

CITY OF BELLEVUE: 2024 GREENHOUSE GAS EMISSIONS INVENTORY

INTRODUCTION

The City of Bellevue is committed to reducing greenhouse gas (GHG) emissions from community sources and municipal operations as part of its [2026-2030 Sustainable Bellevue Plan](#). The plan outlines how the city will reach its goals of a 50% reduction in GHG emissions by 2030 and a 95% reduction by 2050 compared to its baseline emissions from 2011. To track progress toward these goals, the city conducts an annual analysis of its emissions. Below is the 2024 GHG emissions summary from communitywide activities and municipal operations.

Communitywide emissions fell by 4.6% from 2023 and are 12% lower than 2011 baseline emissions. This decrease was driven by a lower carbon intensity from PSE's electricity using more renewable energy sources and by a 5% reduction in overall energy use by the community. Electric vehicle adoption also contributed to a 6% reduction in on-road vehicle emissions. Emissions from the city's municipal operations fell by less than 1% compared to 2023 and are 52% lower than the 2011 baseline. Reductions in electricity use were offset by an increase in emissions associated with employee commutes, as more employees return to the office.

COMMUNITYWIDE EMISSIONS

Emission Summary

In 2024, the Bellevue community emitted an estimated **1,608,235** metric tons of carbon dioxide equivalent (MTCO_{2e})—equal to **10.4** MTCO_{2e} per capita. Primary sources of community greenhouse gas emissions included (Figure 1):

- Electricity (**39%**) and natural gas (**16%**) to heat, cool, and power residential and commercial buildings.
- On-road vehicles (**30%**), including passenger cars and heavy-duty trucks.

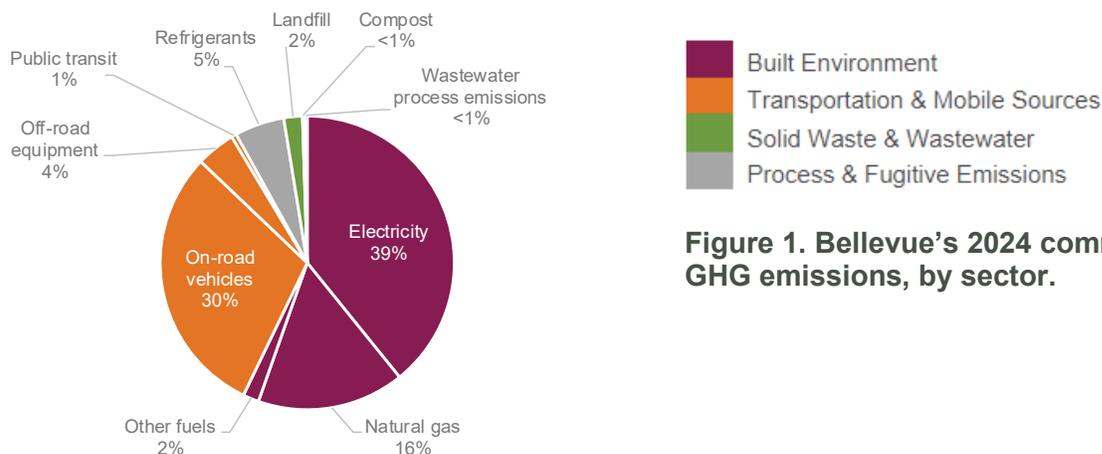


Figure 1. Bellevue's 2024 community GHG emissions, by sector.

Key Trends and Drivers

Bellevue’s 2024 communitywide emissions **decreased 4.6%** compared to 2023. Key drivers of this change include shifts in community activity—such as decreases in energy consumption and vehicle travel—as well as external factors like reductions in the carbon intensity of electricity provided by Puget Sound Energy (Figure 2).

Population and job growth continue to place upward pressure on emissions across all sectors, however Bellevue has reduced emissions from its baseline year and sustained some emissions reductions from the pandemic. Bellevue’s GHG emissions declined **12.0%** between 2011 and 2024, despite a **26%** increase in population and **22%** increase in jobs. Over the same period, Bellevue’s communitywide per-capita emissions **decreased by 30%**. Key drivers of these reductions include lower passenger-vehicle miles traveled and reduced electricity consumption between 2011 and 2024, reflecting improvements in transportation patterns and building energy efficiency despite population growth.

