

IESO Engagement

From: Gordon McDowell
Sent: May 27, 2021 9:26 PM
To: IESO Engagement
Subject: Re: nuclear todo

IESO,

Ontario was able to decarbonize almost exclusively with nuclear power and hydro power. Could PNGS refurbishment be included when IESO evaluates different means by which Ontario's grid can stay clean?

Not refurbishing could be a huge step backwards for clean air and climate. OPG has invested some 2.8 billion dollars in gas plants to meet the generation shortfall, and Ontario has around 10GW of gas in total sitting mostly idle on the grid that can be called upon to fill in this gap.

The closure of PNGS is going to drastically increase gas on Ontario's grid. PNGS produces 21,000 GWh of clean electricity. This could result in emissions of 10,290,000 tonnes of GHG per year. If a carbon tax is applied to these plants, it would result in a cost of \$514 million per year.

The 95% made-in-Ontario CANDU supply chain means that every dollar spent on nuclear energy stays in Ontario and countless jobs are saved at PNGS and created throughout the province. The same cannot be said for gas which requires a tiny fraction of the workforce and depends on fracked gas from the USA. If OPG is unwilling to refurbish Pickering, Bruce Power should be given the opportunity.

The alternatives to replacing gas without nuclear energy are severely constrained. Ontario's hydro electric resources are largely tapped out. Wind and solar are ill equipped to put a significant dent in gas and actually lock it in as a necessary back up for their intermittent and erratic production, as documented by the Ontario Society of Professional Engineers. In addition, wind in particular produces out of sync with peak demand in Ontario leading to significant curtailment and negative pricing on Ontario's exports.

There is talk about using hydro from Quebec as a replacement for gas generation in Ontario. This would require prohibitively costly and politically unpopular transmission upgrades and make Ontario exceedingly vulnerable to political and extreme weather based interruptions in supply. Further, Quebec experiences electricity shortfalls and actually imports electricity from Ontario during its peak demand in winter due to use of electricity for heating.

The other irony of using Quebec electricity to replace PNGS output is that clean hydro from Quebec is currently exported to replace gas and coal generation in New Brunswick, New England and New York. If the rationale for eliminating gas from the Ontario grid is climate change, shifting Quebec hydro from replacing fossil to replacing nuclear makes no sense. Climate and air pollution do not respect national or provincial boundaries.

Refurbishment of PNGS should be included in any discussion of a possible gas phaseout for Ontario. Bruce Power should be offered the option of undertaking the refurbishment and continued operation of PNGS.

Sincerely,
Gordon McDowell

(Born in Toronto, currently living in Calgary.)