

Testimony to Canada's Senate Committee on Energy, the Environment and Natural Resources

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CHECK AGAINST DELIVERY

Opening

Thank you Mr. Chairman.

I am honoured to be here today to speak with you about Ontario Power Generation's role in helping achieve Canada's climate change goals, as well as our ongoing contribution to the sustainability and well-being of Ontario.

A Strong Tradition

Ontario Power Generation or OPG is heir to a strong tradition of generating electricity.

It's a tradition marked by service to the people of Ontario and commitment to the principle of generating *power with purpose*.

Our predecessor companies – the Hydroelectric Power Commission of Ontario and Ontario Hydro -- established this tradition.

Through an array of productive and reliable generating assets, they safely provided Ontarians with electricity for almost 100 years.

In the first half of the 20th century, these assets were virtually all hydroelectric – the product of an enormous acquisition and building program that laid the foundation for Ontario's future greatness as an economy and society.

In the 1950s and '60s, fossil plants were added to the portfolio to further meet the province's growing energy needs.

Nuclear stations were brought into the mix in the 1970s and 1990s.

As a result of this legacy, OPG has one the world's great power systems -- noted for the diversity of its generating facilities and its excellent record of safety and reliability.

Over the last five years, OPG completed a significant transformation. We are once again clean -- having burned our last piece of coal to make power in 2014.

This remains North America's single largest action to combat climate change to date.

We're proud of this achievement because it had the immediate benefit of cleaner air for Ontario; and the ongoing-benefit of helping address global climate change and Canada's commitment to GHG emission reductions.

OPG Today

OPG supplies half of Ontario's electricity.

We converted two of our coal stations in Northwestern Ontario to renewable biomass; a move that saved jobs and has helped spur local economic development.

Our diverse fleet also includes 65 hydroelectric stations and ten nuclear units.

OPG's power is now virtually free of smog and greenhouse gas emissions. And we produce this power at a cost that is about 40 per cent lower than other generators in the province of Ontario.

OPG is a different company today -- we're smaller, more efficient and more outwardly focused.

We rely more on partnerships and strong community relationships to help us deliver our mandate.

This includes a commitment to building and growing mutually beneficial working relationships with Indigenous communities near our current and future operations.

We put in place a formal framework to assess and resolve historical past grievances.

And since 1992, OPG has reached 23 past grievance settlements with 21 First Nations communities, closing out all historic grievances.

Our efforts laid the groundwork for a series of successful generation development partnerships.

The Lower Mattagami River Project -- a \$2.6 billion hydroelectric redevelopment partnership with the Moose Cree First Nation was completed last year, ahead of time and on budget.

Two hundred and fifty 250 local Indigenous people worked on the project, which employed a total of 1800 people during peak construction.

As an equity partner, the Moose Cree First Nation will see benefits from this clean hydro project for years to come.

As will the Lac Seul First Nation who partnered with OPG to build a hydro generating station in Northwestern Ontario.

Last year, in partnership with Coral Rapids Power, a wholly –owned company of the Taykwa Tagamou Nation, OPG started building the Peter Sutherland Senior Generating Station on the New Post Creek in Northeastern Ontario.

This \$300 million project is expected to employ 220 workers at peak and start operating in 2018.

And just last month, we announced a partnership with the Six Nation’s Development Corporation to build solar generation at Nanticoke Generating Station on Lake Erie, which was formerly a coal station.

I would like to extend an invitation to members of this committee to visit one of these development projects to see first-hand how you *can* build big things on time and budget, with strong public support, if you work in partnership with local communities.

Energy resources and the Future

Before I speak about our nuclear generation, I would like to mention a little known event I became aware of early in my career and that remained with me.

Admiral Hyman Rickover was the father of the United States Nuclear Navy; he was also a real leader and a real character.

In 1957 Admiral Rickover delivered a speech titled *Energy Resources and Our Future*.

It was about how energy and its effective application drives civilization.

He went on to observe that 100 years prior – 1850, 95 per cent of the energy consumed came directly from humans and animals and five per cent from fossil fuel.

A century later that number was completely reversed – 95 per cent of the energy driving life came from fossil fuels and less than five per cent from humans and animals.

An incredible change in just 100 years.

And he questioned what the next 100 years would hold – 1950 to 2050.

He observed that in his opinion, historians would someday call this the fossil fuel age, the golden age of fossil fuels.

But he posited that the future would be increasingly more energy intensive, driving the economy and quality of life.

And that we would see a wave of renewable and nuclear energy deployment ending the fossil fuel era.

Pretty remarkable forecast for 1957.