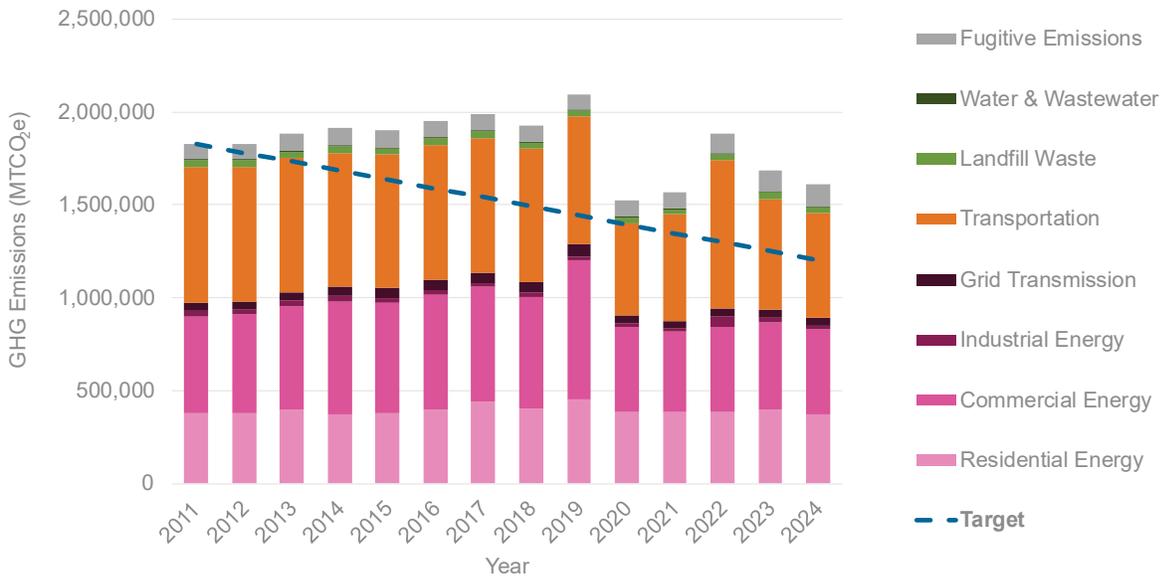


Figure 2. Communitywide GHG emissions trends, by sector.

Buildings

Since 2011, communitywide energy-related emissions have declined by 7%, reflecting improvements in electricity generation and consumption trends.

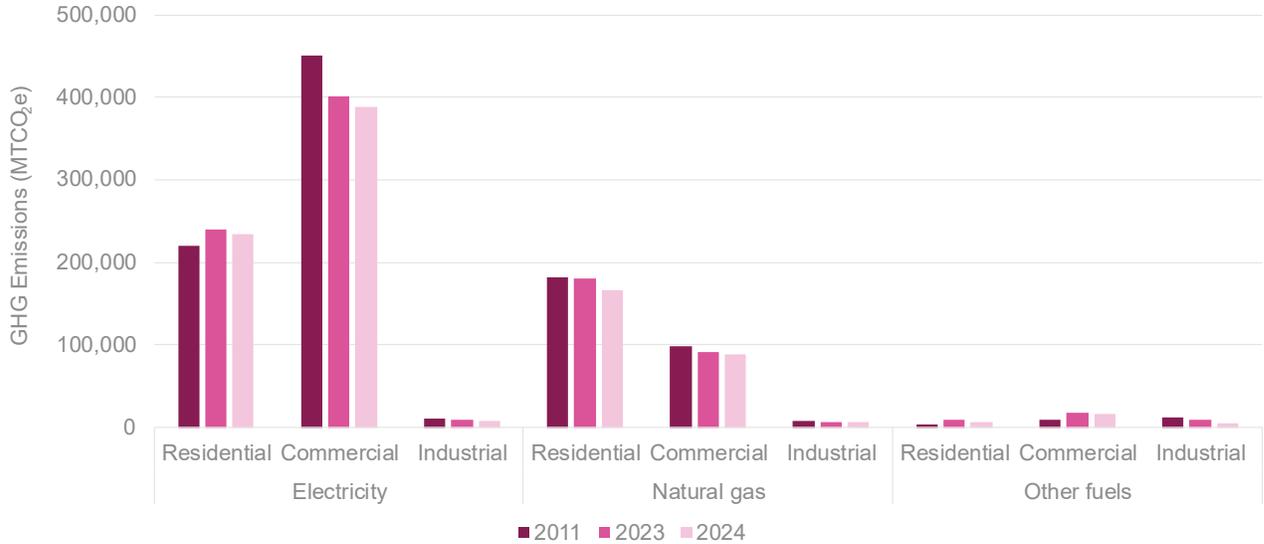


Figure 3. Trends in community building-related GHG emissions, by fuel type.

