WRITTEN SUBMISSION FOR THE PRE-BUDGET CONSULTATIONS IN ADVANCE OF THE 2021 BUDGET

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Recommendation 1: That the Government of Canada closely study and support Yukon Energy's 10-Year Renewable Electricity Plan.

Recommendation 2: That the Government of Canada allocate $130 million to $140 million in Budget 2021 to the construction of the Atlin Hydro Expansion, to be owned and operated by Tlingit Homeland Energy LP, which is itself owned and wholly controlled by the Taku River Tlingit First Nation.

Recommendation 3: That the Government of Canada allocate $15 million in Budget 2021 to support the planning for the Moon Lake Pumped Storage Facility and the Southern Lakes Transmission Expansion.

Yukon Energy is a publicly-owned electrical utility and the main generator and transmitter of electricity in Yukon. It is Yukon Energy's job to supply all of the power that Yukon residents, businesses and industry need. Yukon Energy has a strong track-record of building, operating and maintaining renewables. Historically, more than 90% of the electricity generated in Yukon has come from hydro resources.

Yukon Energy's role in helping Yukon achieve its future emission reduction targets is critical. As the Yukon government looks to electrify the territory's heating and transportation sectors to reduce emissions, Yukon Energy's ability to supply dependable sources of renewable electricity to meet these increased demands for power becomes especially important.

The Yukon grid is unique compared to many other electrical systems in Canada. As an isolated electrical grid, it is not connected to any other province or territory. The system is also near capacity. During the winter, Yukoners are already using more than 90% of the capacity available on the grid. To prevent power outages, Yukon Energy rents temporary diesel power generators each winter. Adding to the immediate challenge, demand for power in Yukon is expected to grow by 40% in the next 10 years.

Yukoners have told Yukon Energy that they want renewable electricity solutions. In 2019, Yukon Energy made a decision not to move ahead with a new diesel power plant to meet growing demands for winter capacity.

In response to these challenges, Yukon Energy has drafted a 10-Year Renewable Electricity Plan, which is a critical part of the Yukon Government's *Our Clean Future* energy and climate change strategy, and will contribute towards Canada's GHG emission reduction commitments under the Paris Climate Agreement.

The plan outlines three new renewable electricity projects that are critical to cut carbon emissions and to keep the lights on in Yukon. The plan is bold – yet practical and achievable. Partnerships with First Nation project developers, First Nations governments, the Yukon government and Government of Canada will be key to build the projects identified and to keep power rates affordable.

The three critical projects in the plan are:

1. The expansion of the existing Atlin hydro power facility in Atlin, BC, and its connection to the Yukon grid;
2. The construction of a new pumped storage facility on Moon Lake; and,
3. The expansion and upgrade of the Southern Lakes Transmission network.

Each of these projects are shovel-worthy and are critical to helping Yukon government achieve its emission reduction targets and to increase energy security in the north.

<u>Atlin Hydro Expansion</u>

Taku River Tlingit First Nation (TRTFN) is 100% owner of an existing hydro project through its company Xeitl Limited Partnership. Xeitl (schaykl) is a Tlingit word meaning lightning or energy. TRTFN also is 100% owner of the expansion project through another company named Tlingit Homeland Energy Limited Partnership. Both XLP and THELP work to advance projects that meet Taku River Tlingit First Nation (TRTFN) criteria, which means project that are sustainable, advance the interests of Tlingit citizens, other citizens in TRTFN's homeland, climate change and the interests of British Columbia, Yukon, and Canada. This project will positively impact Taku River Tlingit First Nation for generations to come.

THELP is leading the Atlin expansion project and has spent $3M over the last few years bringing the project to near shovel readiness. Feasibility work has been completed and project environmental submissions (Clean Energy Development Plan in BC and YESEAB) will be made in the next couple weeks.

The proposed project would see the addition of a new hydro plant that would expand the generation capacity four-fold. THELP would develop, own and operate the new hydro, and would sell electricity generated from the new hydro facility to Yukon Energy. A new transmission line between Atlin, BC, and Jakes Corner, Yukon, would also need to be built to deliver the hydro power generated at the Atlin facility to Yukoners.

This is not a run-of-river project. It uses the natural storage of a 31 square kilometer lake to shape the generation profile by storing water in the summer so that it can add more dependable renewable capacity to the Yukon grid by generating through the winter. It would help reduce the amount of diesel and LNG needed to generate electricity during those times of the year.

This project is a near-term opportunity. It can be completed by 2024 with shovels in the ground in Spring of 2021. It is both the most near-term and the best clean energy solution for the region.

To date, $3M has been invested in a feasibility study, preliminary engineering and project development. Permitting is underway. Based on current estimates, approximately $130 million to $140 million in federal funding is required to move the project through to completion.

Moon Lake Pumped Storage

This new project would be built in BC on overlapping Traditional Territory of the Taku River Tlingit First Nation and the Carcross/Tagish First Nation.

This project would increase the capacity of the Yukon grid by 30%. This additional capacity is urgently needed to meet growing demands for power in the winter, when electricity use in Yukon is the highest. Moon Lake provides a way to store excess renewable electricity generated by hydro and intermittent resources such as solar and wind in the summer and use that stored energy to decrease the use of diesel and LNG to generate electricity during the winter.

The project is in a very early stage of assessment, but has many features of a world-class pump storage facility. Based on work completed to date, the project is estimated to cost $300 million. While the project's in-service date is about 10 years away, investments in project planning must be made now.

Southern Lakes Transmission Network

A transmission line in the Southern Lakes region of Yukon already exists. However, it must be upgraded and expanded to connect the Moon Lake pumped storage facility. The transmission line would also enable the connection of future community-based renewable projects in southern Yukon to the grid and open the opportunity to sell surplus summer renewable electricity for supply of shore-side power to cruise ships in Skagway, Alaska. This provision of clean energy will reduce the emissions of cruise ships in the port of Skagway, an important environmental benefit.

This project is estimated to cost $110 million.

Support for the Projects

The projects identified in Yukon Energy's 10-Year Renewable Electricity Plan are critical to the Yukon government's ability to achieve the emission reduction targets outlined in its draft *Our Clean Future* energy and climate change strategy, and to enable economic development in Yukon and the surrounding region, including Atlin in Northern BC. The vision of a clean and sustainable electricity is also supported by the people of Yukon, who have clearly voiced their preference for renewable electricity solutions instead of increased dependence on fossil fuels.

A lasting Partnership with Ottawa

Every project in this plan is needed. We cannot pick and choose. The alternatives have been fully explored and are untenable. The challenge is that the projects in this plan are estimated to cost in excess of $500 million, representing a generational investment in the Yukon electricity system.

Federal participation, in line with historical investments by Ottawa in major infrastructure development in Canada's North, will be critical in moving the projects forward. It is critical to keeping electricity rates affordable for Yukoners. Our conversations to date with decision-makers in Ottawa have indicated a willingness to help. The projects align closely with federal government priorities, including climate change mitigation, Indigenous participation and benefit, job creation and regional economic development.

The bottom line is that if significant investments are not made, Yukoners will have an inadequate electricity system and little to no choice but to rely on diesel and LNG to meet future demands for power – a solution to which Yukoners are vocally opposed.

We hope that we can count on the Government of Canada to step forward as a committed partner to help fund the construction phase of the Atlin Hydro Expansion and the development and subsequent construction of the Moon Lake Pumped Storage Facility and the Southern Lakes Transmission Network.