

May 16, 2022

House of Commons Standing Committee on Natural Resources

**RE: Ontario Power Generation’s Submission to the House of Commons Standing Committee on Natural Resources on “Creating a Fair and Equitable Canadian Energy Transformation”.**

Thank you for the opportunity to provide input to the House of Commons Standing Committee for Natural Resources regarding its study on *Creating a Fair and Equitable Canadian Energy Transformation*.

Ontario Power Generation (OPG) believes in the importance of this study as it pulls in together several key environmental, energy, indigenous reconciliation, and gender equity priorities that collectively are part of the important goal of seeking a fair and equitable energy transition for all Canadians.

OPG is continuing to do its part as a clean energy leader in this space by releasing our Climate Change Plan along with an Indigenous Reconciliation Action Plan, which sets specific measurable commitments to work with Indigenous communities. OPG has also committed to the [Equal by 30](#) pledge, to advance participation of women in the energy transition and close the gender gap. Last year, OPG was proud to announce significant strides towards achieving this goal by now having the most gender-diverse board of directors in the industry.

As you may know, OPG is one of the largest clean energy generators in North America. Our operations, which span across Ontario and various parts of the U.S., include a diverse portfolio of hydro, nuclear, solar, biomass, and natural gas generating assets.

In April 2014, OPG burned its last piece of coal to generate electricity in Ontario. This transition from coal remains **one of the world’s single largest actions to fight climate change** and made Ontario the first jurisdiction in North America to fully eliminate coal as a source of electricity generation. It also was one of the most significant health initiatives since it drastically reduced smog days across the province and contributed to a general health improvement associated with air pollution.

Our **Climate Change Plan** seeks to have OPG become a net-zero carbon company by 2040. OPG will continue as an energy innovator, advancing clean technologies and solution to help the markets where we operate achieve net-zero carbon economies by 2050. The successful implementation of our Climate Change Plan will provide even more benefits to Canadians as we continue to reduce emissions, enabling a clean energy transition in Ontario and beyond.

Canada’s ambitious emissions targets agreed to at COP26 and the goal of net-zero by 2050 will require substantial amounts of clean energy across all sectors. As the electrification of industrial processes, transportation, resource development, and energy grids takes hold across Canada. There will be a significant need for additional clean energy technologies, including nuclear, new hydro developments, hydrogen, and pump storage

OPG recommends that to achieve a *Fair and Equitable Canadian Energy Transition* there needs to be an inclusive approach to clean energy technologies, policies and initiatives. Specifically, nuclear

needs to be consistently part of the mix that will enable high carbon jurisdictions and sectors to consider all clean technologies when addressing the climate crisis.

Nuclear needs to be consistently included in federal programs, policies and clean energy financial definitions domestically and internationally. Only by doing so will the goals of energy security and net-zero 2050 be achievable.

OPG's \$13 billion Darlington Nuclear Refurbishment project continues to run on time and within budget. This project is foundational to OPG's new nuclear initiatives and will provide access to clean base-load nuclear energy for 30 more years.

The Organisation for Economic Co-operation and Development (**OECD**) **estimates nuclear power output will need to double globally** by mid-century to meet 2050 net-zero emission goals. With the advancement of electrification within the Ontario, OPG forecasts the provinces' demand for clean energy could increase by 40 per cent by 2040. This corresponds with the IESO's Annual Planning Outlook (APO) released in December of 2021, which forecasts electricity demand, assesses the reliability of the electricity system, and identifies capacity and energy needs for Ontario.

Simply put, there would be no path for the world to reach Canada's net-zero carbon emission goals by 2050 without nuclear. To achieve net-zero and meet the increasing electricity demands, clean, reliable nuclear power must be included in the energy mix. OPG recently made a significant announcement on the future of **Canada's first small modular reactor (SMR)**.

OPG announced that it will work with GE Hitachi Nuclear Energy to deploy a BWRX-300 SMR at the Darlington new nuclear site, the only site in Canada currently licensed for a new nuclear build. Our goal is to build Canada's first commercial, grid-scale SMR as early as 2028 while leveraging Ontario's robust nuclear supply chain. Opportunities exist for Canada to export technology and expertise while addressing the global issues of climate change and energy security.

SMR technologies provide non GHG emitting energy to support new electricity demands as well as support economic and social development needs through the transition from diesel generators in remote, rural and Indigenous communities.

OPG's joint partnership with Global First Power (GFP) and UltraSafe Nuclear Corporation, is developing **and deploying very Small Modular Reactor (vSMR) technology** as an alternative to fossil fuel generation in remote communities and mines that are not connected to provincial electricity grids. GFP is currently developing a commercial demonstration project at Chalk River Laboratories to launch by 2026.

OPG is working closely with SaskPower, New Brunswick Power, and Bruce Power to develop a **pan-Canadian approach to deploying SMR technologies**. In Canada alone, **nuclear power helps avoid 80 million tonnes of carbon emissions per year**, and in combination with renewables, the carbon offset is the equivalent of taking half the world's passenger vehicles off the road.

Canada is globally recognized as a leader in nuclear materials and by-products management. Scientists and experts from around the world visit Canada to learn from our processes, built on 60-plus years of experience and project excellence

OPG has also signed an MOU with the Tennessee Valley Authority to cooperate and coordinate efforts to develop SMR opportunities. This agreement will be of interest in other markets including Eastern Europe, as they seek energy security and make headway in reducing their carbon emissions.

As we continue to invest and develop nuclear across Ontario, OPG has been able to continue to expand our Ivy Charging Network, which will soon be **the largest EV fast-charging network in Ontario** with 160 chargers across 60-plus sites. OPG is also supporting Ontario’s electrification efforts through the Wolfe and Amherst Island eFerries, through our subsidiary, PowerON Energy Solutions. PowerON provides electrification and charging infrastructure for municipal transit agencies and corporate fleets. PowerON is currently working with the Toronto Transit Commission (TTC) to electrify more than 2,400 TTC buses, **making it North America’s largest transit electrification project.**

Another OPG subsidiary, Atura Power, is developing **clean hydrogen** at the Sir Adam Beck facility in Niagara. It is expected that Niagara will be a prominent green hydrogen hub for heavy-duty trucking, municipal mobility, and heavy industrial consumers in Ontario. Benefits will include local and provincial economic development through investments and jobs as we develop the **first large-scale green hydrogen hub in Ontario.**

Economies around the world have less than 30 years to cut overall carbon emissions to net zero. To meet this crucial climate change objective, Canada and all countries will need to harness all clean energy solutions, including nuclear power. Nuclear will be critical in providing baseload power, particularly in areas where renewables face intermittency issues and to support the advancement of our electrification and hydrogen energy projects.

We know the members of the Net Zero Advisory Body (NZAB) understand that climate change is not just an environmental issue, but a competitiveness issue for Canada’s energy sector and its thousands of workers. To fight climate change, nuclear and renewables must work together for a just transition.

We look forward to our ongoing collaboration, and we are available to meet with you to discuss how OPG’s climate commitments support Canada’s emission reduction goals.

Sincerely,



Heather Ferguson  
 SVP Business Development, Strategy and Corporate Affairs  
 Ontario Power Generation