Westinghouse Electric Company appreciates the opportunity to provide input for Ontario's Integrated Energy Resource Plan (IERP). As a Canadian company and global leader in nuclear technology, we are committed to supporting Ontario's vision to meet growing energy demands, maintaining affordability and reliability and positioning the province as an energy superpower.

On October 16, 2024, the Independent Electricity System Operator (IESO) released its updated demand forecast, projecting a 75% increase in Ontario's electricity needs by 2050, up from the 2024 Annual Planning Outlook (APO) forecast of 60%. The updated demand forecast also highlights that annual electricity demand in 2035 will be 12 TWh higher than originally predicted. This increase reflects not only industrial growth but also broader socio-economic expansion across the province.

Additionally, the recently released *Ontario's Affordable Energy Future: The Pressing Case for More Power* emphasizes Ontario's nuclear advantage and underscores nuclear power's essential role in providing baseload electricity while tapping into export opportunities.

What policy options and actions should the government consider in the integrated energy resource plan to achieve Ontario's vision for meeting growing energy needs, keeping energy affordable and reliable, ensuring customer choice and positioning us to be an energy superpower?

The Westinghouse AP1000® PWR is the only Generation III+ reactor in operation globally, making it capable of being on the grid in the province by 2035. With 6 units already deployed, and an additional 12 units under construction, the AP1000 Project offers Ontario a unique opportunity to meet rising energy demands while advancing its leadership in the nuclear sector. The Westinghouse AP1000 reactor is fully operational, eliminating many of the design, licensing, and construction risks associated with unproven technologies. This combination of speed to deployment and project certainty converts into the best outcome for Ontario rate payers.

Westinghouse believes that Ontario's urgent and substantial need for additional clean, reliable power provides ample opportunity for Canada to support multiple nuclear technologies, addressing both immediate and long-term energy demands. The Westinghouse AP1000 reactor can be deployed on an accelerated timeline, meeting Ontario's pressing energy needs and helping achieve 2035 and beyond targets. This rapid deployment would allow other nuclear technologies still in development to advance at the responsible pace required to manage the schedule and cost risk, inevitable with bringing any new reactor to market, and still play a vital role in future energy supply.

A decision to deploy proven AP1000 technology in concert with developing and building out a FOAK Monark opens-up significantly more access to the global export markets for the Ontario nuclear supply chain. Light water reactor technology (LWRs) such as the AP1000 power 90% of the global nuclear fleet and the remaining market share are heavy water reactor (HWR) technologies like CANDU / Monark. Canada would be in the enviable position of having two Canadian-owned technologies capable of competing for 100% of the large reactor market globally. As Ontario builds out its domestic fleet it should consider the sizeable opportunity represented by a world that is increasingly viewing nuclear power to be part of its energy mix.

By supporting multiple technologies, Ontario can solidify its position as a global leader in nuclear innovation, modernize the provincial reactor fleet, strengthen its supply chain and provide diverse, secure and sustainable energy solutions.

Ontario's government could empower its utilities to make its appropriate technology selection regarding deployment time, certainty cost and economic impact. To that end, Westinghouse encourages the province to continue to work with the Federal government, particularly pertaining to clear expression of Federal support mechanisms agnostic of technology for new nuclear deployment.

What opportunities exist to further capitalize on Ontario's leadership and expertise in nuclear technology and nuclear innovation?

The deployment of the AP1000 Project in Ontario would generate significant economic benefits, creating tens of thousands of highly skilled jobs during construction, operation and maintenance phases. It would also strengthen local supply chains by leveraging Ontario's existing expertise in nuclear manufacturing and contribute to long-term regional and economic growth by enhancing energy security and export potential.

When considering supply chain and employment, approximately 60% of the AP1000 Project deployment expenditure will be focused on the construction phase, utilizing largely local workers. This phase will require skilled tradespeople, engineers and project management professionals from Ontario. Westinghouse will prioritize local workers, and generate high-quality jobs, while contributing to the province's economy.

Westinghouse's Canadian operations, headquartered in Peterborough, Ontario, with over 250 employees, will play a central role in integrating this supply chain. The company's expanding Canadian presence includes a new engineering hub in Kitchener, Ontario, which is expected to employ over 200 engineers, further reinforcing the province's engineering expertise in nuclear technology.

