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Ministry of Energy
Regulatory Affairs and Strategic Policy
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Email: Julie.Green@ontario.ca

Dear Ms. Green:

**Re: EBR Posting #011-9490
Ontario's Long-Term Energy Plan Review**

Ontario Rivers Alliance (ORA) is a Not-for-Profit grassroots organization acting as a voice for the French River Delta Association, CPAWS-OV, Council of Canadians, Kiishik Community Association, Food & Water First, Whitewater Ontario, Vermilion River Stewardship, Mississippi Riverwatchers, French River Stewardship, as well as many other stewardships, associations, and private and First Nations citizens who have come together to protect, conserve and restore healthy river ecosystems all across Ontario.

Firstly we would like to congratulate the Liberal government on putting conservation and efficiencies first in energy planning. Conservation will save ratepayers' hard-earned dollars, help lessen the burden on our environment and public health, and reform our electricity system to be more efficient, sustainable and affordable.

Our rivers are in crisis, and the threats are numerous. While industrial and residential pollution in its many forms impair water quality, dams impact on both water quality and water quantity, and threaten the very functionality of rivers and the planet's life cycle processes. Freshwater ecosystems are experiencing the greatest loss of biodiversity, in large measure due to dams. Over the past 40 years, freshwater ecosystems have lost 50% of their populations and over a third of remaining freshwater fish species are threatened with extinction.¹ Lack of water is one of the most ominous and real global threats facing us all.

"As a result of over a hundred years of low-cost energy, Ontario's energy consumption per person is amongst the highest in the world. For example, our energy consumption per person is

¹ Figures sourced from the [Millennium Ecosystem Assessment](#) and the [IUCN Red List](#), respectively

50% higher than New York State's and double that of the United Kingdom."² This alone is a strong argument for conservation and efficiencies. Any upward trend in energy demand over the next several years should be addressed through conservation and efficiencies before any new power generation is contracted. Conservation is a winning solution for the consumer, the environment and the electricity system.

ORA's Recommendations:

ORA has a focus on healthy rivers, therefore our comments will tend to be weighted more in the area of hydroelectric power generation, but we will do our best to offer input into the questions set out in the *Making Choices* document.

1. Ontario's Future Supply Mix

a. How do you think Ontario should balance ratepayer costs, system reliability and GHG emissions when it makes supply mix decisions?

As was noted in your report, "New electricity generation requires significant investments and the use of natural resources such as land and water, which can have impacts on the environment and surrounding communities."³

ORA recommends that above all else, the government must place public health and safety, our environment and endangered species at the top of their list of priorities, and next must come affordability and reliability.

2. Conservation First

a. Should Ontario adjust and/or broaden its conservation goals, in light of current demand and supply forecasts?

Your "*Making Choices*" document states that the province has ample supply of electricity to meet its needs, and that is supported by George Vegh, Chair of the Electricity market Forum, who reported, "*The supply-side challenge now is therefore not driven by the need to procure new generation capacity, but to manage supply to meet the needs of electricity customers*", and "*under the Medium Growth scenario, the forecast for demand is flat and it is not until 2027 that peak demand is expected to grow by 1,000 MW. Even under the High Growth scenario, peak demand does not grow by 1,000 MW until 2022. Under the Low Growth scenario – which appears to be higher than where demand is trending – peak demand does not increase by 1000 MW prior to the end of the Plan term (2030).*"⁴

Consequently, it appears that demand will continue to be on the lower end of the scale for several years into the future, so let's take this opportunity to slow down and do careful research, to develop technologies that store and generate more efficiently and sustainably. Let's focus on efficiencies and technologies that will take us far into the future without damaging our fisheries, lowering our water quality and water

² An Energy Efficiency Strategy For Ontario's Homes, Buildings and Industries, by Ontario Clean Air Alliance & Ontario Clean Air Alliance Research Inc. - P-IV

³ Making Choices – Reviewing Ontario's Long-Term Energy Plan, P-10

⁴ Reconnecting Supply and Demand, How Improving Electricity Pricing can Help Integrate a Changing Supply Mix. Increase Efficiency and Empower Customers. Report of the Chair of the Electricity Market Forum, George Vegh, December 2011, P-3 and 4.

quantity, and that will place public health and safety and endangered species before all else.

When all conservation measures have been exhausted we will then have a much better idea of our future energy requirements. If it is determined that additional power generation is required, then any contracted power source must be truly green, clean, and reliable, or it should not be included in the Green Energy Act and FIT Program, or offered bonuses to generate power during peak demand hours.

Additionally, any procurement contract between the government and developer must provide the means to order the shut-down of generators when power is not required. Currently, FIT Contracts awarded to waterpower developers for facilities under 10 MW IC cannot be told to stand down when there is a surplus of power. This is a major waste of taxpayers' dollars, and inflicts an unnecessary additional burden on the riverine ecosystems.

ORA feels that the priority of this government should be focused on broadening conservation goals, and reducing the wasteful generation of power that is not required. Let's ensure we have made all possible savings in conservation before any new renewable energy procurement takes place.

