PEMBINA Institute

SUBMISSION

Rethinking Ontario's Gas Use

Pembina Institute comments and recommendations

Submitted to Ontario's Ministry of Energy and Electrification

Regarding: Ontario's Natural Gas Policy Statement

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Recommendation summary

- Natural gas should only be used for important reliability services and emergencies in electricity generation, with plans for phasing down emissions.
- Future economic opportunities for the province hinge on pursuing non- and low-emitting sources of electricity and ramping up interties, batteries, and demand response for reliability.
- The role of natural gas in residential heating is diminishing as consumers switch to more efficient and economical options such as electric heat pumps. The government should allow the Ontario Energy Board (OEB) to decide how best to regulate the switch to maximize consumer savings.
- The government should continue to focus on improving efficiency standards for buildings and equipment to help temper rising demand and reduce the cost of Ontario's future electricity system.
- The OEB should consider all consumer energy costs, including both electricity and gas, in ratemaking proceedings to maximize total energy savings and facilitate future additions of other potential energy streams.
- The OEB should encourage efficiency by allowing utilities to earn a return on their investments in both capital assets and operational program costs, rather than the current approach which incentivizes them to build capacity and sell more electricity. Utilities should also be encouraged to minimize long term costs.

Introduction

Ontario has taken strides in its clean energy transition by rapidly phasing out coal, adding non-emitting sources, leveraging its vast hydroelectric resources and nuclear infrastructure, and making strategic investments in energy conservation efforts. However, emissions have been on the rise. While Ontario's grid was 94% emissions-free in 2020, this was down to 87% in 2024, and this trend is expected to continue. One of the key factors for increasing emissions is

forecasted growth in gas generation, which is anticipated to account for nearly a quarter of the province's electricity supply by 2030. This threatens to undermine Ontario's clean energy achievements and add unnecessary greenhouse gas emissions.

At home, Ontarians are reducing natural gas consumption through the electrification of end uses such as transportation, heating, and cooking. The declining role of natural gas in residential settings must be considered in the province's natural gas policy statement.

The current consultation, which follows the Integrated Energy Plan (IEP) consultation, is an opportunity for the province to critically examine the role of natural gas in the province's future energy mix. Any emergent natural gas policy must prioritize long-term advantages for Ontarians, acknowledging that reliance on gas would open up the province's energy system to price volatility and increased greenhouse gas emissions. As new non-emitting technology matures in a low-carbon world, developing new natural gas infrastructure creates a risk of expensive stranded assets that burden remaining gas ratepayers. The Electrification and Energy Transition Panel (EETP) recognized that an economy fueled by clean energy production, enhanced energy efficiency, and lower greenhouse gas emissions creates jobs, generates business, and invites more investments to the province.[1]

Discussion questions and recommendations

What principles should the government provide to the OEB to help inform the Board's ongoing development of natural gas connection policies?

The most important principle the government can provide to the OEB is independence. The OEB is an independent regulator, meaning they act impartially without bias, conflict of interest, or undue influence, and the government must not intervene in OEB proceedings other than through updates to the OEB's legal mandate or through annual letters of direction. Independent regulators are important to ensure consumers are protected from high prices in electricity's natural monopoly. They also support investment in the energy sector by creating a stable investment environment that is relatively unaffected by government decisions.

What role should natural gas play in supporting energy affordability and customer choice in residential and small commercial applications (e.g., space and water heating)?

The role of natural gas is waning in the residential heating sector. Heat pumps are more efficient than natural gas furnaces, and they are quickly becoming the most cost-effective option for most homeowners.[2] Upfront investment in heat pumps and clean electricity generation will help Ontarians save money on their energy bills for several reasons. First, heat pumps provide both

heating and cooling and can be more affordable upfront than installing a furnace and an air conditioner in a new home. Heat pumps are also more efficient, reducing operational costs relative to a natural gas furnace. Finally, building new gas infrastructure is a financial risk for Ontario ratepayers. This infrastructure is unlikely to be used for very long as more people make the economical switch to electric heat pumps, leaving behind expensive stranded assets and a small number of remaining gas consumers to pay for them.

The last point also applies to natural gas stoves. Electric stoves do not pollute indoor air with nitrogen dioxide,[3] and researchers find similar or better cooking performance from electric.[4] In the U.S., despite about half of homes having access to natural gas, about 70% have electric stoves.[5] Aside from high costs and health impacts today, gas stove users will bear an increasing cost burden for gas infrastructure as more people opt for affordable electric cooking options.

