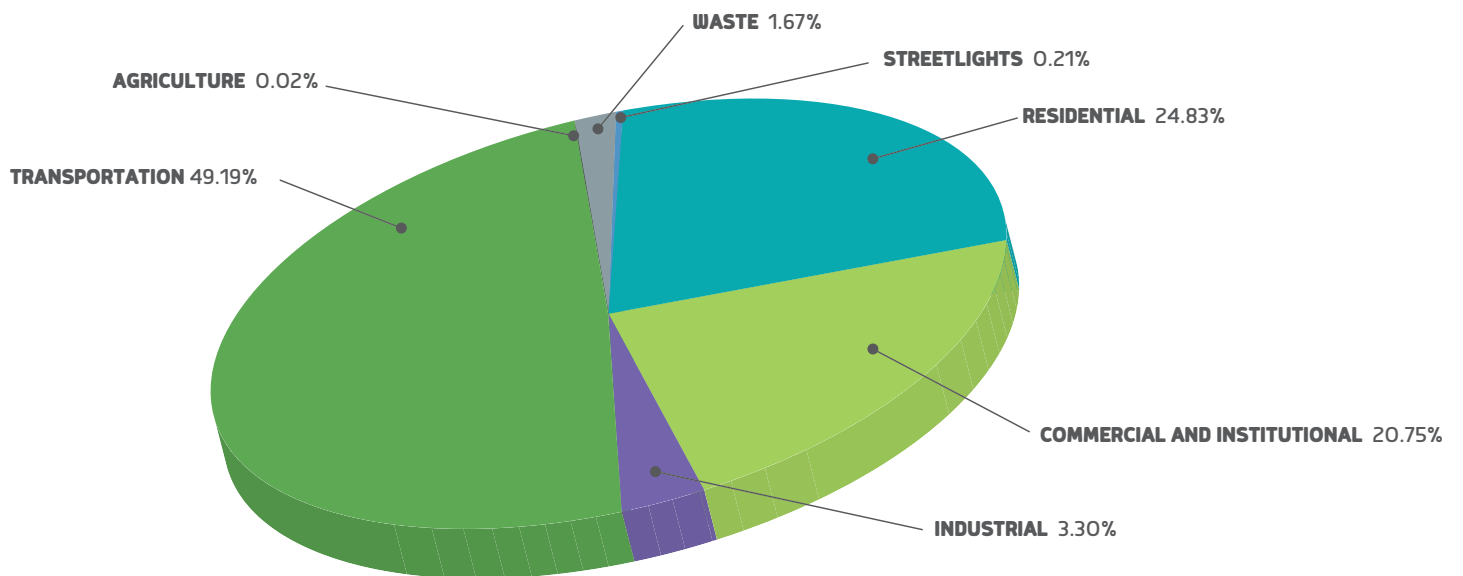
2022 Community Energy Use by Source



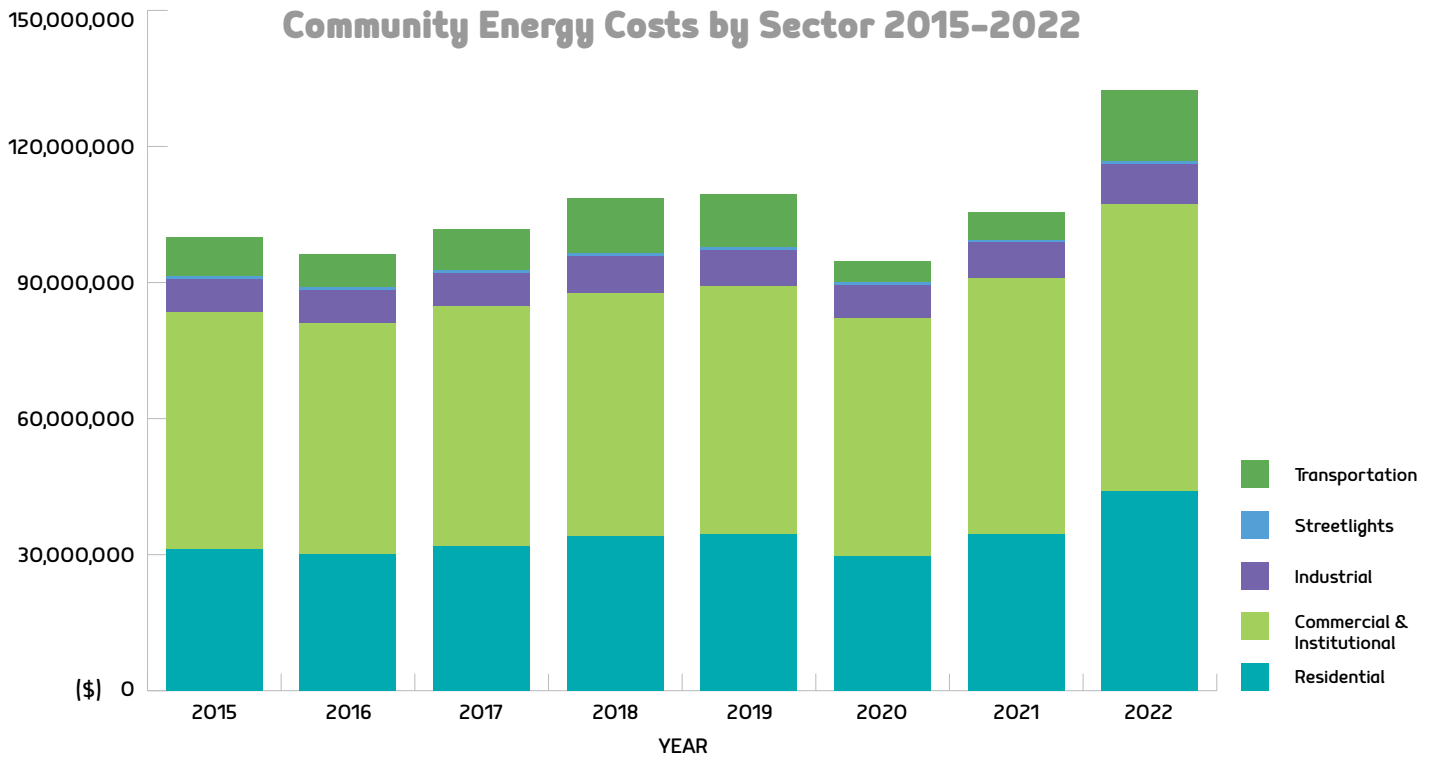
Community GHG Emissions by Sector



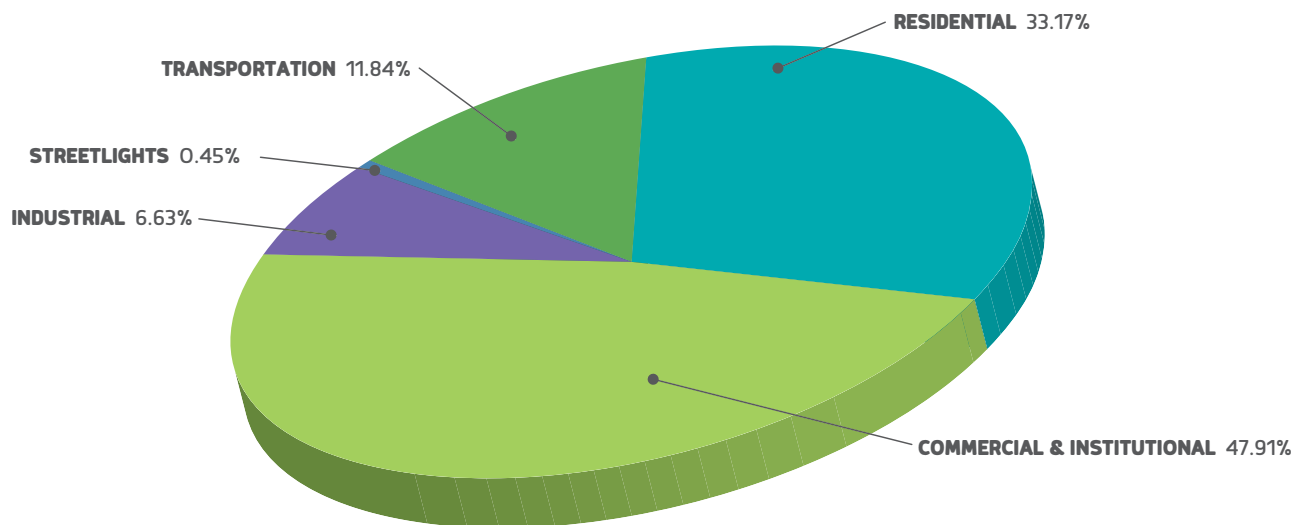
2022 Community GHG Emissions by Sector



Community Energy Costs by Sector



2022 Community Energy Costs by Sector



GHG Emissions Per Capita (tCO₂e)

	2015	2016	2017	2018	2019	2020	2021	2022
Charlottetown	11.5	11.4	11.2	11.4	11.1	9.3	9.8	10.4
PEI	10.8	10.9	10.9	10.5	10.6	10.0	9.9	9.6
Canada	20.2	19.4	19.4	19.4	19.1	17.3	17.4	unavailable

Key Takeaways

- Overall, community annual GHG emissions have increased by 3.7% from the 2015 baseline year. This increase is most likely due to the Island's population increase in the years since 2015. Charlottetown's population has grown by more than 14% since 2015.
- The Residential sector has seen the largest increase in emissions (17.5%). This supports the assumption that population growth is a key factor in the increase in emissions.
- Despite this overall increase in emissions, per capita emissions have decreased from 11.5 tCO₂e per resident in 2015 to 10.4 tCO₂e per resident in 2022.