Conservation of power consumption, tax dollars, and of our environment, must truly come first. Let's slow down and get it right.

b. How can Ontario maximize its demand management potential?

Investment and research dollars must go into storage technology before any further expansion of renewable energy projects. Currently we are giving away and wasting too much power generated by high cost green energy projects, so before expansion takes place we must find technologies that will store and balance power generated to help stabilize and economize the grid. Taxpayers' dollars are being wasted and debt is being incurred by an unstable and wasteful electricity system. So let's not increase the waste – let's cut it back instead.

3. Nuclear:

a. Nuclear power provides over half of Ontario's generation. What are your views on refurbishing existing nuclear units?

Nuclear power facilities should be refurbished with the most environmentally friendly and safe technology available.

b. How should we proceed with nuclear new build?

"Thorium could solve the nuclear power industry's most intractable problems. After it has been used as fuel for power plants, the element leaves behind minuscule amounts of waste. And that waste needs to be stored for only a few hundred years, not a few hundred thousand like other nuclear by-products. Because it's so plentiful in nature, it's virtually inexhaustible. It's also one of only a few substances that acts as a thermal breeder, in theory creating enough new fuel as it breaks down to

sustain a high-temperature chain reaction indefinitely. And it would be virtually impossible for the by-products of a thorium reactor to be used by terrorists or anyone else to make nuclear weapons. Weinberg and his men proved the efficacy of thorium reactors in hundreds of tests at Oak Ridge from the '50s through the early '70s. But thorium hit a dead end. Locked in a struggle with a nuclear-armed Soviet Union, the US government in the '60s chose to build uranium-fueled reactors — in part because they produce plutonium that can be refined into weapons-grade material. The course of the nuclear industry was set for the next four decades, and thorium power became one of the great what-if technologies of the 20th century.⁵

If nuclear is to continue to be a part of our future then we must ensure any new or refurbished builds incorporate a more environmental friendly, safer and truly green technology such as Liquid Fluoride Thorium Reactors.

4. Natural Gas:

a. What further role should natural gas play in Ontario's supply mix?

Natural gas generation should be used only as a back-up to quickly dispatch power when there is a huge demand. If we are serious about reducing greenhouse gas emissions and protecting our environment, then natural gas resulting from fracking operations should not be pursued or permitted in this Province.

5. Combined Heat and Power (CHP)

a. What is the best way to assess CHP to ensure generation is developed where it is specifically needed, meets system needs and maximizes value to electricity ratepayers and to heat customers?

A cost benefit analysis tailored to each situation must be completed to ensure environmental and economic benefit and efficiency can be achieved.

6. Renewable Energy - Wind, Solar and Bioenergy

a. Looking beyond 2018, what goal should Ontario set to ensure that non-hydro renewable energy continues to play an important role in meeting Ontario's supply needs?

As stated above, before renewable energy development is increased, there must be a viable power storage technology in place so we are not throwing away tax dollars due to wasteful generation of power each and every day. Conservation must come first. Therefore Ontario should set the goal of developing only clean, green, efficient, and needed renewable energy projects.

All power agreements must include the option to stand down, or to stop generating power when we have a surplus. Contracts should never include payment for power generated, or incentives not to produce, when it is not required,

⁵ Wired Magazine: [Uranium Is So Last Century — Enter Thorium, the New Green Nuke](#)

b. What innovative strategies and technologies could Ontario pursue in order to further develop and better integrate renewable energy generation into the system?

Environmentally sustainable storage technologies are imperative if we are to continue on with new renewable energy development. Ontario has experienced an ongoing surplus of power since 2006, and is predicted to have a surplus far into the future, so we have the time to research and invest in storage technologies that would help balance renewable energy transmission and stabilize the system.

7. Hydroelectric

a. Should Ontario pursue further expansion of hydroelectric capacity?

The first defaunation of Ontario streams was due to the mill dams that caused the extinction of Lake Ontario Salmon, and doubtless many other lesser migratory populations that weren't so well documented; and twentieth century hydro dams have devastated many other species such as the American Eel and Lake Sturgeon. Ontario has an extensive history of hydroelectric dam development, where the damage inflicted by these dams has led to the extirpation and/or extinction of many aquatic species.

The numerous problems with hydroelectric have not gone away, and these new operating strategies devised to take advantage of peak demand bonuses have only served to increase the potential for negative impacts to our water quantity, water quality, and our fisheries. Many of the dams that have been proposed on smaller rivers are only feasible because of the lucrative bonuses paid to produce power during peak demand hours, and are very harmful to riverine ecosystems.

Some important considerations:

- Hydro is intermittent and unreliable as a base load. During the hot summer months when power is most needed to run air conditioners, river flows are at their lowest and produce little power, and are often shut down.
- The only way hydro can meet peak demand when it is needed most is to use harmful peaking operating strategies that rely on headponds and result in numerous serious negative environmental impacts.
- Large projects are primarily in northern Ontario, are distant, challenging to develop, and require transmission upgrades.
- Small projects are costly to develop, faced with lower flows and more fragile ecosystems, have numerous environmental impacts, and are unreliable as a base load.
- The Experimental Lakes Area scientists have documented a 10 to 20 times increase in methylmercury, and an increase in greenhouse gas emissions much higher than originally understood - all resulting from newly inundated land for headponds.

