

Pathways to Net-Zero Emissions for Ontario

Study summary and recommendations

Study overview

While Ontario is on track to meet its 2030 emissions reduction target of 30 percent below 2005 levels, achieving net zero* will require more investment in renewables, lower-emission fuels and carbon capture.

Enbridge Gas engaged Guidehouse for the first comprehensive study of the path to net zero in Ontario. The study evaluates two pathways based on cost, emissions reductions, energy system reliability and resiliency.

Study findings

A diversified pathway that leverages both Ontario's gas and electric systems can achieve net zero, with greater:



Affordability

Achieves the same outcome as the electrification pathway at \$202 billion less cost.



Reliability

Meets the energy needs of Ontario homes and businesses, even on the hottest and coldest days of the year.



Resiliency

Protects against impacts from extreme events, such as weather and cybersecurity incidents.



Consumer choice

Allows Ontario energy consumers the flexibility to make choices on their path to net zero while minimizing costs.



Competitiveness

Provides more affordable energy to help businesses stay competitive and thrive.

These findings demonstrate the role gas infrastructure can play in delivering low-carbon fuels in each scenario. This is consistent with the findings of similar studies.

Study approach

Two pathways to net zero were evaluated

1

Diversified pathway[†]

A balance of electrification, low- and zero-carbon gas and carbon capture using gas infrastructure.

2

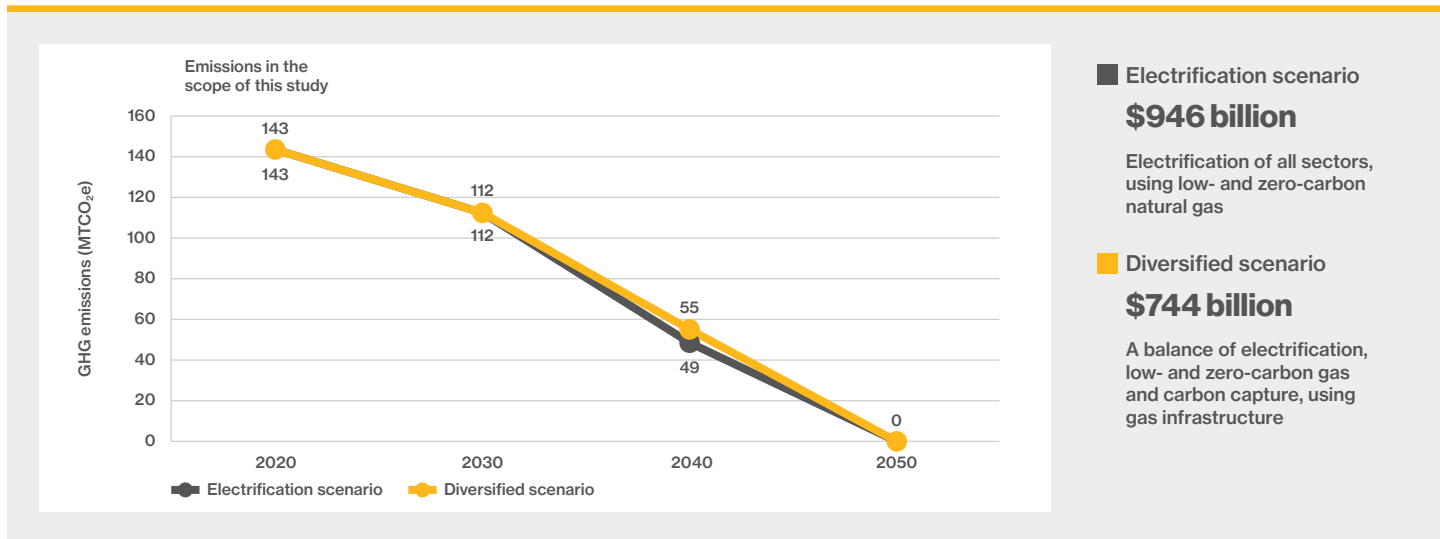
Electrification pathway

Deep electrification of all sectors, using low- and zero-carbon gas and carbon capture only when no alternative energy source exists.

* Enbridge Gas is addressing net-zero emissions from energy. † The study included sensitivity analysis which looked at how various changes in assumptions impacted the scenarios. The diversified scenario with hybrid heating was found to be the most optimal approach to a diversified pathway, therefore all results shown are based on this diversified scenario.

Both pathways can achieve net zero by 2050

The electrification pathway is projected to cost 27 percent more (\$202 billion).



Key considerations

- Post-2030 targets are only achievable if investments in innovative technologies are made today.
- Ontario's gas distribution system should be leveraged to reduce emissions beyond 2030, including net zero.
- Either pathway requires a significant scale-up of the electric system to meet increased demand.
- The lowest-cost pathway to net zero includes hybrid heating.

Safe bets to act on today

Regardless of the pathway chosen, there are actions that should be taken immediately.

- 1 Maximize energy efficiency**
Conservation is essential to success for any pathway to net zero.
- 2 Optimize and integrate energy system planning**
Maintain a reliable and resilient energy supply in Ontario by integrating gas and electric systems and planning. Hybrid heating is a good example of both systems working together.
- 3 Invest in low-carbon gas**
Hydrogen and renewable natural gas (RNG) play a crucial role in both pathways, particularly in the industrial sector.
- 4 Use carbon capture and storage (CCS)**
CCS is needed to produce low-carbon hydrogen and to decarbonize hard-to-abate industrial processes.

Questions about the study?

Contact our Energy Transition team and find the full report on our website.

 enbridgegas.com/pathtonetzero