Other key energy sector findings are summarized below and in Figure 3:

- **Overall:** Building emissions decreased by 7% compared to 2011, and 5% compared to the previous inventory year (2023).
- **Electricity:** Emissions from electricity use have decreased over time, declining by 7% since 2011 and 3% since 2023. The carbon intensity of electricity consumed in Bellevue decreased by 5% due to increased community enrollment in PSE’s clean electricity programs. Over the same period, the carbon intensity of PSE’s overall electricity supply increased by 4% but declined by 3% between 2023 and 2024.
- **Natural gas:** Emissions from natural gas consumption in Bellevue decreased by 9% since 2011 and 6% since 2023, suggesting continued improvements in energy efficiency and building performance and impacts of building electrification.

Transportation & Mobile Sources

Since 2011, transportation-related emissions have decreased by 24%, reflecting reduced vehicle miles traveled and improved overall fuel economy in on-road vehicles.

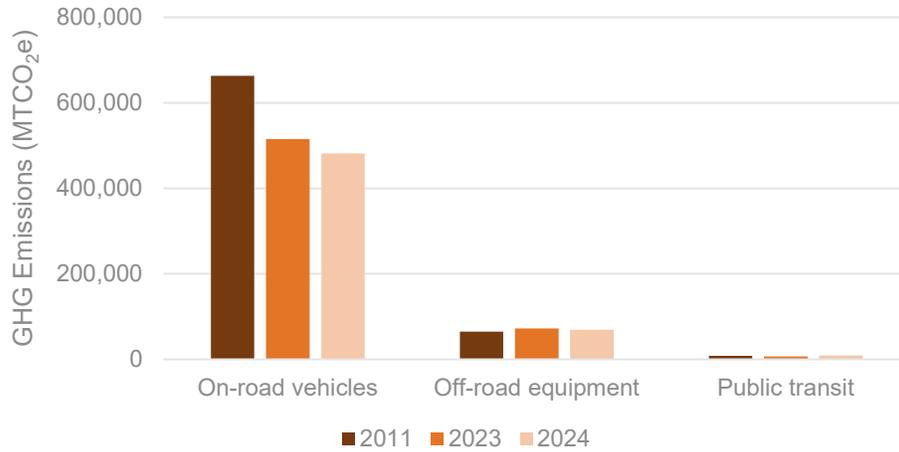


Figure 4. Trends in community transportation-related GHG emissions, by mode.

Other key transportation sector findings are summarized below and in Figure 4:

- **Overall:** Transportation emissions have decreased by 24% since 2011 and 6% since the previous inventory (2023).
- **On-road transportation:** Overall on-road transportation emissions decreased by 27% since 2011 and 6% since 2023.¹ Since 2011, total on-road vehicle miles traveled have decreased by 6%.
- **Off-road equipment:** Emissions from off-road equipment increased 6% since 2011 and decreased 4% from 2023 to 2024. These estimates are derived from countywide data scaled to Bellevue’s population and may not fully reflect local changes in equipment use.
- **Public transit:** Emissions from public transit increased 10% since 2011 and 33% from 2023 to 2024. These estimates assign a portion of the fuel consumption by transit type, reported to the National Transit Database by Sound Transit and King County Metro, to Bellevue and may not accurately reflect public transit use within the city. Increases in emissions from public transportation often accompany a decrease in on-road transportation emissions from passenger vehicles, as community members continue to shift their transportation habits.

¹ In 2024, Bellevue’s communitywide passenger and freight emissions were calculated using a vehicle type breakdown from the BKR Travel Model, which was not previously available. As a result, methodology between 2024 and previous years differ slightly.

Other Sources

Other emission sources include solid waste generation and disposal, wastewater treatment, and refrigerants.