Ontario should not pursue any further expansion of hydroelectric. Hydro has a high environmental price to pay, is costly to develop, provides unreliable power generation, poses a significant risk to our fisheries and endangered species, and places public health and safety at significant risk.

Existing hydro facilities should be upgraded, efficiencies made, and environmental

mitigation measures employed (fish passage and improved environmental flows) before any new hydro development is contracted.

The environmental price to be paid for intermittent hydroelectric generation is too steep to justify the hydroelectric proposals already in the works, let alone further expansion.

Hydroelectric with its serious, well documented and long-lasting negative impacts should not be considered part of any renewable energy mix or be included within the Green Energy Act and FIT Program.

8. Energy Storage:

What role should storage play in meeting Ontario's future energy needs and how should it be valued?

Energy storage is essential to a cleaner and more flexible power generation system; therefore, incentives, resources, and time should go here before any additional renewable power generation is contracted.

9. Regional Energy Needs

a. What kinds of local and electricity system benefits as well as broader economic, environmental and community benefits should be considered when selecting and implementing options to meet regional needs?

Each municipality must determine appropriate projects and sites for their community when planning its own electricity system requirements and desired benefits, with the objective of meeting its regional energy requirements.

For instance, hydroelectric projects may not be the answer for a city or town with waste water treatment facilities, mines, and industry releasing effluent and/or taking water from a river system that is already under environmental pressure, or from a river that has already been experiencing blue-green algae blooms. Cumulative effects within a watershed must be a top consideration in all power generation projects.

Community power and conservation projects, as well as our publicly owned Ontario Power Generation, should take priority over privately owned projects.

10. Transmission Planning

a. What transmission projects should be considered priorities and why?

Transmission projects to remote First Nation communities should be a priority to ensure their energy needs are met.

b. How should Ontario work with the federal government to support development of transmission projects to connect remote First Nation communities, including any required enhancements to the existing system?

Ontario can provide logistical support and contribute funds to support transmission to remote communities.

c. How should Ontario evaluate whether to expand transmission to take advantage of imports and other opportunities?

Ontario should expand transmission to remote communities rather than approving new hydroelectric development which can be damaging to riverine ecosystems.

A cost benefit analysis comparing the contracting of new green transmission versus green imports should first be completed – whatever is the most environmentally friendly and cost efficient is what should be pursued.

11. Innovation:

a. Which technology and smart grid innovations do you believe could offer you the greatest benefit to your community and the system as a whole?

Power saving and monitoring devices/controls, central control switches, timers, and any other technology that allows consumers to detect and prevent power waste and improve efficiencies should be a high priority for this government.

12. Aboriginal Participation

a. Looking forward, what are the most important tools to support Aboriginal community participation in Ontario's energy sector?

Allow all First Nation communities impacted by a project to have a deciding voice in whether a hydroelectric project goes forward. This includes any downstream First Nation community that could be impacted by further fish consumption restrictions, or reduced water quality and/or water quantity.

First Nations should be employed and receive revenue whenever possible from new power generation developments within their traditional territory.

13. Ontario's Natural Gas and Oil Sectors

a. Is there a role for government to work with industry on applications of natural gas such as LNG and CNG?

Government must not take on the interests of private corporations. The Ontario government is charged with the well-being of its citizens, and must represent public interests – not corporate interests.

b. Should government be working with industry to expand natural gas supply to new communities?

Government should work with and for its citizens – not corporations, and certainly not if environmentally unfriendly fracking is the method of increasing natural gas supply.

c. Is the current federal regulatory process sufficient to meet Ontario's needs?

The federal regulatory process has largely been dismantled, therefore Ontario must fill in the gaps to ensure our environment and public health and safety are protected.

Summary

With energy demand trending on the lower scale, let's take our time and invest wisely in areas where we can have the biggest impact, the least resistance, and earn the greatest support. Let's not invest in new high-cost, high-impact and high-risk hydroelectric facilities. Our policies and incentives should be geared towards ensuring our utilities make improving their customers' energy efficiency and costs their number one priority. Let's focus on cost-effective energy saving opportunities that reduce energy bills and greenhouse gas emissions. This will result in new jobs by increasing productivity and competitiveness in our manufacturing and resource industries. Let's not burden Ontarians with increasing power rates through costly peaking bonuses when we have such potential for dollar and energy savings in conservation and efficiencies. Instead, let's provide homeowners and businesses with incentives for reducing their energy consumption through leading edge technologies and conservation measures.

Moving forward, Ontario needs a thoughtful and well researched sustainable energy and conservation plan with input from scientists, non-profit environmental organizations, business, and the public. Ontarians must have a transparent, independent and non-political process in all matters concerning energy planning, procurement and approvals.

ORA is grateful for this opportunity to comment. Please include ORA in any future consultation efforts.

Respectfully,



Linda Heron
Chair, Ontario Rivers Alliance