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The Future of Electricity Supply in Ontario

The key to Ontario's strong and resilient economy over the last century has been bold decision-making on the energy file. In the electricity sector this has involved not just long-term forecasting and planning, but decisions to embrace new technologies that offer significant benefits to the people of Ontario – whether it be cost, reliability, cleanliness, or resource availability.

The best example of this foresight is Ontario's fleet of nuclear power reactors, which has benefitted Ontarians with clean, safe, and reliable baseload electricity for over fifty years, and today supplies about half the electricity consumed in the province. Through a unique partnership of federal, provincial, and private-sector interests, Ontario pioneered the CANDU reactor technology that leads the world today in fuel efficiency and safety.

A reliable electricity grid is one based upon a diverse suite of technologies in strategic locations, planned with priority given to cost, reliability, natural resources, environmental impact, and dispatchability (i.e., capability of being employed when needed). These planning decisions are not easy, and must increasingly balance social expectations with technical merits.

For example, the decision by the Ontario government to invest in nuclear technology in the 1950s was not a simple one, and it is not simple today. Significant capital is needed, along with a relatively long planning horizon, and public outreach must be thoroughly embraced as this is probably the technology option that Ontario citizens know the least about.

The pay-off for making this bold decision has been enormous: nuclear-generated electricity has reliably underpinned Ontario's economy for half a century, with low emissions during its entire fuel cycle, a domestic low-cost fuel supply, a waste stream that is easily managed in both the short and long terms, and a safety record that surpasses that of any other commercial energy technology. The presence of the nuclear fleet in Ontario has provided stability for electricity rates in the province, and provided a foundation for the development of non-dispatchable renewable technology like wind and solar.

The CNS is concerned that the suggestion of slowing the pace of nuclear refurbishment or new-build in Ontario may compromise the province's capability to provide low-cost, low-emission electricity. This situation arises due to the relatively long timeframe required for these major projects. It is therefore important that any strategy of nuclear deferral take into account the environmental cost associated with increased reliance on renewable and fossil power. Moreover, it should be made clear in public documents that increased reliance upon less reliable, non-dispatchable technologies, like wind and solar, does mean increased use of fossil fuels to offset the supply shortfall.

The Ontario government is encouraged to continue to make bold decisions regarding long-term electricity supply, which must include a significant contribution from nuclear technology if economic stability, environmental responsibility, and high-tech, cutting-edge jobs are goals for the province under its stewardship.