

Feedback Form

Clean Energy Credits – February 24, 2022

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Following the February 24, 2022 engagement webinar, the Independent Electricity System Operator (IESO) is seeking feedback from stakeholders on the items discussed during the webinar. The webinar presentation and recording can be accessed from the [engagement web page](#).

Please submit feedback to engagement@ieso.ca by March 17, 2022. If you wish to provide confidential feedback, please submit as a separate document, marked "Confidential". Otherwise, to promote transparency, feedback that is not marked "Confidential" will be posted on the engagement webpage.

Opportunities & Challenges

Topic

What are the key opportunities and challenges the IESO should be aware of in developing a voluntary clean energy market?

Feedback

Environmental attributes (EA) of any kind vary widely in value to those who seek to generate revenue from selling them and to purchasers using them to meet greenhouse gas (GHG) emissions reduction targets. Key differentiating factors include:

1. **Prevent double-counting** – Clean Energy Credits (CECs) must be tied to the megawatt-hour (MWh) only once to be useful under voluntary GHG emission reduction targets. This means that the IESO will have to establish a grid intensity factor for the residual electricity supply mix. It will also have to exclude any clean energy production and/or installed capacity that has sold CECs to a third party from its other analysis of the current supply mix and forecasted emissions intensity of the grid. These steps are necessary to ensure for the CEC buyer that the CEC is valid and for the IESO to understand the true emissions intensity profile of its electricity supply mix to inform future planning and procurement decisions and to comply with a potential future Federal mandate of a net-zero electricity grid by 2035.
2. **Additionality** – CECs should be verified as being tied to emissions reductions that would not otherwise have happened, e.g., a power that would not otherwise have been generated under business-as-usual conditions. CECs should only be created from a generation tied to new or repowered projects and/or to a generation of uprated or expanded facilities for the portion of the generation tied to the uprate or expansion. New and repowered projects

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	<p>should be able to generate CECs for 30 years from the Commercial Operation Date (COD). Existing assets should not be able to generate CECs under this program (until such a time as they are repowered, uprated, or expanded). However, if the IESO decides to enable existing resources to generate and sell CECs, we submit they should only be able to do so until 30 years after the COD of the original construction or any subsequent repowering.</p> <p>3. Interoperability – Due to existing hydro, nuclear, and renewable energy sources, Ontario’s grid has a low emissions intensity relative to nearby jurisdictions. As a result, demand for the CECs may be limited within Ontario. To maximize the benefits to generators and ratepayers, the IESO’s CEC program should be interoperable with successful EA programs in neighbouring jurisdictions. We understand the objective is to focus on domestic purchasers at this time, but the IESO should work to future-proof the system as much as possible in its design.</p>

Design considerations

Topic	Feedback
<p>Which design considerations outlined in this presentation are most important to you and why?</p>	<p>The three design features noted above, namely preventing double counting, additionality, and interoperability are important for this CEC program.</p> <p>We submit that all renewable energy credits are currently bundled with the power sold to the IESO. In support of the creation of a CEC framework and future marketplace, the IESO should establish clear rules that would unbundle renewable energy credits (RECs) and CECs from the actual</p>

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	<p>MWhs sold to IESO. We note that this would not prevent the IESO from purchasing CECs as part of a Power Purchase Agreement (PPA) or on the CEC market to ensure the green attributes of the Ontario grid. This is only a required step to enable separate sales and trading of CECs within the province.</p> <p>In addition, we submit the IESO should work to avoid excluding clean sources of energy from the list of eligible power generation types. This will prevent the IESO from picking market winners and ensure that project developers and potential buyers can choose from all clean energy sources based on their own needs and market dynamics.</p> <p>For example, a gas plant fired by Renewable Natural Gas (RNG) should be able to generate CECs, at least for the MWhs that can be verified as tied to RNG as opposed to natural gas as the fuel source. This is consistent with the inclusion of landfill gas.</p> <p>Furthermore, behind-the-meter generation (BTM) should be equally eligible to generate CECs, whether small rooftop solar on a residential structure or larger, utility-scale BTM production. CECs are an important part of project finance in most markets and are the measure of clean energy produced. There is no difference between front-of-the-meter (FTM) and BTM concerning emissions reduction benefits or power production, and they should be treated equitably under any CEC program. The process should ensure that mechanism exists to ensure either is counted only once.</p>

