Clean Energy Credits

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Agenda

1. Introduction & Background

2. Clean Energy Credits – Overview & Considerations

3. Clean Energy Credits Engagement & Work Plan

4. Key Dates & Next Steps

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Introduction & Background

- The Ministry of Energy [asked the IESO](#) to assess options for the establishment and ongoing operation and management of a registry to support the creation and/or recognition, trading, and the retirement of voluntary clean energy credits (CECs) within the province

- Supporting businesses in meeting their environmental, social and governance (ESG) targets is a key government policy objective

- The IESO is to report back on or before July 4, 2022 with detailed design options and recommendations, as well as potential benefits and projected costs of building and operating a CEC registry

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Government Objectives for CECs in an Ontario Market

- Leverage Ontario's clean energy advantage to attract jobs and investment

- Ensure that Ontario is a partner in helping businesses meet their environmental goals

- Support efforts to further decarbonize Ontario's electricity system and reduce Ontario's greenhouse gas emissions

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1. Clean Energy Credits – Overview

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CEC Overview

- CECs (and Renewable Energy Credits, or RECs) are a mechanism to demonstrate that a unit of clean/renewable energy has been generated then retired on behalf of a person or organization

- CECs demonstrate clean energy has been procured for a compliance standard (policy driven) or voluntary target (consumer driven)

  - **Ontario Proposal- Voluntary: Corporations voluntarily purchase CECs/RECs to meet ESG targets**

  - Compliance: Renewable Portfolio Standards require a utility to source a set share of its electricity from renewables *(not being considered for Ontario)*

CEC vs. REC Fuel Types

Clean Energy Credits are generally of two types:

Clean Fuel Type Options

- Bioenergy
- Energy from waste
- Geothermal
- Hydroelectric (Run-of-river and reservoir)
- Landfill gas
- Nuclear
- Solar
- Wind

Renewable Fuel Type Options

- Bioenergy
- Energy from waste
- Geothermal
- Hydroelectric (often just run-of-river)
- Landfill gas
- Solar
- Wind
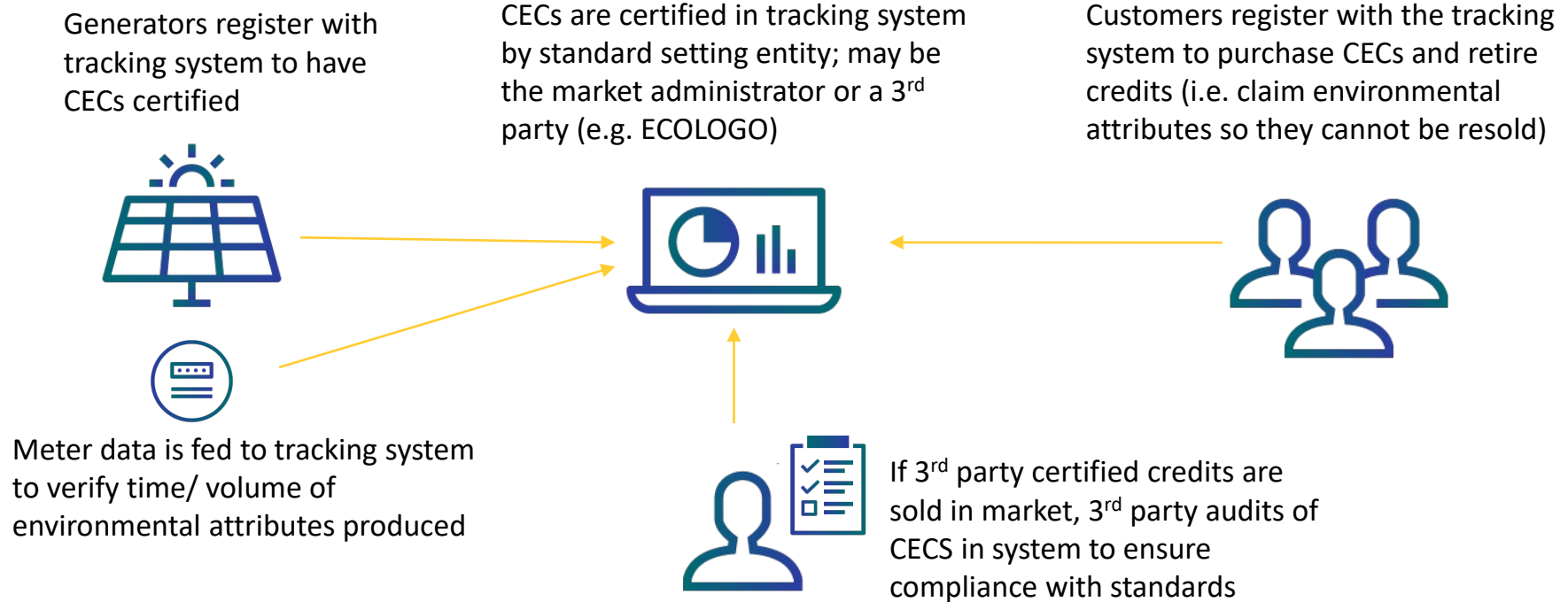
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CEC Registries/Tracking Systems

