

- **Recommendation 1** - That the Federal Government: remain committed to striving toward 90% non-emitting electricity by 2030; commit to 100% non-emitting electricity by 2050; and when new federal policies, regulations and investments in the electricity sector are being designed and implemented, that it is ensured that they achieve progress toward these targets.
- **Recommendation 2** - That the Federal Government: remain committed to the Zero Emissions Vehicle Mandate of 100% by 2040; and electric vehicle rebates, and also creates an electrification strategy for electricity to become Canada's single largest energy source by 2050.
- **Recommendation 3** - That the Federal Government: initiate a cross-departmental task force to identify ways to maximize the role of Canada's significant hydropower fleet in our clean electric future.
- **Recommendation 4** - That the Federal Government: ensure that the departments responsible for the implementation of the *Fisheries Act*, the *Canadian Navigable Waters Act*, and the *Impact Assessment Act* are provided with the human and financial resources necessary to promptly and efficiently deal with all applications for project reviews, authorizations and permits.
- **Recommendation 5** - That the Federal Government: develop or amend, as necessary, regulations and policies under the recently modified *Fisheries Act* and *Canadian Navigable Waters Act* to ensure that all existing hydropower facilities can continue to operate without undue constraints that were not foreseeable at the time of construction, so that they can be maintained or refurbished in a timely and cost effective manner.

August 2, 2019

The Honourable Wayne Easter, MP for Malpeque  
Chair of the House of Commons Standing Committee on Finance  
Transmitted electronically to: [fina@parl.gc.ca](mailto:fina@parl.gc.ca)

Dear Mr Easter,

**RE: Pre-Budget Consultation in Advance of the 2020 Budget  
'Climate Emergency: The Required Transition to a Low Carbon Economy'**

WaterPower Canada (WPC) (formerly the Canadian Hydropower Association, "CHA") is the national trade association that speaks for the Canadian hydropower industry. WPC Members are hydroelectricity producers, and suppliers of goods and services to the sector. We welcome the opportunity to share our priorities with the Standing Committee on Finance in advance of the 2020 budget on the theme of "Climate Emergency: The Required Transition to a Low Carbon Economy".

**Hydropower is Canada's single largest source of electricity, representing 60% of Canada's total electricity production, and making our electricity grid the cleanest of all G20 nations.** Canada's hydropower fleet will soon surpass 85,000 MW, making us the second largest producer of hydroelectricity in the world, and a recognized hub for technology and expertise.

A central element of the Pan-Canadian Framework on Climate Change & Clean Growth, is reducing the greenhouse gas emissions intensity of our electricity supply, and fuel-switching from fossil fuels to clean electricity in the transport, buildings & industry sectors. According to Environment & Climate Change Canada's "Canada's Long-Term Low Greenhouse Gas Development Strategy" (November, 2016), clean electricity production must approximately triple from 2019 to 2050 to meet our long-term greenhouse gas emissions reduction targets.

**Hydropower is Canada's competitive advantage in transitioning from an 82% non-emitting electricity grid today, to a fully decarbonized grid in future.**

Electricity sector experts agree that the phase out of coal-fired electricity generation by 2030, and the pollution price for future investments in new fossil fuel electricity generation will be a significant part of the solution to decarbonizing our electricity grid. WPC applauds the Federal Government's leadership in these areas. You will see our detailed recommendations below.

1. WPC recommends that the Federal Government: remain committed to striving toward 90% non-emitting electricity by 2030; commit to 100% non-emitting electricity by 2050; and when new federal policies, regulations and investments in the electricity sector are being designed and implemented, that it is ensured that they achieve progress toward these targets.

Despite Canada's abundance of clean electricity, only 20% of our total energy needs are currently met by electricity. Fossil fuels like gasoline, diesel, petroleum and natural gas meet 80% of our energy needs. Getting started on the efficient electrification of the transportation, buildings and industry sectors is the next step for Canada's climate action and clean growth. Progress is being made towards this end through the Zero-Emissions Vehicle (ZEV) mandate, electric vehicle rebates, and the development of rules for crediting electric vehicle charging under the Clean Fuel Standard. However, as we move forward, there will be many other electrification opportunities and challenges. Canada needs a national electrification strategy to make this a reality.

