

Submission to Thorold City Council with respect to Northland Power's proposed Gas Plant project

Introduction / Climate Change

It is great to see that the Niagara Region Strategic Plan places a priority on a "Green & Resilient Region", with a guiding principle to "Keeping climate change in mind when making decisions".

I'm sure we've all seen the climate-related news over the past couple of months in Canada and around the world, which has highlighted:

- The hottest-ever recorded average temperatures on land and sea
- Record low levels of Antarctic Sea ice
- Unusual heat waves, destructive storms, heavy rainfall & flooding, wildfires & air quality warnings

The frequency and severity of these events is unequivocally a result of climate change and directly linked to greenhouse gases (GHGs) produced from the extraction, processing, transportation and burning of fossil fuels, including fossil gas (cleverly marketed as "natural" gas). Unfortunately, with every fraction of a degree that Earth gets hotter, the frequency and severity of extreme weather events will increase. On our current trajectory, it is inevitable that at some point there will be so much property loss and crop damage from climate change that the majority of people around the world will struggle to find affordable food and shelter.

It is clear that we must urgently wean ourselves off fossil fuels in order to build a livable future for ourselves and for the generations who come after us. As Canada and the world transition building and transportation systems to electricity, it is imperative that our energy generation be as non-climate-polluting as possible.

When it comes to this proposed gas plant in Thorold, I believe that the UN's IPCC Special Report on Global Warming states sums it up nicely: "Every bit of warming matters, every year matters, every choice matters".

(Please see references 1 through 5)

Ontario's Current Energy Plan

The proposed Thorold Gas Plant will cost Ontario taxpayers more than \$700M (over 14 years) and is part of a \$4B plan that will increase the province's gas-fired power generation from 4% in 2017 to over 25% by 2043. This will result in GHG pollution from gas-fired power plants increasing by more than 300% by 2030 and over 700% by 2040. Instead of supporting Canada's plan to decarbonize the country's electricity grid and the world's plan to reduce GHGs by up to 50% by 2030, this plan is clearly taking us in the wrong direction.

From an economic perspective, Ontario needs an energy plan that will make living more affordable as well as attract investments to the region, including businesses looking to lower their GHG emissions and stay competitive in a world of increasing fossil fuel costs. Once again, Ontario's current plan does the exact opposite:

- Renewable energy like solar & wind are more cost-effective in generating electricity than burning fossil gas, and the cost of renewable energy is continuing to decrease

- Going forward, the cost of fossil fuels will continue to increase as carbon taxes rise and government subsidies to the fossil fuel industry are removed

Also note that the province's current plan includes multi-year guaranteed contracts that commits an estimated \$4 Billion of Ontario's hard-earned taxpayer dollars to pay for energy that may rarely if ever be produced, as federal legislature will likely result in the phase out of gas plants after 2035.

Gas-burning 'peaker' plants used <5% of the time is an extremely wasteful, expensive & inefficient solution to our energy needs. Just imagine how many wind, solar, geothermal and energy storage projects could be funded across Ontario with the \$4B that will be virtually thrown away if projects like the Thorold Gas Plant is approved.

(Please see references 6 through 11)

A Better Way to Meet Ontario's Electricity Needs

As per the Dunsky Report commissioned by Ontario's Independent Electricity System Operator (IESO), the province can cost-effectively avoid the need for new gas-fired peaker plants by:

- Implementing demand response measures (Shifting electricity demand from peak to off-peak) / energy efficiency programs
- Investing in renewable energy and clean energy storage

Furthermore, the province can obtain additional electricity to manage peak requirements with increased energy security, while continuing to attract investments to the province by:

- Procuring hydropower from Quebec
- Allowing producers of renewable energy to provide electricity to the grid during peak demand

Please note that Ontario's peak electrical power requirements currently occur late in the day during the summer months while Quebec's energy peaks typically occur during winter months.

Put another way, demand response measures along with increased capacity from renewables can reduce peak requirements, while Quebec hydropower and additional energy storage facilities can supplement Ontario's existing gas-fired plants to manage the remaining peaks.

