Canada’s natural gas meets 38% of the country’s energy needs through the industry’s over 573,000 kilometres of world-class infrastructure. It is also the largest source of energy for the industrial and buildings sectors in Canada.

Given the current scale of gas consumption in Canada, ICF’s report, Potential Gas Pathways to Support Net-Zero Buildings in Canada, reinforces that planning for a net-zero future should not necessitate a choice between one energy system or another (i.e. gas or electric).

### Pathways to Net Zero

Currently in Canada, natural gas meets 38% of the country’s energy needs through the industry’s over 573,000 kilometres of world-class infrastructure. It is also the largest source of energy for the industrial and buildings sectors in Canada.

Given the current scale of gas consumption in Canada, ICF’s report, Potential Gas Pathways to Support Net-Zero Buildings in Canada, reinforces that planning for a net-zero future should not necessitate a choice between one energy system or another (i.e. gas or electric).

### Key Takeaways

1. Utilities in Canada are using a range of gas solutions to reduce emissions including energy efficiency, hybrid heating, and renewable gases. There are three pathways to reduce emissions in buildings. Each pathway is distinct from each other based on the combination of solutions used and the level of customer adoption. The 3 illustrative pathways can be summarized as:

   1. **Gas Energy Efficiency**
      - Significant adoption of gas heat pumps for space and water heating
   2. **Hybrid Heating**
      - Significant adoption of hybrid heating options that pair electric air source heat pumps with gas furnaces
   3. **Renewable Gases**
      - Small portion of residential and commercial customers converting to use 100% hydrogen by 2050 and high RNG levels

2. Where we are now

   - **Gas Demand GHG Reductions**
     - 35 million tonnes (43%)
     - 45 million tonnes (56%)
     - 24 million tonnes (30%)

   - **Renewable Gases GHG Reductions**
     - 34 million tonnes (43%)
     - 28 million tonnes (35%)
     - 44 million tonnes (55%)

3. **Scenario Reaches Net Zero Target**

   - **Energy Efficiency**
     - SaskEnergy’s Big Block Construction
   - **Hybrid Heating**
     - Énergir and Hydro-Quebec partnership
   - **Renewable Gases**
     - FortisBC, Enbridge, Énergir

4. **Renewable Natural Gas**

   - **Energy Efficiency**
     - Significant adoption of hybrid heating options that pair electric air source heat pumps with gas furnaces
   - **Hybrid Heating**
     - Significant adoption of hybrid heating options that pair electric air source heat pumps with gas furnaces
   - **Renewable Gases**
     - Small portion of residential and commercial customers converting to use 100% hydrogen by 2050 and high RNG levels

5. **There are 3 pathways to reduce emissions in buildings**

   - **Gas Energy Efficiency**
     - Significant adoption of gas heat pumps for space and water heating
   - **Hybrid Heating**
     - Significant adoption of hybrid heating options that pair electric air source heat pumps with gas furnaces
   - **Renewable Gases**
     - Small portion of residential and commercial customers converting to use 100% hydrogen by 2050 and high RNG levels

6. **Where we are now**

   - **Gas Demand GHG Reductions**
     - 35 million tonnes (43%)
     - 45 million tonnes (56%)
     - 24 million tonnes (30%)

   - **Renewable Gases GHG Reductions**
     - 34 million tonnes (43%)
     - 28 million tonnes (35%)
     - 44 million tonnes (55%)

7. **Offsets / Negative Emissions Reductions**

   - Carbon capture: ATCO’s proposed hydrogen project with SunCor

### Interesting in deeper insights?

Visit ICF’s webpage to download the full report Pathways to Net Zero in Canada report and learn how the exploration industry is powering pathways to lower emissions.