

Four horizontal white wavy lines are positioned above the main title text.

Eastside Climate Partnership Greenhouse Gas Emissions Analysis

**City of Mercer Island 2022 Annual
Report**

Prepared by Cascadia Consulting Group, Inc.

INTRODUCTION

The City of Mercer Island has committed to reducing greenhouse gas (GHG) emissions from community sources and municipal operations as part of its climate action strategy. To track its progress in this effort, Mercer Island has completed an analysis of 2022 GHG emissions related to communitywide activities and government operations.

This summary report presents an overview of findings from this GHG analysis.

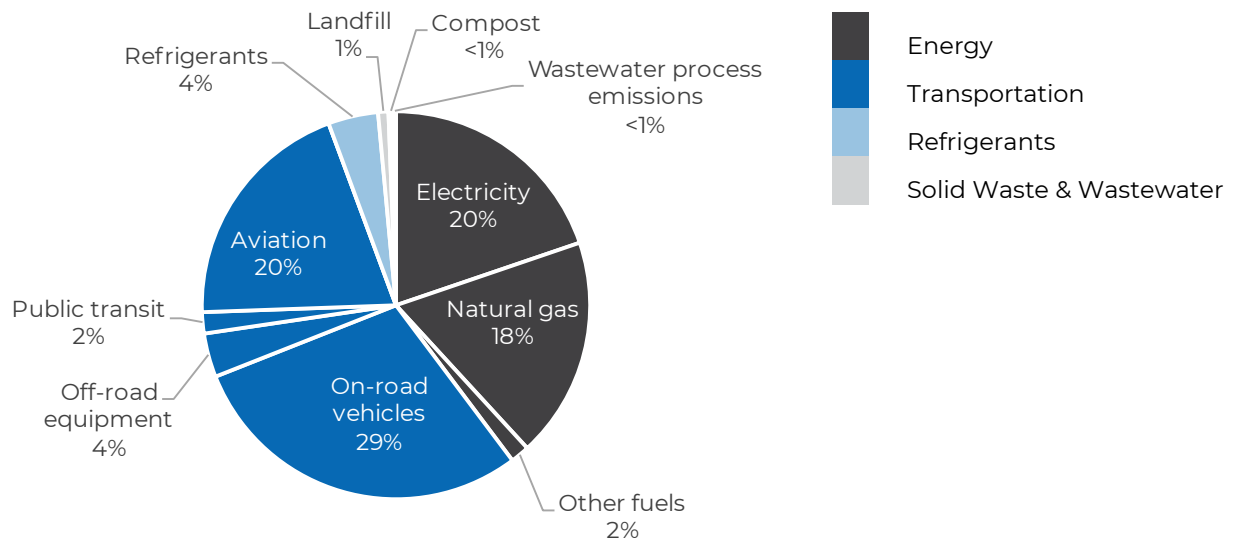
EMISSIONS OVERVIEW

Communitywide Emissions

The Mercer Island community emitted an estimated **325,983** metric tons of carbon dioxide equivalent (MTCO₂e) in 2022—equivalent to **12.6** MTCO₂e per capita. Primary sources of community greenhouse gas emissions include (Figure 1):

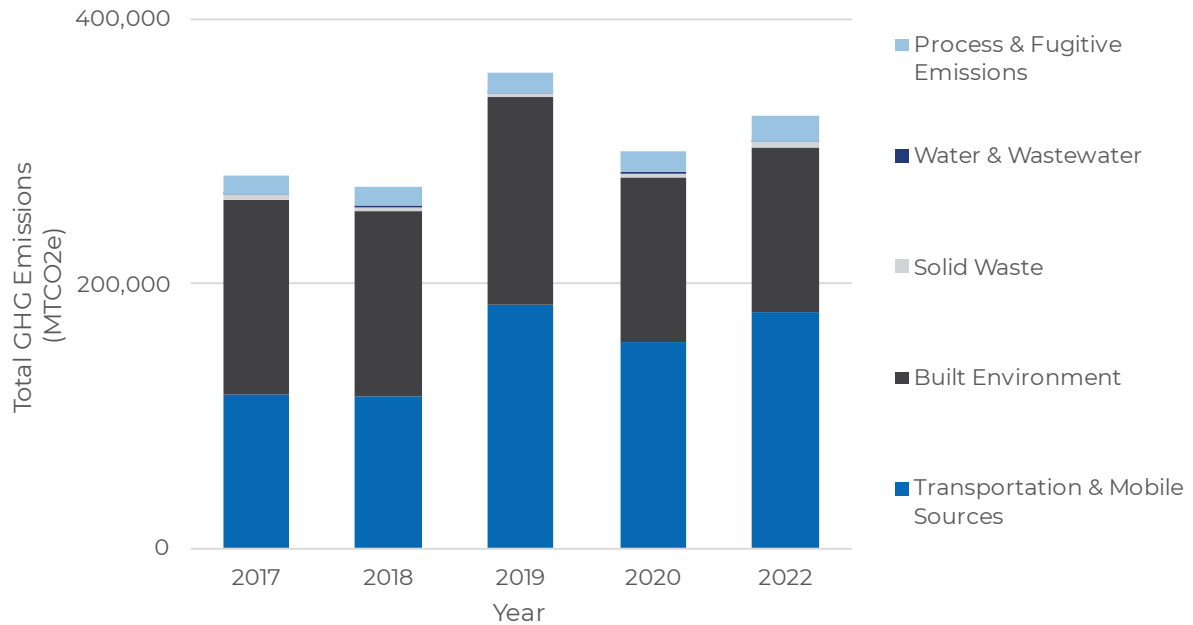
- On-road vehicles including passenger cars and heavy-duty trucks (**29%**) and air travel (**20%**).
- Electricity (**20%**) and natural gas (**18%**) to heat, cool, and power residential, commercial, and industrial buildings.