What role should natural gas play in supporting economic development in Ontario's industrial and agricultural sectors, including those processes that may be difficult to electrify?

Natural gas should play only a transitional role in Ontario's industrial sectors. The transportation sector is rapidly electrifying, while other industries have also begun to transform, including hard-to-abate sub-sectors. A recent example is the electrification of Algoma's steel furnaces, which is set to be completed in 2029.[6] Another example is the recent announcement on the completed Chatham-Lakeshore transmission line, which added 400 MW of clean and affordable electricity to support the Windsor-Essex region, increasing reliability for its industrial sector and providing business certainty to the Stellantis-LGES battery plant.[7] These examples indicate that, while existing natural gas offers support as sectors switch to cleaner sources of energy, the energy transformation is well underway and lower-emitting sources are a more attractive economic option that will ensure the continued growth of Ontario's industrial sector.

What role should the government play in supporting and expediting the rational expansion of the natural gas system to make home heating more affordable and support economic growth in communities that are seeking natural gas service?

The government should enable the OEB to oversee any future expansion of natural gas. Instead of supporting natural gas expansion, the Government of Ontario should double down on energy efficiency. The government's recent $10.9 billion investment in energy efficiency programs is a step in the right direction, demonstrating a commitment to a cleaner, more cost-effective energy future.[8] Higher efficiency standards for buildings and equipment would help temper electricity demand, reducing the burden on and cost of Ontario's electricity grid. Consuming less energy overall is more cost- and time-effective than finding new ways to quickly produce cheap

electricity. This would buy the province more time and resources to modernize the grid and prepare for the age of electrification.

For natural gas expansion projects receiving government support, should the approvals processes be streamlined to support affordable home heating for Ontarians? In what ways?

Natural gas expansion approval processes should remain at the discretion of the OEB. The OEB should independently evaluate any expansion of the natural gas network, prioritizing long-term financial sustainability over short-term convenience. For example, OEB decided that Enbridge should use a revenue horizon of zero years when determining the economic feasibility of new gas connections due to the pace of home heating electrification and the risk of the costs of stranded gas assets falling on a shrinking set of future customers. The OEB found that Enbridge had not adequately assessed this risk, and the plan would result in "an overbuilt, underutilized gas system."[9] The OEB's decision should be upheld as it considers the long-term financial impacts of new gas infrastructure on consumers and ensures that distributors' proposals reduce consumer risk and are in line with the current energy landscape.

What role should natural gas play in supporting power system security and resiliency?

Total natural gas generation is set to decline in the coming years, particularly as nuclear refurbishments are completed, and new transmission infrastructure enables better movement of clean electricity to locations that have historically relied on gas plants. Natural gas generation will play a critical role in ensuring reliability, and in emergency scenarios, but it is imperative that its emissions decline, so its use should decline as well except in times of extreme need.

Maintaining Ontario's clean and reliable electricity supply is best achieved by including a diverse, flexible set of options such as interties, batteries, and demand response capable of balancing generation and load in a variety of circumstances. Gas-fired power plants can be impacted by temperature extremes, as seen in Alberta and Texas in recent years.[10] In high temperatures, gas plants are less efficient due to technological limitations like decreased cooling capacity and a reduction in intake air oxygen. In cold temperatures, there is a risk of gas supply and power plant components freezing. Ontario faces the challenge of both hot summers and cold winters.

Moreover, a robust energy system is one that remains economically stable and affordable for residents in the long run. However, Ontario has been a net importer of natural gas from the United States since 2009, and should not increase this economic burden by increasing its demand for gas.[11] Gas rates fluctuate and are subject to geopolitical changes both domestically and internationally, which matters especially when considering energy policy changes south of

the border.[12] In January 2025, gas rates in Ontario have already increased following the approval of Enbridge's rate application.[13] These cost uncertainties call for growing clean electricity supply, which has little to no operating costs compared to natural gas generation, does not need to be imported, and is more economically attractive in the long term.

Ontario has built a reputation for being a leader in the clean energy space and has attracted valuable industry investment as a result. Today, clean energy is becoming the norm around the world. Relying on gas generation beyond critical reliability services and emergencies would push Ontario back from the leading edge and could jeopardize future economic opportunities.

Economic opportunities of the clean energy transition are substantial. Public and private investment in climate action has grown nationally by 50% since 2021, but it must continue to grow from $22 billion to $60 billion a year to make net-zero by 2050 a possibility.[14] Building out clean energy assets to help meet Ontario's anticipated 75% increase in electricity demand by 2030,[15] rather than relying on natural gas generation, can help the province take advantage of private investment dollars.