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<p>What other design considerations should IESO be aware of?</p>	<p>There are many important technical design components that will have a significant impact on the value of the CEC market to buyers, sellers, and ratepayers. These include:</p> <ul style="list-style-type: none"> - The lifetime/vintages/expiry of CECs - The period after COD for which a project can generate CECs - The related market mechanisms for buyers and sellers - What and how the information as to the source of CEC, verification status, etc. are shared in real-time - How the IESO accounts for the CEC-related power in its grid emissions intensity calculations and its grid supply planning, etc. - The inclusion of a process to verify point of origin, and track, verify, and validate associated CEC with the energy source is paramount - Hydrogen as an energy carrier analogous to electricity should be given appropriate design treatment to enable hydrogen to fulfil its full potential in the clean energy space with the requisite CEC credits - And more <p>Enbridge submits that thorough consultation on these technical details will help to ensure the viability of the CEC market and to clarify its role in Ontario's electricity supply and market. We look forward to participating in future consultations.</p>

Engagement Process

Topic	Feedback
Which stakeholder groups and/or design topics are most important to include in the planned focus group discussions?	The IESO should include generators, especially those who operate renewable energy assets in other markets and have experience generating and selling EAs similar to CECs. Ideally, these generators would have experience with both BTM and FTM power projects and EAs. Additionally, large emitters, especially those with operations in other markets where they are already experienced in buying and trading EAs for compliance and/or voluntary emission reduction targets, would provide valuable insight. To the extent possible, the IESO should also include entities focused on marketing and trading EAs and/or those with experience in valuing and certifying credits.
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Are there any additional engagement opportunities the IESO should consider?	Enbridge would always encourage the IESO to reach out to the investment sector, such as those who finance power projects, on key market structure, and/or procurement consultations. We also understand that the Federal Government is considering a Clean Electricity Standard (CES) proposal that would require Canada's electricity grid to reach net-zero by 2035. We submit that the IESO should consult with the Federal Government on its plans in support of future interoperability, or at least to minimize major design changes in the event a CES is adopted.

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Would you be willing to participate in a technical session? If so, on which topic(s)?	Yes, Enbridge’s renewable energy business has experience generating, selling, and trading EAs in other jurisdictions and would be willing to participate in a technical session focused on the generation of CECs. In addition, our Gas Distribution business is very familiar with emissions compliance frameworks and EAs and could participate in the large emitter working group. Enbridge has ESG targets that include reaching net-zero by 2050 and reducing our emissions intensity by 35% by 2030. We are interested in maintaining the low-emissions profile of Ontario’s current grid supply and will likely be active participants in the generation of CECs, where a clear and fair framework is established.

General Comments/Feedback

Enbridge appreciates the opportunity to provide comments under this CEC design consultation, or the Clean Electricity Credit for greater clarity.

Ontario’s hydro, nuclear, and renewable energy electricity supply already provides the province’s ratepayers with a relatively clean grid with a low-emissions intensity profile as compared to some nearby jurisdictions. Enbridge submits that this clean grid should be maintained to the benefit of all ratepayers and not just those with the resources to purchase CECs. This will be especially important in the event the Federal Government establishes its CES aimed at net-zero emitting electricity grid by 2035.

This can be achieved by incorporating eight key principles into the CEC framework design:

1. **Avoid double-counting:** Each CEC must be tied to a unit of energy MWh only once to be useful under voluntary emission reduction targets or potential future compliance programs. This means that the IESO will have to establish a grid emissions intensity factor for the residual electricity supply mix that excludes any clean electricity tied to a CEC that has been sold to a third party other than the IESO.

It will also have to exclude any clean energy production and/or installed capacity that has sold CECs to a third party from its other analysis of the current electricity supply mix and forecasted emissions intensity of the grid. These steps are necessary to ensure for the CEC buyer that the CEC is valid and for the IESO to understand the true emissions profile of its supply mix to inform future planning and procurement decisions.