Figure 1. Mercer Island’s community GHG emissions, by sector.



Mercer Island’s 2022 communitywide emissions represent a **9% increase** compared to the last GHG inventory in 2020, primarily driven by a 14% increase in transportation emissions compared to 2020 as travel resumed as COVID quarantines decreased (Figure 2).

Figure 2. Communitywide GHG emissions trends over time, by sector.¹



Government Operations Emissions

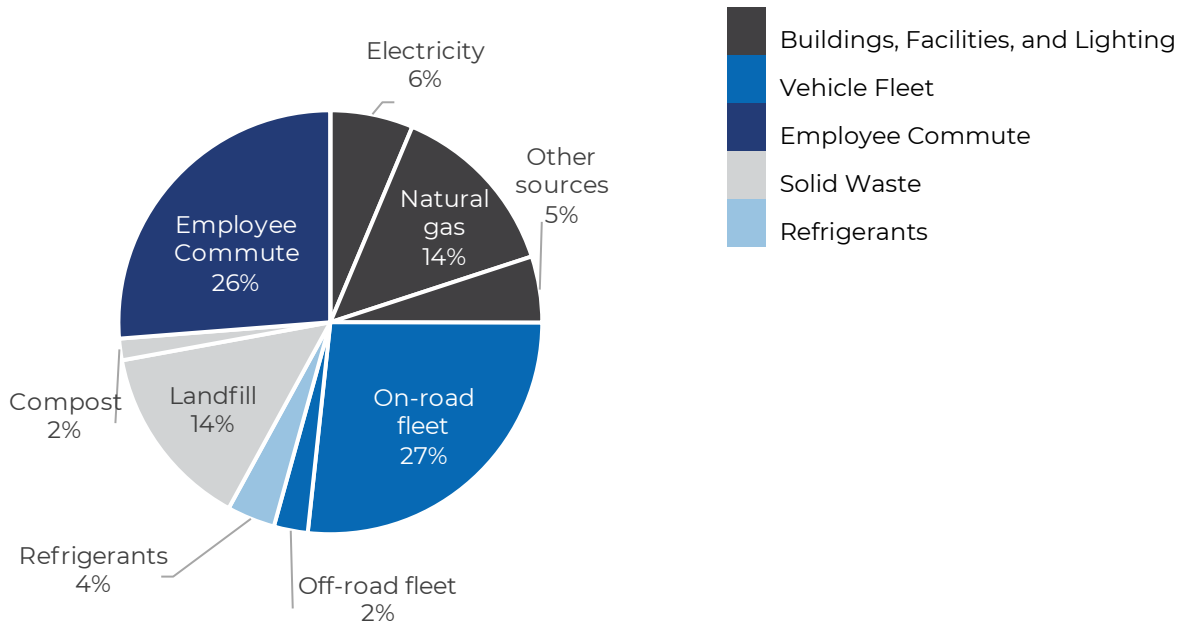
Mercer Island’s government operations accounted for approximately **1,582** MTCO₂e of emissions in 2022, equivalent to **7.2** MTCO₂e per FTE (full-time employee)—representing **0.5%** of total communitywide emissions. Primary sources of government operations emissions include (Figure 3):

- City’s vehicle fleet and equipment (**29%**).
- Employee commute (**26%**)

¹ Refrigerants, as shown in the first pie chart, are a subset of the “Process and Fugitive” emissions shown in the bar graph. “Process and Fugitive Emissions” here to refer to emissions from both refrigerants **and** fugitive natural gas. However, while those are both “fugitive”, they are separated in the pie chart and fugitive natural gas emissions are included in the natural gas category in order to show more granular data.