What role should natural gas play in offsetting higher GHG-emitting fuel sources?

Ontario successfully phased out coal-fired electricity generation in 2014, which enabled the province to produce 94% of its electricity from zero-carbon sources in 2020.[16] For grid-connected electricity consumers, natural gas is the highest GHG-emitting fuel source that is used to generate a significant amount of electricity. Petroleum produced only 0.1% of Ontario's electricity in 2021; the province's other generation sources are uranium, hydro, wind, solar, and biomass.[17] These options have far less — if not zero — emissions compared to natural gas.

However, there are communities in Ontario that are not grid connected and that have been relying on diesel generation. Seventeen of these communities have been, or will soon be, connected to the grid through the new Wataynikaneyap Transmission Project. Additional electricity generation will be needed to continue electricity supply to these communities and to others looking to be grid connected. The new transmission line also maximizes Northern Ontario's wind and solar potential, enabling affordable, clean generation to meet both local needs and electricity demand elsewhere in the province.

What are the challenges and opportunities for enhanced energy efficiency, adoption of clean fuels (e.g., RNG, Hydrogen) and emission reduction methods (e.g., carbon capture and storage) to lower emissions in the natural gas system?

Rather than focusing on reducing emissions in the natural gas system, it would be more effective for the Ontario government to bolster clean electricity generation and facilitate end use electrification to reduce emissions. In the transportation space, Ontario should focus on

enabling Canada's commitment to having all new light-duty vehicles for sale be 100% zero emissions starting in 2035.[18]

For residential heating, RNG and hydrogen are often cited as potential solutions for reducing emissions while maintaining traditional natural gas heating technology. However, there is not enough RNG supply potential to offset natural gas use,[19] and hydrogen can only be integrated in the natural gas system for buildings at low percentages.[20] New gas infrastructure being built under the assumption that gas can simply be replaced by clean fuels in the future will also result in costly stranded assets and will not be impactful in reducing greenhouse gas emissions. And for consumers, the cost-effective move is to switch from natural gas furnaces to electric heat pumps.

The role of natural gas is waning in the electricity, buildings, and transportation sectors, and it would not be prudent to spend valuable resources to offset or lower emissions from the system when longer-term and more scalable solutions are available. Energy efficiency is an example of a better solution that can help reduce both the emissions and cost of Ontario's energy sector.

The OEB also has an important role to play in enabling efficiency and energy cost savings for Ontarians. The OEB can incentivize energy efficiency measures by implementing rate structures that consider a utility's total expenditures (TOTEX) when calculating their revenue allowance. Currently, only capital expenditures are considered, which incentivizes excess energy production and consumption. The OEB should also plan for a net-zero energy system by considering utility proposals that present low-regret options for infrastructure buildout that minimize future costs. Optimizing for the lowest cost system in the present creates a risk of exponentially higher costs in the future as emissions reduction needs become immediate. For example, electric vehicle uptake is expected to increase, so distribution service upgrades should be allowed to be justified through forecasts, not just from the extrapolation of historical trends that may underestimate the growth of new technologies.

Conclusion

Ontario is at a critical point in its energy transition. The province's clean energy reputation has been a significant asset, attracting investment and positioning it favorably in the global shift towards decarbonization. However, this advantage is at risk if Ontario increases its reliance on natural gas to meet rising electricity demand. To maintain its economic competitiveness, Ontario must prioritize a diverse and flexible energy mix that emphasizes clean sources, energy efficiency, and innovative technologies, and keep gas for emergency situations only. This approach aligns with global decarbonization efforts and offers substantial economic opportunities.

The OEB plays a critical role in this energy shift and needs to leverage its expertise to independently evaluate and approve future natural gas projects and expansions in both grid and residential applications, while prioritizing affordability for Ontarians. Future gas development, whether it be a natural gas generator or a gas pipeline to supply new homes, could leave Ontarians on the hook for expensive stranded assets. The OEB's recent decisions have shown that it considers the long-term interests of energy consumers in its regulatory proceedings, and it should be trusted to continue doing so as the province navigates a changing energy landscape.

The provincial government has an important role in maximizing opportunities to reduce demand through efficiency measures and envisioning Ontario's clean energy future. By leveraging its clean energy advantage, embracing innovation, and implementing smart policies, Ontario can secure its position as a clean energy leader, drive economic growth, and ensure a secure, resilient energy future for all its residents.

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