

2018-2019 GHG Inventory

The 2018-2019 GHG Inventory report summarizes Spruce Grove’s estimated greenhouse gas (GHG) emissions for the years 2018 and 2019. The report also reviews trends in our GHG emissions over time and assesses progress towards our energy use and GHG emission reduction goals for 2035.

Highlights

- GHG emissions in 2019 from all community and local government (‘corporate’) sources were about 450,000 tonnes of carbon dioxide equivalents (t CO_{2eq}). This is the same level as 2015 despite our population increasing by about 16%.
- Total energy use in Spruce Grove has risen by 12% since 2015. However, energy use per resident has declined by 5%. This suggests we are becoming more energy efficient.
- Total GHG emissions per resident has fallen by 15% since 2015, from 14 t CO_{2eq} to 12 t CO_{2eq} in 2019. This suggests that in addition to being more efficient with the energy we consume, we are also consuming less GHG intensive energy. The primary reason for this is the greening of the provincial electricity grid.
- These are positive trends as we move towards our energy and GHG reduction goals for 2035.

What is included in these totals?

- The 2018-2019 GHG Inventory is based on a standardized methodology (The Partners for Climate Protection Milestone Tool) to estimate municipal GHG emissions, including what activities to include and exclude. Using this methodology, all direct GHG emissions from sources within the City of Spruce Grove and under the control of Government, residents and businesses are included, along with indirect emissions associated with purchased electricity. All other indirect emission sources linked to activities not under the control of Government, residents and businesses—typically taking place outside the City—are not included. The table below provides a few examples:

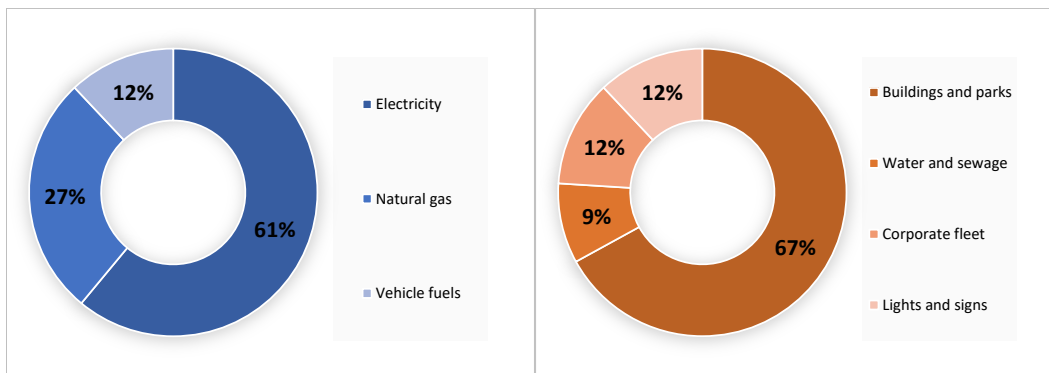
Included	Not Included
GHG emissions from driving vehicles registered to residents of Spruce Grove or owned by the City of Spruce Grove	Emissions from personal air travel or business travel
GHG emissions arising from generating, transmitting and distributing the electricity consumed by buildings in Spruce Grove	GHG emissions from the electricity used to produce the goods (food, clothing, electronics, etc.) and services (internet and cable) we consume
GHG emissions from solid waste produced within Spruce Grove disposed at landfill	GHG emissions associated with the transportation and distribution of purchased goods

Where do these emissions come from?

- Total GHG emissions are split into 'corporate' emissions (from City buildings and activities) and 'community' emissions (from residential, business and industry activities). Emissions from corporate sources made up 1.6% of the Spruce Grove's total emissions in 2019, with the remaining 98.4% coming from community sources.

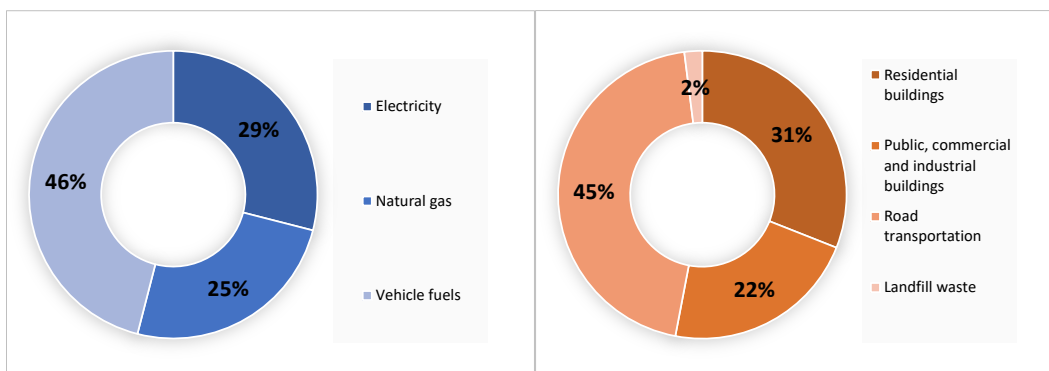
Sources of corporate GHG emissions

The two graphs below break down total corporate GHG emissions by energy source (left) and city sector (right). In terms of energy use, purchased electricity accounts for just under two-thirds of corporate GHG emissions, followed by natural gas (27%) and vehicle fuels (12%). The city sector with the largest GHG emissions is buildings and parks, followed by the city vehicle fleet, lights and signs, and water and sewage management.



Community GHG

The two graphs below break down total community GHG emissions by energy source (left) (which doesn't show landfill waste since it is not considered an energy source) and type of activity (right). In terms of energy use, vehicle fuels account for nearly half of GHG emissions, followed by electricity (29%) and natural gas (25%). The type of community activity with the largest GHG emissions is road transportation. This is followed by residential buildings; public, commercial and industrial buildings; and landfilled waste.



How well are we doing in reaching our targets?

In 2015 the City set an energy reduction and GHG reduction goal for both corporate and community GHG emissions. All goals were expressed as percentage reductions in per-resident emissions by 2035 relative to 2015. Our progress to date is summarised below.

Corporate energy and GHG emissions

- Corporate energy use per resident declined by 6% between 2015 and 2019, compared to the 2035 goal of a 40% reduction on 2015 levels.
- Corporate GHG emissions per resident declined by 27%, compared to the 2035 goal of a 50% reduction on 2015 levels.

Community energy and GHGs

- Community energy use per resident declined by 5% between 2015 and 2019, compared to the 2035 goal of a 25% reduction on 2015 levels.
- Community GHG emissions per resident declined by 14%, compared to the 2035 goal of a 35% reduction on 2015 levels.

We have made progress towards each of our 2035 goals, but there is still much more work to do.

Future Projections

The graph below shows how Spruce Grove's GHG emissions could evolve over time under three different scenarios. The top orange line illustrates how emissions would rise in line with projected growth in population assuming GHG emissions per resident remain at current levels. In other words, nothing further happens to reduce how much energy we consume or the GHG intensity of that energy ('Business As Usual' or BAU). The grey line shows how GHG emissions need to evolve over the next 15 years if we are to achieve our current collective reduction goals for 2035. The bottom green line shows one path our GHG emissions would need to follow to have 'net zero emissions' by 2050, which the Federal Government hopes to achieve in order for Canada to meet our commitments under the Paris Climate Agreement.

In 2021, the City will investigate the benefits and costs of a range of actions to put us on a path to achieve much more ambitious GHG emission reductions by 2050. Stay tuned for opportunities to have your say on what this looks like.