Key trends in other emissions sources include:

- **Solid waste:** Emissions from communitywide solid waste generation have decreased by 1% since 2011 and increased by 2% since 2023, generally reflecting reductions in waste generation despite increases in Bellevue's population.
- **Wastewater:** Emissions from wastewater treatment have declined by 12% since 2011 and increased by 0.2% since 2023.
- **Refrigerants:** Fugitive emissions from refrigerant use have increased 51% since 2011 and 0.3% since 2023, reflecting population growth, higher cooling demand, and the continued use of high-global-warming-potential refrigerants. These estimates are based on U.S. Environmental Protection Agency national data scaled to Bellevue's population and may not fully capture local refrigerant use patterns.

MUNICIPAL OPERATIONS EMISSIONS

Emissions Summary

In 2024, Bellevue’s municipal operations produced approximately **7,790** MTCO₂e of emissions—which represents **0.48%** of communitywide emissions. While this is a relatively small share, it highlights the opportunities for the City to lead by example in reducing emissions and improving operational efficiency.

The primary sources of municipal operations emissions (Figure 5) included:

- Vehicle fleet and equipment (**36%**)
- Electricity (**27%**) and natural gas (**16%**) used in government buildings and facilities
- Employee commuting (**12%**)

By targeting these areas, Bellevue can demonstrate leadership in sustainability, reduce costs, and support the broader community sustainability goals.

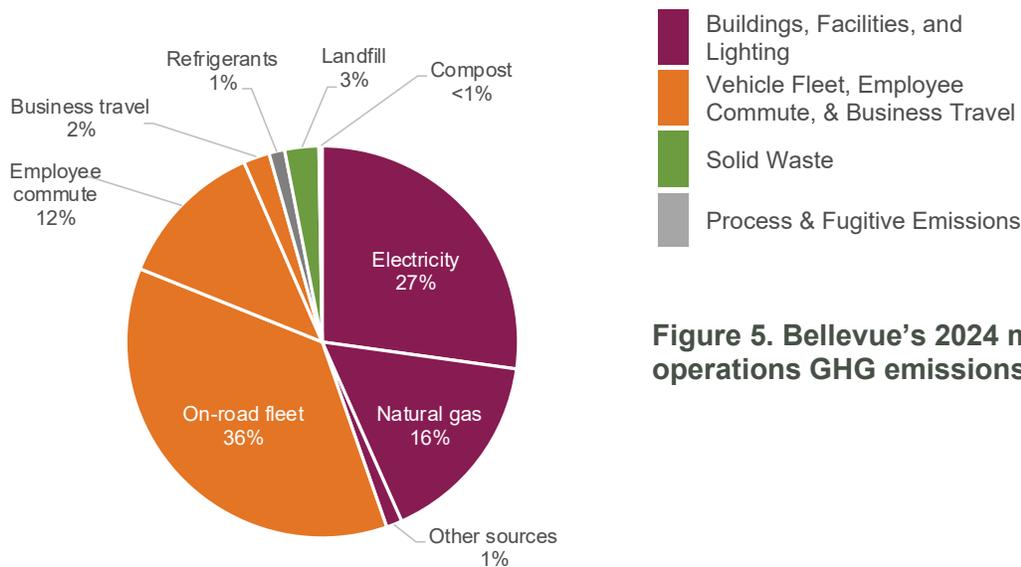


Figure 5. Bellevue’s 2024 municipal operations GHG emissions, by sector.

Key Trends and Drivers

Bellevue’s 2024 municipal operations emissions decreased by less than 1% compared to 2023, but decreased by 52% compared to 2011 (Figure 6). This long-term decline reflects Bellevue’s continued investments in sustainability initiatives, including renewable energy purchases, energy efficiency upgrades in facilities, and improved solid waste management practices.

