

Feedback Form

Small Hydro Program Design, March 2022

Feedback Provided by:

Name: Julien Wu

Title: Director-Regulatory Affairs

Organization: Evolgen by Brookfield Renewable

Email: [REDACTED]

Date: April 12 2022

To promote transparency, feedback submitted will be posted on the IESO webpage unless otherwise requested by the sender.

Following the **(date)** Small Hydro Program Design Outreach Session, the Independent Electricity System Operator (IESO) is seeking feedback from stakeholders on the following discussed items. Background information related to these feedback requests can be found in the presentation, which can be accessed from the [engagement web page](#).

Please submit feedback to engagement@ieso.ca by **(date).** If you wish to provide confidential feedback, please mark the document "Confidential". Otherwise, to promote transparency, feedback that is not marked "Confidential" will be posted on the engagement webpage.

Small Hydro Program – Engagement Approach

Topic	Feedback
What questions or feedback do you have about the IESO’s engagement approach?	Click or tap here to enter text.

Small Hydro Program – Principles & Goals

Topic	Feedback
What questions or feedback do you have on the design goals for the program?	<p>Given that the IESO has defined “Small Hydro” as stations under 10MW, the number of contracts applicable to this stage of the engagement is limited. What’s more, such stations appear to be composed of small, run-of-river assets that are fewer in number than expected. As such, these assets might not have the scale for owners to economically invest in dispatchability upgrades and/or pairing them with storage technology. As a result, Evolgen recommends the IESO focus its attention on the subsequent engagement on “larger” stations, where operability upgrades might be more economical. The “larger” stations also represent the majority of the hydro-fleet in capacity, and would include more variability in characteristics (e.g., presence of reservoir, cascading assets that mutually influence operational decision...). In sum, we recommend the IESO adopt a simpler approach to re-contract the “smaller” stations, and save the more complex design principles and stakeholdering for the “larger” stations.</p>
What questions or feedback do you have on the principles that the design is founded on? (focus on value, promote competition, incent market-driven operations and allow for flexibility in future system operation).	Click or tap here to enter text.

Small Hydro Program – Design Concepts

Topic	Feedback
<p>What questions or feedback do you have relating to Design Concept #1: Capacity Payments</p>	<p>The nameplate (ICAP) approach to value capacity is not suitable, as hydro stations with the same nameplate volume can differ significantly in their operability and grid benefit (e.g., availability of reservoir and generation profile). We recommend the adoption of UCAP capacity payments (e.g., top 200 hours of median pricing of the past 5 years, by season) bundled with a contract-for-difference (“CfD”) energy component. This “UCAP + CfD energy” bundle would accurately reflect a given unit’s actual capacity and energy value. To be clear, given the <10MW threshold of “small” stations, only compensating such assets for their capacity (ICAP or UCAP) would render them uneconomical: an energy payment component is absolutely necessary.</p>
<p>What questions or feedback do you have relating to Design Concept #2: Dispatchability</p>	<p>Click or tap here to enter text.</p>
<p>Is your facility currently dispatchable?</p>	<p>Click or tap here to enter text.</p>
<p>If your facility is currently not dispatchable, is there an interest in becoming dispatchable? What would be required to become dispatchable and what are the barriers (if any)?</p>	
<p>What questions or feedback do you have relating to Design Concept #3: Tranching</p>	<p>The value provided by hydro-facilities in flood control and water management in general must be included in the payment scheme.</p>
<p>What characteristics would you consider to be defining features of your operations or facilities as it relates to potential criteria for contract payments?</p>	<p>Click or tap here to enter text.</p>
<p>What questions or feedback do you have relating to Design Concept #4: Investment?</p>	<p>See comments re: Contract Length</p>
<p>Have you considered adding an on-site battery to your facility? If so, what stage of</p>	<p>Click or tap here to enter text.</p>

Topic	Feedback
development are you in? Is there potential for Indigenous and/or community ownership?	
Are you aware of your sustaining capital requirements over the next 5 years?	Click or tap here to enter text.
Have you considered any upgrades or capital projects at your facility? If so, what stage of development are you in? Is there potential for Indigenous and/or community ownership?	Click or tap here to enter text.
What questions or feedback do you have relating to Design Concept #5: Contract Length ?	Hydro-facilities are perpetual assets that the IESO can and has relied on for their full range of capacity, energy, and ancillary services. They are also emissions-free. Nonetheless, hydro-facilities require significant investment to maintain. Longer (15+ years) contracts allow owners to optimize financing and investment decisions, to in turn offer a lower levelized price to the IESO and ratepayers. We recommend longer contract lengths.
What questions or feedback do you have relating to a program review in 2026?	Click or tap here to enter text.

Small Hydro Program – Other Design Ideas

Topic	Feedback
Are there any other design ideas for the development of a Small Hydro Program that should be considered?	The renewable attributes generated by hydro-facilities need to be either bundled and priced in the long-term contracts with the IESO, or released to asset owners to value and monetize as they see fit.

Small Hydro Program – Challenges

Topic	Feedback
Are there challenges that you foresee in transitioning to a new contract structure? What are these challenges?	Click or tap here to enter text.

Topic	Feedback
If you expect any challenges in transitioning to a new contract structure, do you have any suggestions on how the IESO can assist in the transition or reduce any anticipated barriers?	Click or tap here to enter text.

General Comments/Feedback

Many of the feedback questions (e.g., dispatchability, storage pairing, uprates...) are only applicable to our larger assets. We look forward to discuss these opportunities with the IESO in the later stage of this engagement.