2. WPC recommends that the Federal Government remain committed to the Zero Emissions Vehicle Mandate of 100% by 2040; and electric vehicle rebates, and also creates an electrification strategy for electricity to become Canada's single largest energy source by 2050.

As Canada moves toward this clean electric future, electricity generated from water, wind, solar and other renewable and non-emitting energy resources will become an increasingly important part of our energy supply.

The average age of a hydropower site is more than 50 years old in Canada. The ongoing operation, optimization & renewal of these assets is central to our energy security, climate action and clean growth.

In the coming decades, the hydropower sector is embarking on an unprecedented period of capital investment. These new investments will not only extend the lifetime of existing hydropower assets, they can also increase their capacity to generate renewable electricity, and can increase their flexibility and energy storage capabilities that are necessary to integrate other renewable energy resources. On-going investment in these existing facilities can yield the

lowest cost for flexible<sup>1</sup> and dependable<sup>2</sup> renewable electricity without increasing their environmental footprint. As time passes, new hydropower sites will also be required.

3. WPC recommends that the Federal Government: initiate a cross-departmental task force to identify ways to maximize the role of Canada's significant hydropower fleet in our clean electric future.

This task force would be in charge of developing measures to provide: regulatory clarity for developers and generators; regulatory efficiency for administrators of approvals and authorizations; and to identify strategic investments, all while promoting and ensuring best environmental management practices. Funding for several years should be provided to the task force and should be sufficient to allow the organization of workshops with industry and provinces.

4. WPC recommends that the Federal Government ensure that sure the departments that are responsible for the implementation of the *Fisheries Act*, the *Canadian Navigable Waters Act*, and the *Impact Assessment Act* are provided with the human and financial resources necessary to promptly and efficiently deal with all applications for project reviews, authorizations and permits.

Ensuring that the departments responsible for implementing these acts and associated regulations have the necessary resources to provide timely engagement with the industry will be very important.

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<sup>1</sup> **Hydropower is flexible.** It bolsters the reliability and resilience of our electricity system with flexible generation and reserves, and other essential ancillary services. Reliable electricity grids must have enough energy and reserves at all times to balance demand and supply that changes due to consumer behavior, planned and unplanned generator outages and grid disruptions, and by changes in the availability of certain resources (e.g. wind and solar energy). Hydroelectricity can rapidly adapt to dynamic conditions by managing the flow of water into the turbine, thereby "ramping-up" or "ramping-down" electricity generation (by the second, minute or hour) all year-round. Hydropower also provides other essential "ancillary services" including: blackstart capabilities; reactive power and voltage control; spinning & non spinning reserves; and frequency control and grid inertia.

<sup>2</sup> **Hydropower is dependable.** It enables the grid integration of variable wind and solar energy with dependable capacity that is available year-round, and long duration energy storage in the reservoirs and waterways from which the water flows. The cost of the technologies that harness wind and solar energy, and the approaches used by electricity system operators to reliably integrate them into the grid at greater volumes have made major advancements in the past decade. Also, battery technologies are becoming a cost-effective approach to managing short-term fluctuations in demand and supply. However, longer term energy storage is also required to ensure adequacy of supply for the infrequent instances that the wind and solar energy resources produce less than required for long durations (i.e. several days). The energy storage contained in the reservoirs and waterways is Canada's advantage to achieving extremely high levels of renewable energy generation from water, wind and solar. This will become increasingly important as coal-fired generation is phased out in Canada.

5. WPC recommends that the Federal Government develop or amend as necessary regulations and policies under the recently modified *Fisheries Act* and *Canadian Navigable Waters Act* to ensure that all existing hydropower facilities can continue to operate without undue constraints that were not foreseeable at the time of construction, and so that they can be maintained or refurbished in a timely and cost effective manner.  
The Federal Government should also strive to reduce additional undue burden on owners and operators created by the recent Legislative changes.

We do appreciate this opportunity to comment and welcome any further queries. Thank you for your consideration.

Sincerely,



Patrick D. Bateman | Vice President Government & Regulatory Affairs, WaterPower Canada