- Disposal of solid waste generated at City facilities (**16%**)
- Natural gas (**14%**) to heat, cool, and power government buildings and facilities.

Figure 3. Mercer Island’s government operations 2022 GHG emissions, by sector.

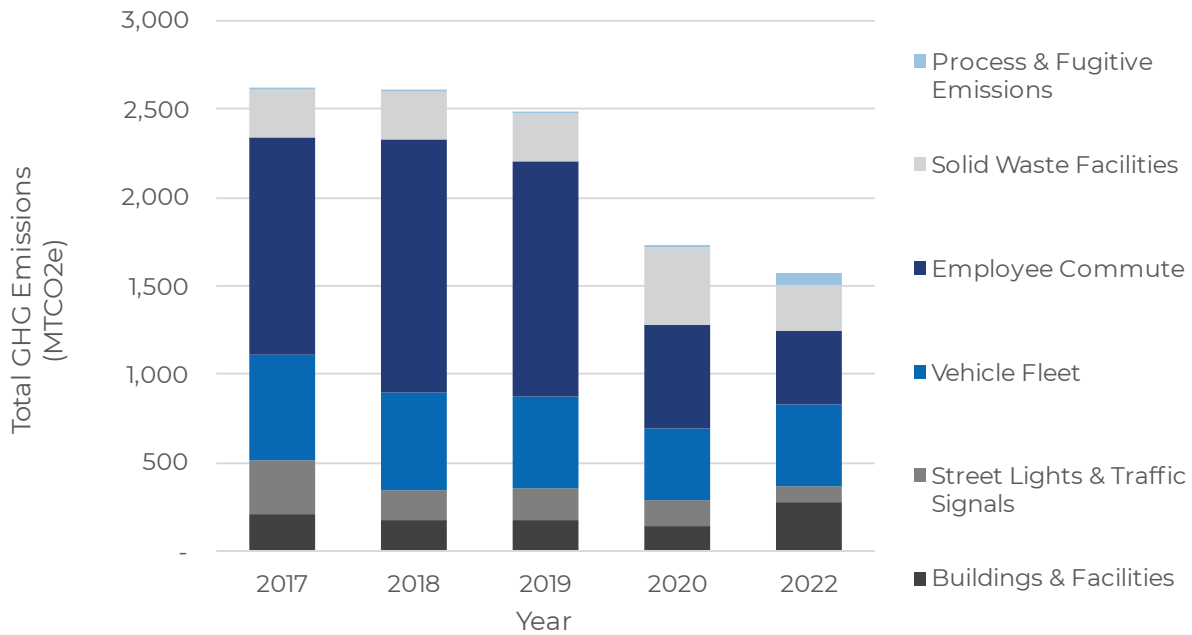


Mercer Island’s 2022 government operations emissions represent an **8% decrease** compared to the last GHG inventory in 2020, primarily driven by decreases in solid waste generation, employee commuting², and a reduction in emissions from electricity powering streetlights and traffic signals due to a methodology change³ (Figure 4).

² Previously, emissions from employee commuting were estimated based on a 2011 employee commute survey, and scaled to the inventory year. New methodology was used in 2022 to estimate employee commuting patterns, which may account for some of the decrease in commuting emissions.

³ Note: In previous years, Mercer Island included public lighting within the “Streetlights and Traffic Signals” emission category. In 2022, the City updated this methodology to only include City owned lighting infrastructure, which resulted in the reduction in emissions from lighting. Additionally, in 2022, incorrect data was recorded by Puget Sound Energy for one of the City’s lighting accounts which also contributed to reduced emissions in this sector.

Figure 4. Government operations GHG emissions trends over time, by sector.⁷



This trend of decreasing municipal emissions has continued in 2022 in spite of methodology changes in 2022, such as the inclusion of municipal refrigerant usage, for which data was unavailable in previous inventory years.

NEXT STEPS

The 9% increase in communitywide emissions puts Mercer Island off target from achieving the Climate Action Plan goal of a 50% reduction in Community emissions by 2030. The 8% reduction in emissions from municipal operations continues the trend the City needs to see in order to achieve carbon neutrality by 2030.

Findings from this inventory will be used to help prioritize CAP actions and budget requests for the upcoming cycle. The City will complete a 2023 inventory in order to continue to monitor the emission trends, with further annual updates moving forward.