Westinghouse's commitment to leveraging local procurement aligns with Ontario's broader goals of fostering job creation and regional economic growth. The deployment of an AP1000 Project will tap into multiple sectors, including construction, engineering and manufacturing, benefiting communities across Ontario.

The remaining 40% of the Project's make-up will involve critical components such as modules, containment vessels, shield buildings and steam generators, amongst others. Currently, around half of this work is expected to be sourced from within Ontario and Canada, with local manufacturers playing a key role in supplying advanced components. This translates to a total of 80% Canadian content for the AP1000 Project deployment in Ontario.

Local suppliers would involve:

- Construction, engineering and management firms
- Manufacturing of large structural fabrications
- Nuclear steam supply system (NSSS) components

- Mechanical modules, pumps, valves, cranes and electrical systems

The AP1000 technology is being deployed around the world and an AP1000 Project in Ontario will strengthen the province's position as a global hub for advanced nuclear technology. Canadian suppliers involved in an Ontario project will support future AP1000 technology installations worldwide such as Ukraine, Poland and Bulgaria, connecting Ontario businesses to additional and *tangible* international markets. The recent Letter of Interest (LOI) for $2.02 billion CAD in financing from Export Development Canada (EDC) to support the AP1000 Project to build Poland's first nuclear power plant underscores the strength of these opportunities.

Ontario can support and be a leader to other Canadian provinces for new-build nuclear futures, offering its suite of zero-emissions technologies with robust and diversified supply chains.

In addition, the AP1000 reactor shares supply chain synergies with other advanced Westinghouse technologies, such as the AP300 Small Modular Reactor (SMR) and the eVinci microreactor. The AP300 SMR, in particular, has many identical components as the AP1000 technology, creating further opportunities for Ontario's workforce to diversify its nuclear capabilities and tap into the emerging SMR market.

Each AP1000 unit built globally that incorporates Canadian inputs could contribute approximately $1 billion to Canada's GDP. This makes Ontario a critical player in Westinghouse's international projects and bolsters the province's already stellar reputation as a leader in nuclear reactor technology.

The deployment of the AP1000 Project will generate significant economic benefits for Ontario and Canada as a whole. Westinghouse estimates that the AP1000 Project would contribute $28.7 billion to GDP, create 126.6k person-years of employment, generate $15.7 billion in labour income, and deliver $7.1 billion in total tax revenue across Canada, considering direct, indirect and induced effects.

On an annual basis, the economic footprint is expected to include an average contribution of $8.1 billion to GDP, 11,900 jobs, $1.7 billion in labour income and $2.0 billion in total taxes across Canada, again accounting for direct, indirect, and induced effects. With the timeliness and certainty of the AP1000 Project, Ontario can harness its craft labour resources and ensure the labour force moves seamlessly from major component refurbishment to new build execution without delay.

What opportunities should Ontario consider to leverage its position as a clean energy leader?

The rapid deployment of the Westinghouse AP1000 Project by 2035 is uniquely aligned with the Ontario Government and the Minister of Energy and Electrification's objectives to establish Ontario as a leading exporter of clean energy to neighbors and allies. The AP1000 reactor is the only proven technology capable of meeting Ontario's pressing energy needs within this critical timeframe, enabling the province to lower energy costs for families and businesses, reducing emissions and strengthening North American energy security.

In addition to addressing Ontario's growing energy demands, the AP1000 Project positions the province to support broader regional challenges and capitalize on export opportunities. For instance, Québec faces significant difficulties in meeting its projected energy needs by 2035, with an estimated shortfall of up to 60 TWh. Furthermore, Hydro-Québec's reservoirs are currently at their lowest levels in a decade, highlighting a potential future opportunity for Ontario to provide baseload power to support the utility's needs during periods of constrained hydroelectric capacity. Similarly, the United States presents a major potential market for clean energy exports, as it seeks reliable and affordable solutions to achieve its ambitious electrification goals. By leveraging the AP1000 technology, Ontario could play a pivotal role in supporting neighboring markets while advancing its economic leadership.

Beyond Ontario and Canada's borders, Westinghouse believes it is well-positioned to enhance a Canada-U.S. nuclear nexus. Through multiple companies including Westinghouse, BWXT and Brookfield, this robust trade offering presents North American expertise, innovation and superior capability, especially in supporting export markets.

It is now more important than ever that Canada embrace and enhance its first mover advantage. By being a first mover, Ontario can harness the opportunity to both expand and diversify its nuclear supply chain and ecosystem, working to serve export markets.