- The Transportation sector accounts for almost 50% of the total emissions which includes road, marine, and air travel.
- The Industrial, Commercial, and Agricultural sectors have had the largest decreases in their emissions. These sectors have seen a big drop in heavy fuel oil consumption.
- Gasoline is the largest energy source in terms of total emissions (30%).
- Electricity usage has increased while fossil fuels like oil and propane have both decreased. In recent years, federal, provincial and municipal governments have all offered energy efficiency programs for the public, including heat pump installation programs. This is to reduce reliance on fossil fuels and supports the noted decreases.



Methodology

The City of Charlottetown's GHG inventory closely followed the Global Protocol for Community-Scale Greenhouse Gas Inventories. Where available, bulk energy usage numbers for the city were collected. Where this information wasn't available, numbers were based on scaling down provincial or regional data available from the provincial or federal government. If you would like more information about the methodology used, please contact sustainability@charlottetown.ca.

References

Canada Energy Regulator - Energy Unit Conversion Table

<https://apps.cer-rec.gc.ca/Conversion/conversion-tables.aspx?GoCTemplateCulture=en-CA>

Statistics Canada - Census of Population

<https://www12.statcan.gc.ca/census-recensement/2021/dp-pd/prof/index.cfm?Lang=E>

Natural Resources Canada - Comprehensive Energy Use Database

https://oee.nrcan.gc.ca/corporate/statistics/neud/dpa/menus/trends/comprehensive_tables/list.cfm

PEI Statistical Review

<https://www.princeedwardisland.ca/en/publication/annual-statistical-review>

Canada GHG Inventory

<https://www.canada.ca/en/environment-climate-change/services/climate-change/greenhouse-gas-emissions/inventory.html>





For questions or comments, please contact:

**Attention: Environment and Sustainability Department
City of Charlottetown
PO Box 98, 199 Queen Street, Charlottetown, Prince Edward Island
Canada, C1A 7K2**

**Office: 902-566-5548
sustainability@charlottetown.ca**