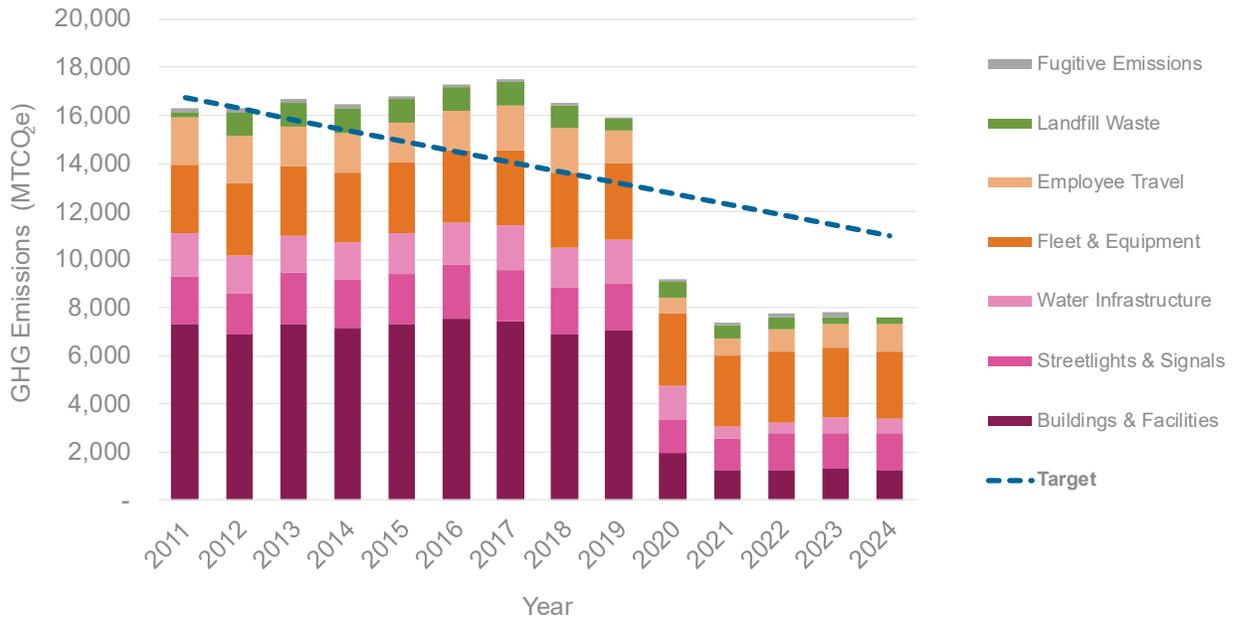


Figure 6. Municipal operations GHG emissions trends, by sector. ²

² Employee commute emissions for 2020 and 2021 were adjusted to reflect the impacts of COVID-19 on employee commute patterns, using an updated methodology and newly available data.

Energy

Overall, municipal operations energy-related emissions have decreased by 69% since 2011, primarily due to the City’s purchase of renewable energy and continued investments in energy efficiency upgrades and building electrification.

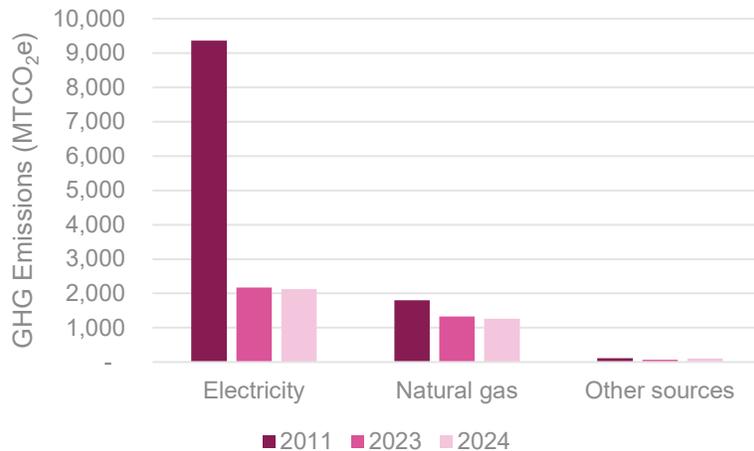


Figure 7. Trends in municipal energy GHG emissions, by fuel type.

Key energy-related trends within Bellevue municipal operations are summarized below and in **Figure 7**:

- **Electricity:** Emissions from electricity use have decreased by 77% since 2011 and 2% compared to 2023, driven by energy efficiency upgrades and the purchase of renewable energy through PSE’s Green Direct program.
- **Natural gas:** Emissions from natural gas use has decreased by 30% since 2011 and 5% compared to 2023, driven by reduced consumption from energy efficiency upgrades and operational improvements.
- **Other fuels:** The City uses small quantities of other stationary fuels such as propane and diesel. Since 2011, emissions from these other fuels have decreased by 11%, but increased by 41% relative to the 2023 inventory. While shifts toward cleaner options like renewable diesel can reduce emissions, unusual events—such as the 2024 Bomb Cyclone storm—increased diesel generator use and temporarily driven emissions upward. Even with this elevated consumption, these fuels still represent only about 1% of total municipal emissions.
- **Water utility infrastructure:** Emissions from electricity use in water infrastructure have decreased by 69% since 2011 and 17% compared to 2023. This category represents only 7% of total municipal emissions.