2. **Additionality:** CECs should be verified as being tied to emissions reductions that would not otherwise have happened, such as a power that would not otherwise have been generated. CECs should be created from incremental generation tied to new and

repowered projects for 30 years from COD and/or to the generation of updated or expanded facilities for the portion of the generation tied to the update or expansion. This will help avoid a situation where entities are required to pay for CECs that have already been included in a PPA. In the event the IESO decides to enable unchanged existing generation to generate CECs, they should only be able to do so for 30 years from the COD of the original construction or any subsequent repowering.

- 3. Interoperability:** Due to existing hydro, nuclear, and renewable energy sources, Ontario's grid has a low-emissions intensity grid as compared to nearby jurisdictions. As a result, demand for the CECs may be limited within Ontario. To maximize the benefits to generators and ratepayers, the IESO's CEC program should be interoperable with successful EA programs in neighbouring jurisdictions. We understand the objective of this call for feedback is to focus on domestic purchasers at this time, but the IESO should work to future-proof the system as much as possible in its design. We also recommend that the IESO consults with the Federal Government on its proposed CES design, as any CEC framework should be interoperable with a federal program and/or the requirements for a provincial backstop in the future. In designing a CEC framework, the IESO should also consider minimizing disruption to energy users, providers, and distributors by consulting with and where possible federal parties to ensure that a consensus on a framework to meet the requisite targets is reached regardless of a shift or change in government.
- 4. Fairness in determining eligibility:** The IESO should work to avoid excluding clean sources of energy from the list of eligible power generation types. This will prevent the IESO from picking market winners and ensure that developers and potential buyers can choose from all clean energy sources based on their own needs and market dynamics. For example, a gas plant fired by renewable natural gas (RNG), or potentially hydrogen in the future, should be able to generate CECs, at least for the MWhs that can be verified as tied to RNG or hydrogen as opposed to natural gas as the fuel source. The inclusion of sources of energy such as RNG and hydrogen is consistent with the inclusion of landfill gas, which are better for the environment over the long term than nuclear and large hydro sources that are also considered low-carbon sources of electricity.
- 5. Behind-the-meter:** There is no functional difference between BTM and FTM when it comes to the production of an MWh of clean energy and/or that electricity's contribution to voluntary emission reduction targets. BTM generation should be equally eligible to generate CECs, whether small rooftop solar on a residential structure or larger, utility-scale BTM production. CECs are an important part of project finance in most markets and are the measure of clean energy produced and both types of production should be treated equitably under any CEC program.

6. **Turboexpanders:** Turboexpanders on a natural gas system create electricity by using the energy released during a pressure reduction within the natural gas distribution system to spin a turbine, which can be used to create electricity. The electricity created using a turboexpander is clean and takes advantage of only differences in the gas pressures and should be eligible to receive CECs.
7. **Renewable and low-carbon hydrogen:** Hydrogen has been recognized as vital to meeting climate targets worldwide. As such, hydrogen made from sustainable processes (low carbon hydrogen), such as the steam methane reformation, plasma, or pyrolysis processes with robust carbon capture utilization and storage, should be considered and expedited for the receipt of CEC treatment along with all forms of renewable hydrogen. This should be harmonized with the Federal policies and enable the trading of CECs even across borders. In addition, consideration should be given to CEC capture at the point of production, if possible, to prevent double counting. Consideration should also be given to instances where the hydrogen is sourced from others and can be verified that the CEC has not been used elsewhere to prevent double counts.
8. **Ongoing consultation:** There are many open-ended technical components of the CEC framework at this time. The IESO has not proposed a framework or any technical details at this time, which makes it difficult to provide detailed feedback (though we understand the IESO is on a short timeline for this work). We submit that ongoing consultation will be required, once the IESO is able to share a proposed high-level framework on the principles and design of that high-level framework. We further submit that additional consultation will be required once the framework is established on details such as the lifetime of a CEC, how long post-in-service date can a project produce CECs, how the IESO will manage the residential supply grid emissions factor and grid supply planning process, etc.

We submit that rushing through a framework and technical details could result in inadvertent design errors that undermine the usefulness of the CECs for those seeking to reduce their emissions voluntarily and/or could negatively impact the value of the CECs for generators and ratepayers. The IESO has been given a tight timeline to implement this framework, but we submit that the timelines should be adjusted if necessary to enable thorough consultation on the CEC rules and framework design.

Enbridge appreciates the opportunity to provide comments under this consultation and we look forward to future participation in the design of this CEC framework.