Even more interesting, and desirable, is the theoretical plan devised by the IESO to phase out gas plants by 2030. It stated that we would need an additional 5 to 6 GW of energy capacity. We know this is achievable because between 2009 and 2016, Ontario built over 5 GW of solar and wind power, and we can do this again. This is the path Ontario needs to be taking in order to provide the clean energy we need for the future.

An efficient, reliable and environmentally friendly electricity grid consists of a well distributed and meshed network of renewable energy sources supported by green energy storage facilities. Even historical fossil fuel advocates have now moved away from supporting the need for fossil gas:

- Royal Bank of Canada says that gas-fired power plants are not necessary, and we can save \$500 million per year by investing in energy efficiency and demand management instead

- The International Energy Agency’s advice to energy decision-makers around the world now states “The key is to avoid spending on infrastructure that would either lock in heavy emissions for years to come or quickly turn into stranded assets.” Which is likely the case if Ontario builds gas plants this decade.

Enough is enough! It is well past time for us to say ‘no more fossil fuels’ – We don’t need them. Our first step is to stop increasing the burning of more fossil fuels.

(Please see references 12 through 21)

Burning Fossil Gas / The Truth about RNG

Northland Power is attempting to ‘green’ the project by offsetting their fossil gas use by purchasing so-called Renewable Natural Gas (RNG), which is essentially more clever marketing spin by industry. Naturally occurring and truly renewable sources of energy comes from solar, wind and geothermal, not from potentially avoidable polluting waste. Regardless, as the proposed gas plant would not use RNG directly, it will simply continue to support the extraction, processing, transportation and burning of fossil gas, which utilizes destructive hydraulic fracking techniques that contaminates local water supplies and can trigger earthquakes.

Once in the pipes, so-called RNG, which is essentially refined Biogas, is the same as fossil gas, which is mostly methane. Fossil gas, or methane, contrary to the marketing from the gas industry, is not a clean source of energy.

- Biogas and Fossil Gas frequently leak during processing, transportation and storage, spewing polluting methane, ‘volatile organic compounds’ (VOCs) and hydrogen sulphide into the atmosphere
- Leaked methane is a powerful GHG that warms the atmosphere >80 times more than carbon dioxide (CO₂)! The warming effect of methane causes more frequent wildfires, which means more particulate matter (pollution) in the air.
- Methane’s presence in the atmosphere also leads to the formation of ozone (one of the main components of smog)
- Burning methane results in climate polluting CO₂, as well as black carbon, nitrogen oxides and more VOCs. This air pollution has a direct impact on residents who live near the gas plants.

When we breath leaked and/or burned methane, we inhale a toxic cocktail of gases that has been linked to severe health problems such as preterm birth / birth defects, cancer, cardiovascular (heart) disease, nervous disorders, severe respiratory problems like asthma, diminished mental health and increased pre-mature death.

As for biogas itself, we would be better served to focus on reducing biogas emissions overall, instead of looking for ways to turn it into electricity. Instead of burning it, we should be implementing existing solutions to minimize waste from agricultural, industrial, commercial, and household sources.

Let’s also be aware that purchasing RNG offsets would result in higher electricity costs, as biogas is extremely expensive relative to fossil gas.

We should also be concerned that, similar to all types of ‘carbon offset’ schemes, Biogas/RNG accounting and regulations are immature and untrustworthy. It is fairly common for the same offsets to be sold to different customers more than once, double or triple counting. While Northland’s partner Tidal Energy will assure you

there will be no double counting, I would suggest we take anything proposed by an Enbridge company with a grain of salt. Just look at their recent attempt to justify expanding infrastructure across Ontario by referencing a fundamentally flawed study that Energy Futures Group characterised as “highly biased” in favour of gas and thus “not credible” and the Industrial Gas Users Association characterized as “unreliable”.

To be fair, limited use of biogas could play a niche role in a green energy future, however, only if it is sourced naturally and directly/safely feeds a specific industrial application where renewables are not technically possible. That is not the case for the proposed Thorold Gas Plant. The Climate Crisis is dictating that we do not take any more steps that support the potential growth of fossil fuel infrastructure. We cannot continue to allow tactics from legacy industries to unnecessarily delay the implementation of renewable energy and storage solutions any further.

