

**Yukon Conservation Society –
Next Generation Hydro stakeholder engagement interview questions
January 2015**

1. Are you familiar with the Directive?
2. What are your organization's interests in energy?
3. What concerns do you have about the Yukon's energy future in the: a. short term (<10 years) and b. long term (>20 years)?
4. What views do you have around hydro as a method of energy generation; what concerns do you have?
5. Would you like to continue to be notified of opportunities to participate in the engagement activities?

1. Are you familiar with the Directive?

Yes, YCS is familiar with the Directive.

We have particular interest in 2: *“The goal of the Project is to ensure, together with supporting renewable and, to the minimum extent feasible, non-renewable sources of electrical power, an adequate and affordable supply of reliable and sustainable electrical power in Yukon.”*

YCS interprets this as direction to design and propose a business case for a decentralized, diversified, distributed and democratic energy system. This alternative option could be one of the “one or more” projects contemplated in the Directive, in addition to or instead of a business case for one big dam.

2. What are your organization's interests in energy?

YCS has a strong interest in energy issues and opportunities. We recognize that energy governs our lives and that everyone's use of energy, regardless of how it is generated, has impacts on the environment. As the Yukon Conservation Society, our primary focus is to promote conservation and efficiency – using less and wasting less energy. Our second focus is to promote the development of small-scale, appropriately sited, low-impact renewable energy sources distributed around the grid close to where energy is needed to meet growing demand and to electrify sectors currently powered by fossil fuels.

3. What concerns do you have about the Yukon's energy future in the: a. short term (<10 years) and b. long term (>20 years)?

In both the short and long term, YCS is concerned with fossil fuel extraction and consumption. YCS believes we can use local resources for local use, but that the resources must be renewable. We believe that if developed, Yukon's oil and gas resources would not be exploited for local use but primarily for export. Either scenario involves questionable economics and an economy of scale that would demand intensive development for which natural capital would be squandered.

YCS is concerned about the level of discourse around energy in the Yukon, and the fact that the Next Generation Hydro work is happening in the absence of a broad discussion about energy to address what our needs are and how we can best meet them. Inherent to this discussion would be an acknowledgement of and focus on energy efficiency and conservation, and energy democracy. Energy democracy means ensuring that everyone has access to enough energy that is produced in a way that neither harms nor endangers the environment or people. Concretely, this means leaving fossil fuels in the ground, socializing and democratizing the means of production and changing our attitude towards energy consumption.

Pursuing energy democracy will empower individuals and instill a sense of responsibility where people, businesses and communities are encouraged to participate in the generation of renewable energy and by extension, are more aware of and invested in efficiency and conservation.

We are concerned that the Next Generation Hydro work is premised on the assumption that a big dam is the best solution. We are concerned that the Yukon's isolated grid is viewed as a deficit rather than an advantage by the Next Generation Hydro teams. We are concerned with the desire and movement to connect the Yukon's grid with the North American grid. We are concerned that a BC transmission interconnection is assumed to be a given in the Next Generation Hydro process.

YCS does not assume that a big dam is the best solution. YCS believes that our isolated grid is an advantage. YCS does not support an interconnection with the North American grid. We suspect that a jurisdictional transmission interconnection would undoubtedly lead to the development of several large dams to justify the massive expense of transmission and to cash in on a perceived insatiable southern market for electricity. Further, we are concerned with the inefficiencies of transmission over such a great distance, where so much of the electricity would be wasted through line losses.

We hope to see the Yukon achieving energy self-sufficiency without fossil fuel extraction, and without sacrificing watersheds through the construction of big hydroelectric dams.

The benefit and value of an isolated grid is the opportunity and ability to achieve energy self-sufficiency and to build local resilience and revenue generating opportunities to strengthen communities, First Nation governments and development corporations. On the other hand, we fear large-scale hydroelectric development (resulting from major grid interconnection or not), would cause divisions in affected communities.

YCS's vision for our electricity grid is that it remains isolated (although we support research into a Skagway interconnection), and becomes diversified in its

energy sources, distributed, decentralized and democratic. A grid such as this will provide ample opportunities for responsible economic development of renewable energy projects to meet the Yukon's needs.

4. What views do you have around hydro as a method of energy generation? What concerns do you have?

YCS believes that hydro will always be an important part of the Yukon's energy mix. Hydro can be a good complement to other renewable energy sources functioning as a battery with storage. Low electricity rates and low greenhouse gas emissions are a result of our legacy hydro resources. That said, we feel the full story of the impacts of these heritage hydro legacy needs to be told. Fish and fish habitat, riparian habitat, and indigenous rights and title were sacrificed to build these legacy energy projects. These dams were built to enable and facilitate resource extraction industries that have also left us with toxic legacies and environmental liabilities that will cost billions to stabilize and clean up.

Further, we do not feel that big hydro fits into the Yukon's energy mix. Historically, big hydro has been a way to provide a massive public subsidy for intensive resource extraction industries and the Yukon Development Corporation's mandate leads us to believe it would be no different now. We do not feel that a big dam would be developed with the intention of electrifying currently fossil fueled sectors like transportation or space heating, but rather to power energy intensive natural gas liquefaction or mammoth mining operations like Casino, and for export if a transmission interconnection were built.

The financial cost of big hydro projects, especially in remote areas, is huge. This alone is a good reason not to pursue them. The Mayo B project was a very expensive project in terms of cost per MW with a very low energy return on investment. We have no reason to believe that a big hydro development would not involve massive cost overruns above and beyond the billions of dollars in initial projected costs. The Aishihik hydrodam, for example, was projected to cost \$17 million, but actually cost \$39 million (not including recent upgrades and turbine additions). That is \$203 million in today's dollars.

Please find attached two studies that document the enormous costs and cost overruns associated with the majority of big hydro projects.

There is ample evidence that big hydro projects create huge economic risk. The risk here is that a big dam would bankrupt future generations rather than power them. It is our understanding that the Yukon Development Corporation is already in debt more than \$100 million from the Mayo B era. Taking on additional debt would be imprudent and would put ratepayers at risk.

We fear that a massive investment in a big hydro project would be a barrier to more responsible energy projects in two ways. A big dam would constrain

financial resources that could be used to invest in community supported small scale renewable energy independent power production (IPP) projects. A big dam would also add a glut of electrons to the grid effectively preventing IPPs from obtaining power purchase agreements.

It is our view that renewable energy IPPs, particularly those driven by First Nations and communities, can provide significant benefits to the Yukon relative to a big dam. A big dam would crowd out or prevent other potential renewable energy sources that would be a better fit to the Yukon's energy needs and to our communities.

The kind of hydro developments that we will support are projects that respect ecological limits and meet low-impact hydro criteria, thereby also achieving near unanimous support from affected First Nations and communities.

Two such projects in our region are the Taku River Tlingit's Surprise Lake/Pine Creek 2.1 MW facility near Atlin, and Alaska Power and Telephone Company's 4 MW Goat Lake Hydro Project that powers Skagway and Haines Alaska. Both of these remarkable projects displaced 100% fossil fuel electricity generation for the local communities in addition to other benefits.

We are not convinced that Yukon Energy Corporation is adequately investigating the 0-10MW projects. We understand that an update to the 20 Year Resource Plan will be developed in 2015-2016. The last Resource Plan's LNG aspirations have now been realized. We recommend that a new process be undertaken now to identify supportable renewable energy projects to meet our short term needs – whether developed by our public utility or by independent power producers – so we can build incremental additions to our grid to meet growing demand.

5. Would you like to continue to be notified of opportunities to participate in the engagement activities?

Yes. Thank you.