

700 University Ave. 19th Floor Toronto, ON M5G 1X6

Heather.Ferguson@opg.com

Dear Members of Parliament,

As the members of the House of Commons Standing Committee on Natural Resources study low carbon and renewable fuels in Canada, Ontario Power Generation (OPG) would like to provide some relevant information for consideration that would enable Canada to meet its climate objectives, create jobs, investments and create opportunities for Canadians including our Indigenous communities.

OPG is one of the largest electricity utilities in North America, with 18,910 MW of generating capacity, we produce more than half the electricity Ontarians rely on every day.

We are a clean energy leader with a diversified electricity generating portfolio that includes 66 hydroelectric, two nuclear, and two thermal generating stations, one of which is biomass, as well as one solar facility and four natural gas-fired stations through our subsidiary Atura Power.

OPG also owns 85 hydro facilities in the United States. The facilities total approximately 620 MW of capacity and produce enough clean energy to power over 250,000 homes.

With this diversified clean energy portfolio, OPG is well-positioned to assist Canada in meeting its clean energy and economic development goals.

For decades, OPG's world-class workforce has quietly led the charge, devising the blueprint for a carbon-free future. In 2014, OPG undertook the world's largest clean energy transition by phasing out coal power generation in Ontario, giving us unique experience managing clean energy transitions. Recently, OPG was invited to join the Canada-United Kingdom *Powering Past Coal Alliance*, to share our experience on getting off coal electricity generation and transitioning to a clean energy grid.

To support clean electricity production, OPG has been undertaking a \$12.8 billion refurbishment program at the Darlington Nuclear Generating station which will secure **30 more years of GHG-free electricity** for the province of Ontario. In 2020, the first of four units were successfully returned to service, and refurbishment of the next unit, unit 3, was started. The refurbishment program represents 14,200 jobs per year that will extend the life of the Darlington Nuclear Generating Station, avoiding significant emissions equivalent to two million cars off Ontario's roads per year. This project has a direct benefit to Ontario and Canada's efforts to restart the economy and reduce emissions.

In November 2020, OPG was proud to release its first-ever Climate Change Plan. The plan seeks to make OPG a net-zero emissions company by 2040 while assisting other sectors to meet Canada's net-zero emissions targets by 2050. The key initiatives in this plan include:

- Small Modular Reactor (SMRs) and very small modular reactor (vSMR) development and deployment for Ontario and beyond.

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- Electrification of key sectors such as transportation.
- Hydrogen opportunities leveraging our nuclear, hydro, renewable, and natural gas assets.
- Further development of hydro assets.

Tackling climate change will require the combination of diverse electricity-generating technologies and innovative solutions. Most importantly, it will take the full commitment of societies around the globe.

OPG believes that a diverse generation approach, along with the electrification of key sectors like transportation, will enable the transition to a low-carbon and clean energy future. OPG also believes that only by working with local and Indigenous communities, can our projects successfully move forward in a manner that brings benefits for all Canadians.

OPG has been focused on building strong partnerships with Indigenous communities. Since 2010, OPG has partnered with five First Nations on three hydro and one solar project: Lac Seul Generating Station, 2009, Lower Mattagami Redevelopment Project, 2015, Peter Sutherland Sr. Generating Station 2017, and Nanticoke Solar, 2019. The First Nations have equity stakes in each of these projects and together they generate 522 MW in renewable energy. The equity the First Nations hold will ensure that they receive a long-term return on investment that will help build their communities for decades to come. These relationships provide a foundation for any expanded hydro development that would also meet climate change goals.

With these goals in mind, OPG recommends the following for parliamentarians to consider:

1. Accelerate the implementation of federal investments in the clean energy transition

Funding announced for electrification, hydrogen, and clean energy technology development will need to be implemented in a timely fashion to create jobs in the economy that has been negatively impacted by the COVID-19 pandemic.

OPG is leveraging its clean electricity production and electrification expertise to help reduce transportation sector emissions. The Toronto Transit Commission (TTC) board recently approved a framework with OPG and Toronto Hydro for the three parties to work together to electrify TTC's bus fleet, *North America's largest transit electrification project to date*. OPG, through a subsidiary, will design, build, operate and maintain the charging infrastructure to power the TTC's electric bus fleet.

Our clean electricity is ready to help decarbonize other sectors. As the largest utility in Ontario, we're well-positioned to coordinate a province-wide program for charging infrastructure to reduce transit-related emissions while providing the best possible value to Ontarians.

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OPG is a trailblazer in electric vehicle (EV) charging infrastructure, design, operations, and maintenance, leading the drive to decarbonize how Ontarians travel. OPG has partnered to develop the Ivy Charging Network, Ontario's largest EV fast-charging network.

Additionally, OPG recently issued a Request for Market Information (RFMI) aimed at using *Ontario's clean electricity to produce low-carbon hydrogen*. Low-carbon hydrogen production is ramping up and jurisdictions are committing resources to accelerate this process as they see this fuel as a key component of their long-term climate strategies.

Low-carbon hydrogen has the potential to reduce or offset emissions in a variety of applications. It can be used to power fuel cells in vehicles, which could help replace diesel engines in the heavy-duty and long-haul trucking industry. Hydrogen can also be used as a substitute for high-emitting industrial applications such as steel- and cement-making. It is also possible to blend hydrogen with natural gas to reduce carbon impact. These technologies are developing at a fast pace and quickly need government support to succeed.

2. Ensure that all clean electricity generation technologies is included in the effort:

To maximize the emissions reduction value of electrification and further reduce emissions in the electricity sector, we must continue to invest in clean electricity generation. There is a unique opportunity to invest not only in renewable technologies, but also in SMRs and other technologies to ensure Canada meets its net-zero emissions target by 2050.

Nuclear and SMRs have been included in the Government's net-zero- technologies and clean energy definitions as outlined in its Climate Change Plan, Hydrogen Plan, and the SMR Action Plan. However, now is the time to invest in the SMRs to enable these technologies for high carbon sectors and regions to reduce emissions.

OPG is part of a Pan-Canadian SMR initiative that has requested \$640 million over five years to develop and deploy SMR in provinces that are seeking these technologies to reduce emissions on their grids, as well as potentially in resource development sectors.

Alberta, Saskatchewan, Ontario, and New Brunswick have signed a Memorandum of Understanding (MOU) to support the development and deployment of SMRs. This includes OPG's Global First Power vSMR initiative that would apply to northern/remote communities, and resource development sectors.

SMR technologies represent a significant potential for Canadian leadership. They also represent potential in export markets that are estimated to be valued in the order of \$150 billion a year as countries seek to meet net-zero emissions and climate change targets.

By supporting SMR initiatives, including the Global First Power project, this will directly support the Federal Government's net-zero goals. Now is the time to enable these investments to generate jobs, innovations and reduce emissions to meet net-zero by 2050.

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Nuclear represents 15 per cent of the clean energy generated in Canada and investment in nuclear innovation is key to meeting climate goals.

There needs to be a clear role for nuclear technologies to be considered as part of the federal government's efforts to meet net-zero emissions targets. This includes tax credits for clean technologies.

Nuclear has been recognized as part of the federal government's efforts to meet climate targets and there should be a consistent inclusion of this effort in all policies and programs.

Again, thank you for the opportunity to share these concepts and initiatives with you. Please feel free in contacting me if you have any questions. Alternatively, if your office or officials have any questions, they can also reach out to George Christidis at George.Christidis@opg.com.

Sincerely,



Heather Ferguson
Senior Vice-President, Corporate Affairs
Ontario Power Generation