If achieved, Canada's carbon reduction goal for 2050 will effectively end the use of fossil fuel. At a minimum, it will substantially reduce it and change its role significantly in our economy.

Ontario's electricity sector is already well down this path, currently representing less than 7 per cent of total greenhouse gas emissions.

The transportation sector is about 35 per cent.

Industry is about 30 per cent.

And building heat is about 20 per cent.

As these sectors work to reduce their carbon intensity, there will be more dependence on clean electricity.

That means a decarbonized electricity system is not just an environmental achievement.

Clean power is the foundation for competitiveness.

Clean power paves the way for a cleaner transportation sector and the electrification of the cars and trains.

And home-made clean power drives home-made innovation and supports industries beyond the energy sector in communities across the province.

Sixty-two per cent of the terawatt hours in Ontario come from Darlington, Pickering and Bruce Nuclear.

The long-term value of this low-intensity carbon electricity portfolio is enormous.

Nuclear power helped Ontario move off coal and nuclear power makes intermittent renewable integration into the system possible.

Looking forward, as Canada considers how to move towards a lower carbon economy, we would suggest a balanced approach -- one that maximizes the role of all low carbon technologies such as nuclear, hydro, solar, wind and biomass; and one that can be levered through electrification to lower carbon emissions economy-wide.

Darlington Refurbishment: Investing in the Future

A significant part of our success in helping the ongoing decarbonisation of our economy lies in preserving and expanding the nuclear production we have today.

That's what Refurbishment is about.

The Darlington Nuclear Generating Station is one of OPG's most important assets.

Since the early 1990's it has been producing about 20 percent of Ontario's electricity.

After years of reliable generation, this clean-power workhorse requires a midlife refurbishment.

Replacing core reactor components will allow Darlington to provide 30 more years of safe, reliable baseload power.

Earlier this year, the Ontario Government announced its decision to invest in refurbishing the first of four units at Darlington.

The total cost of all four units is \$12.8 billion.

Ninety-six percent of this will be spent with Ontario businesses.

In return for this investment, Ontarians will see \$14.9 billion in economic benefits.

An average of 8,800 jobs created annually.

An \$8.5 billion increase to household revenues.

About \$5.4 billion in revenues for all three levels of government.

\$94 million in exports.

And, over its extended 30-plus-year operating life, Darlington will contribute approximately \$50 billion in additional economic benefits.

That doesn't include the low cost of electricity after refurbishment; a cost that will be predictable and stable for another generation.

Our plan is to successfully complete refurbishing the first Darlington Unit before Bruce Power begins their effort.

We will do it on time and on budget, setting the standard for mega-project execution.

To ensure Ontario has access to safe, clean, low-cost electricity during the Darlington refurbishment project, OPG is looking at plans to extend the life of our Pickering Nuclear plant to 2024.

Doing so would save Ontario electricity customers up to \$600 million, avoid eight million tonnes of greenhouse gas emissions and protect 4,500 jobs across Durham Region.

Given the ongoing importance of nuclear power to our provincial and national well-being, OPG is committed to the safe responsible management of nuclear waste.

As we now face the unaddressed accumulation of carbon waste deposited in the atmosphere by fossil fuel use, we also have an obligation to future generations to dispose of nuclear-related waste safely and responsibly – where it cannot pose a threat to the public or the environment.

The Nuclear Waste Management Organization continues efforts to implement Canada's plan for the safe, long-term management of used nuclear fuel.

At the same time, OPG has been working on a safe, permanent solution to manage low and intermediate level waste, which we've transported and managed safely for 40 years.

We believe a safe, permanent storage place for this waste -- one that will isolate it allowing it to decay to background levels -- is one more step in protecting our environment today and far into the future.

Given the challenge of dramatically reducing carbon emissions, addressing the waste issue also preserves the operation of the existing nuclear fleet and enables consideration of advanced nuclear generation options in the future.

Power with Purpose - Closing

I want to leave you with one final thought about OPG based on my observations as a relative newcomer.

Last year, I left the private sector in the U.S. to join Ontario Power Generation.

This was my first job with a publicly-owned generator.

I expected differences but I was surprised by what those differences turned out to be.

OPG is a company committed to achieving efficiencies – close to \$1 billion in savings since 2011.

It's committed to the highest standards of industrial and public safety.

And it's committed to providing power at the lowest achievable cost.

But there's a greater purpose that underpins everything OPG does.

OPG strives to deliver value beyond the bottom line.

We strive to make a difference in the communities where we operate, we strive to make a difference for customers, and we strive to make a difference for the province.

We call this generating *power with purpose*.

And the key to generating *power with purpose* is recognizing relationships and people and communities matter.

Thank you for this opportunity. I'm happy to answer any questions.