Transportation

Overall, the City’s transportation-related emissions have decreased 17% since 2011, driven by alternative commute options and vehicle efficiency improvements and electrification.

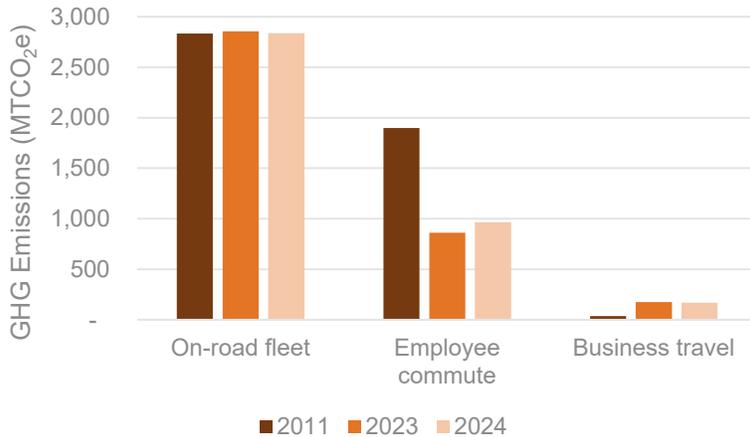


Figure 8. Trends in municipal transportation GHG emissions, by source.

Trends in emissions from each transportation emission source are shown below in Figure 8.

- On-road fleet:** Emissions from the City’s on-road fleet have remained relatively stable, with an increase of 0.1% since 2011, despite a growing fleet. In 2024, emissions decreased by 1%, reflecting ongoing fleet efficiency improvements, including the incorporation of hybrid vehicles and the electrification of City vehicles despite increasing municipal operations.
- Employee commute:** Emissions from employee commutes decreased by 49% overall since 2011, likely due to telework options, expanded transit access, and electrification of commuting vehicles. In 2024, there was a 12% increase compared to 2023, likely tied to return to in-office practices after the pandemic.
- Business travel:** Emissions from business travel decreased by 4% since 2023 but are 353% higher than 2011 levels, likely due to employee growth and expansion of training and travel opportunities for employees.

Other Sources

Other emissions sources for municipal operations include solid waste generation and disposal and refrigerant use.

Key trends in these sources include:

- Solid waste:** Emissions from solid waste generation and disposal have increased by 1% since 2011 and increased by less than 0.01% since 2023, despite more City employees.
- Refrigerants:** Emissions from refrigerant use decreased by 7% from 2023 to 2024.

NEXT STEPS

Achieving Bellevue’s goal to reduce emissions by 95% by 2050 will require coordinated action across federal, state, and local government. Federal fuel economy standards, a cleaner regional energy grid, and decarbonizing existing buildings will all play critical roles in shaping Bellevue’s ability to meet its 2030 and 2050 greenhouse gas reduction targets.

The City has recently updated its [Environmental Performance Dashboard](#). View the dashboard for an interactive format of the 2024 Greenhouse Gas Inventory and additional sustainability-related data points. In 2025, City Council adopted the updated Sustainable Bellevue Plan for 2026-2030. As part of this work, Bellevue updated its emissions forecast to identify pathways for reducing local emissions that will not be addressed by existing state and federal policies.

With accelerated and sustained action and collaboration among federal, state, regional, and local partners—and continued local leadership—Bellevue can get on track to meet its long-term reduction goals while building a cleaner, more resilient future for all.

Revisions

For the 2024 GHG Inventory and all prior years, aviation emissions and commercial and industrial fuel oil emissions were removed as they did not reflect accurate emissions activity that occurs within the City’s boundaries. On-road transportation emissions were re-calculated to better reflect the growing share of electric vehicles within the City. As a result, updated emissions for all years prior to 2024 have been updated to reflect these changes.