

Feedback Form

Small Hydro Program Design, March 2022

Feedback Provided by:

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Date: April 18th, 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?	Enerdu is pleased that discussions are underway regarding the next contract. We are pleased that the IESO is working with both the operators and the OWA to effect a workable long term plan

Small Hydro Program – Principles & Goals

Topic	Feedback
What questions or feedback do you have on the design goals for the program?	<p>While Enerdu is an investment, in provision of hydroelectric generated electricity for the Ontario grid, many of the costs related to the ongoing operation of the facility are "non-electricity" related. As a small station on the Mississippi River, our inflatable dams maintain stable water levels along a 9km stretch of the river. Further, these operatable dams are the mainstay of flood control for the Town of Almonte. Enerdu also maintains and operates a flood bypass system to provide further flood control in years of extremely high water. Enerdu also built and maintains both upstream and downstream systems for eel migration. The installation costs for the eel system approached \$1M. The system includes a capture system to allow for the monitoring of eel movements. These systems, along with retaining appropriate consultants, is a significant annual cost to Enerdu. There are more requirements under the ESA that have costs associated with them that are borne by Enerdu, yet are of Provincial benefit. Enerdu began a redevelopment program as soon as we executed the HCI contract in 2010. It took us some 6 ½ years, and \$2.5M in consulting fees to finally receive approval to begin the redevelopment. With another 2-year build, by the time the new plant came on line, there was only 12 years remaining on the contract to payback the rebuild expense. While the plant build cost was</p>

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	<p>approximately \$8M, the total project cost more than \$12M. Some \$4M will remain on the loan when our contract expires in 2030. All this to say, owners require a very long contract commitment to be able to recapture their investment with even a small ROI. We believe the IESO underestimates both the non-electricity benefit to the Province and the redevelopment/capital costs of small hydroelectric stations. It should further considered that the best and most efficient way to deal with ongoing required capital expenditures is to allocate a portion of each year's revenue to future capital requirements. Any price for energy should include funds for refurbishment of the plant and equipment</p>
<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).</p>	<p>Value: Enerdu believes the Province is already receiving excellent value. Further, the non-electricity value must also be considered. If the MNRF had to take over the flood control and other duties, it would cost the Province far more than that which is included in the energy payment. Obtaining a long-term, consistent supply of energy, from near perpetual facilities strikes us meeting the government's stated goal of reliable, cost effective energy. With respect to flexibility, small hydroelectric stations like Enerdu are designed to operate as run of the river facilities. This reduces the ability to offer flexibility in energy generation. This is especially evident when considering non-electricity reasons. For example, Enerdu passes some 38 cms through the plant at maximum flow. If it were forced offline during high water flows, the chance of causing significant flooding increases dramatically. Enerdu staff work diligently to ensure that the plant stays online during these periods to mitigate flood impacts. There is no opportunity to be flexible in this case. Operating a run of river plant in an "on and off" basis would markedly affect landowners, fish habitat etc. with widely fluctuating water levels. Finally,</p>

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	Enerdu must adhere to water levels and flow as established in the Water Management Plan. This could not be done with a demand style energy generation model.

Small Hydro Program – Design Concepts

Topic	Feedback
What questions or feedback do you have relating to Design Concept #1: Capacity Payments	Enerdu questions the need for more complexity in the contract. The current HCI model is understood and seems to be working for both the IESO and the plant operator. While the ROI needs to be measured in decades, the current system has attracted investors. Enerdu was designed to operate as a run of the river facility. It offers the IESO the best value electricity when operated in this fashion. It doesn't seem to make sense to change the model. The current contract is also useful when looking at redevelopment. Having a formula under which the plant can be redeveloped provides certainty to investors. Enerdu recognizes the need for the IESO to look to improve Ontario's electricity system, but it would seem that the current operating environment is largely workable for both parties.
What questions or feedback do you have relating to Design Concept #2: Dispatchability	Enerdu could not function as a stand-alone facility in a dispatchable environment. The Mississippi River has a number of control structures and hydroelectric plants, all of which would need to act in harmony, or risk being out of compliance with the WMP and/or have impacts on flood control, public safety and fish and other species habitat. Enerdu has been designed and built as a run of the river facility, changing to a dispatchable operation in the current working environment is not possible.
Is your facility currently dispatchable?	No

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<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>Enerdu cannot envision a process whereby it could be dispatchable. The coordinate necessary with other control structure operators and the affected Government Agencies seems impossible and very costly. We are not seeing the value here.</p>
<p>What questions or feedback do you have relating to Design Concept #3: Tranching</p>	<p>Enerdu does not have enough information to make comment, but reiterates that it would introduce complexity to a system that is largely working well.</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>Long-term commitment to a revenue stream that increases with rising operating costs. A contract that allows for the redevelopment of facilities with a known costing model. By long term, we would look to a 20 year + contract to give investors revenue certainty.</p>
<p>What questions or feedback do you have relating to Design Concept #4: Investment?</p>	<p>Investment in hydroelectric is, by its nature a very long-term investment. However, once a site has been developed for hydroelectric power, it can virtually last forever. Enerdu, as a new plant will require more than 20 years achieving payback. Without very long term revenue streams, getting investment will be impossible</p>
<p>Have you considered adding an on-site battery to your facility? If so, what stage of development are you in? Is there potential for Indigenous and/or community ownership?</p>	<p>No we have not, however remain open to future possibilities. Currently we are privately held company with no plans for additional ownership.</p>
<p>Are you aware of your sustaining capital requirements over the next 5 years?</p>	<p>Yes. We see the most efficient way to fund Capex is through the energy payment. This leads to effective capital planning for these long-term investments</p>
<p>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?</p>	<p>Recently redeveloped (2018) and had excellent input from, and a good relationship with the Algonquins of Ontario, but there are no plans for ownership changes.</p>

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What questions or feedback do you have relating to Design Concept #5: Contract Length ?	As stated earlier, 20 years seemed like a long time when we entered into the HCI contract with the plan to redevelop. Enerdu would urge the IESO to consider 20 years as a minimum contract length to create certainty in the investment.
What questions or feedback do you have relating to a program review in 2026?	To ensure long-term investment, Enerdu will require an investable long-term contract.

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?	We recognize the desire to put a new stamp on this program but for the most part the current HCI contract seems to meet the Government's stated goals and addresses the requirements of the small hydro operators. Surely there is a way to retain this style of contract for small hydro

Small Hydro Program – Challenges

Topic	Feedback
Are there challenges that you foresee in transitioning to a new contract structure? What are these challenges?	If the new structure meets the current needs of small hydro and assists with the significant long term investment required, Enerdu welcomes new challenges
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

Click or tap here to enter text.