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IT'S TIME TO GROW ONTARIO'S NUCLEAR Advantage

MEL HYATT, POWER WORKERS' UNION PRESIDENT

Using the past months, Ontario has been focused on attracting jobs and investment to the province. Clearly, the proceeding refurbishment of our province's ten nuclear reactors over the coming decade is demonstrating the benefits delivered by this clean, Ontario energy advantage. Taking the necessary steps to build new "made in Ontario" reactors today, is the best way to sustain these benefits in the future.

The underway refurbishment of Ontario's reactor fleet is generating tens of thousands of jobs and spending billions of dollars in our province. **Ontario Power Generation's Darlington refurbishment is estimated to increase Ontario's nominal gross domestic product by about \$14.9 billion (B), and a total of \$89.9B when 30 more years of station operations are included.** About 96% of the project cost will be spent in Ontario and about 14,200 jobs will be created between 2017 and 2055.

Bruce Power's refurbishment program between 2020 and 2036 is estimated to create and sustain about 22,000 jobs across the province annually and inject about \$4B per year into Ontario's economy.

Ontario became a world leading developer of nuclear technology out of necessity. Our province does not have the hydroelectric potential existent in Manitoba and Quebec. As well, we import almost all of the natural gas and oil needed to power our economy.

Building new reactors is the best option.

While significant progress has been made to advance small modular reactors (SMRs), commercialization is not expected until the 2030s. Distributed energy resources or DER that link intermittent wind and solar generation to back up storage batteries with IT and smart controls are another option.

Some advocates – multi-national companies, technology developers, financiers and prosumers – see the opportunity to capture a share of the electricity sector's solid revenue streams. Ontario's local distribution companies, mostly government owned, are partnering with the private sector and asking for these activities to be outside the regulatory process.

How will the costs and benefits be defined and shared among the consumers and shareholders? Who pays for stranded assets as Ontario's bulk electricity system is "balkanized" and reconfigured by the new players? Who manages the toxic wastes from millions of solar panels, thousands of wind turbines and unknown numbers of batteries?

Independent analyses demonstrate that nuclear energy is among our most affordable power

sources. And our government decision-makers and Canadian businesses increasingly recognize the economic and environmental benefits. The facts suggest it's time Ontario invested in new nuclear reactors.

Neither situation ensures long-term energy security for Ontario.

In the 1970s, Ontario partnered with the federal government to develop the CANDU nuclear technology. Today, it's a \$6B plus per year industry supporting over 60,000 direct and indirect jobs.

And it's an industry that's achieving significant advancements in medicine, agriculture, industry, water desalination and space exploration. For example, Canadian companies supply 75% of the world's Cobalt 60, which is used for cancer treatment.

Besides these benefits, Ontario's nuclear electricity workhorse safely and reliably provides about 60% of our electricity today. That's good news on the climate change front too, given the dire conclusions reached about global warming in a special Intergovernmental Panel on Climate Change report. Ontario's continued use of nuclear energy will displace about 30 million tonnes per year of carbon dioxide or 3.8% of expected emissions in 2030 (as compared with natural gas – NRCAN).

So why is it important now to start planning for new nuclear reactors in Ontario? In the near-term, Ontario will need more low-carbon, affordable electricity when the Pickering Nuclear Generating Station retires in 2024 and when more of the province's nuclear reactors are being refurbished. In the longer-term, analyses show further electrifying the economy with reliable, low-carbon, low-cost electricity can create thousands of jobs and billions in GDP while reducing greenhouse gas (GHG) emissions.





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