(Please see references 22 through 28)

Other Considerations of Proposal

While \$700M could be spent over the lifetime of the proposed gas plant, the majority of this money would flow outside of the region to purchase equipment and fossil gas. In terms of financial benefit to Thorold and Niagara Region, some local restaurants/shops might pick up some extra business and the City of Thorold will obtain increased revenues via new property taxes and one-time development/permitting fees. However, I would suggest that these financial gains are mostly temporary and I hope you would agree, is certainly not worth the cost of worsening local pollution and the Climate Crisis.

Some temporary general construction jobs may be provided to Thorold residents, although this build will be competing for resources with much-needed housing projects in the region. Jobs requiring special gas-plant skillsets will likely require recruitment from outside of the Niagara region.

As federal legislation, international agreements, and business pressures/opportunities is driving the world towards a clean energy future, Thorold would be better served by supporting “green initiatives” that provide long-term employment for the residents of Niagara Region. Recent studies have shown that:

- Every dollar invested in large-scale solar or wind projects could generate almost double the number of jobs than is possible with building gas-plants
- Residential retrofits (ex. heat pumps) could generate up to six times as many jobs as the same investment in gas-fired electricity

If Ontario does not want to be economically left behind the rest of the world, we need to stop supporting the dying fossil fuel industry and aggressively embrace the new green economy rolling out around the world.

(Reference numbers 29 through 31)

Canada’s Climate Change Accountability

Some of you may know that cumulative CO2 emission reports list Canada as directly responsible for around 2% of global emissions. The truth in fact, is much more complicated than that. Even if it was as simple as that, Canada would rank in the top 10 of the most climate polluting countries in the world. FYI - The USA is historically

responsible for the most climate pollution by far, although China has been responsible for the most emissions the last several. So, if the USA, China, India and Russia were to reduce their annual emissions to zero, which is unlikely, we would still be left with over 40% of global emissions. Therefore, every country in the world must do their fair share to reduce emissions, and Canada must be a key player on the world stage for people around the globe to have a chance of a livable future!

As for the complication... The fact is that Canada is the 4th largest oil producer and 3rd largest oil exporter in the world. If Canada was to take accountability for the 80% of our oil that is exported, we would surely rank as one of the top 5 worst climate polluting countries on the planet!

When it comes to reducing GHG emissions, Canada unfortunately has been doing very little to mitigate climate change. Canadians rank in the top 3 of the most climate polluting people in the world (per capita emissions with countries with pop. >10M). Only Saudi Arabians and Australians spew more climate pollution into Earth's atmosphere than Canadians do. Relative to our G7 peers, Canada is the only country with out-of-control CO2 emissions. Since 1990, Canada's emissions have increased by >20%, while for example, the UK and Germany's emissions are down >40% and 35% respectively and even the USA has managed modest reductions.

It is perfectly reasonable to conclude that Canada must take immediate action to do our fair share and catch-up with the rest of the world in attempting to mitigate climate change!

(Reference numbers 31 through 37)

Summary / Request

As per the experts, climate change is a serious threat to a livable future, is happening now, and will get a whole lot worse if we don't stop burning fossil fuels, including fossil gas in electricity generating facilities. As a major contributor to climate change, Canada must take responsible actions NOW to halt the increase of our GHG emissions.

Ontario's current plan will unnecessarily increase GHGs while practically throwing away \$4B which could be put to much better use by investing in less polluting renewable energy like wind, solar, and geothermal as well as green energy storage solutions. Extracting, processing, transporting & burning fossil gas results in GHG emissions and dangerous global warming, while an additional Gas Plant in Thorold will increase local air pollution which increases the risk of resulting health problems for city residents. RNG offsets do not change these facts.

Economically, now is not the time for Ontario to become less competitive on the world stage by increasing GHG emissions. IMHO, the City of Thorold would be better served by supporting "green initiatives" that provide long-term employment for residents and invest in a green electricity grid that will continue to attract businesses to the Niagara Region.

In conclusion, I would like to live in a community that is working towards mitigating Climate Change by reducing the country's GHG emissions, not be part of a horrible plan that will make the problem worse!

Please - Pass a resolution to oppose this gas plant expansion project.

References

Introduction / Climate Change

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