- Tracking systems enable the creation, trading, and retirement of CECs

  - Each CEC is assigned a unique tag upon generation

  - Trading enabled within the system and sometimes between systems

  - Retirement of CECs is also tracked

- Tracking systems are not involved in the financial side of CEC trading

  - The market for CEC purchase and sale exists outside of tracking systems, usually through bilateral agreements, RFPs or third-party brokers

CEC Tracking System- Attributes Tracked

- Energy credits often include the following information, which together constitute the energy's environmental attributes (EAs)

  - Where & when the energy was generated (location, facility, date)

  - Fuel type (wind, solar, hydro, etc.)

  - Facility age

  - On whose behalf the EAs were retired

- EA tracking on credits enables consumers to secure the specific product they are seeking for their ESG goals

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How a Voluntary CECs Market Works

Generators register with tracking system to have CECs certified

CECs are certified in tracking system by standard setting entity; may be the market administrator or a 3rd party (e.g. ECOLOGO)

Customers register with the tracking system to purchase CECs and retire credits (i.e. claim environmental attributes so they cannot be resold)

Meter data is fed to tracking system to verify time/ volume of environmental attributes produced

If 3rd party certified credits are sold in market, 3rd party audits of CECS in system to ensure compliance with standards

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CEC Purchase Options

- A number of different options exist to allow generators to sell CECs to customers in voluntary CEC markets

- While not explicitly requested in the letter from the Ministry, the IESO is seeking to understand which options consumers in Ontario prefer and are likely to use in order to meet their clean energy objectives

- Understanding consumer preferences is an essential step to developing a registry that can best meet consumer needs and achieve government policy objectives

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CEC Purchase Options (cont.)

- Initial research and customer outreach has revealed a number of key approaches consumers use to secure CECs

- CECs can be sold "bundled" with the associated energy or "unbundled"

- Unbundled sales: customer buys energy from utility and separately purchases CECs

- Bundled sales: the customer pays for the clean energy and the CEC

- Bundled sale options include:

  - Power Purchase Agreements (between customers and suppliers)

  - Green Pricing Programs (offered by utilities)

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Unbundled CECs

- Unbundled CEC trading allows customers to purchase the environmental attributes of clean/renewable energy separate from their electricity purchases

- Unbundled CECs can be purchased through brokers, aggregators, or directly from generators

Power Purchase Agreements (PPA)

- **Physical PPA:**
  - Customer buys electricity and CECs at a negotiated rate
  - Purchased electricity credited to customer bill
- **Financial PPA**
  - The generator sells electricity into the market at the wholesale rate
  - The customer and generator settle differences between the PPA rate and the wholesale rate
  - Generator conveys CECs to customer

Green Pricing Programs

- Utility acquires sufficient green energy to meet consumer demand

- The utility retires CECs on behalf of the customer in proportion to the quantity of green power purchased by the customer

- Green pricing customers pay for the green power through an additional line item on their utility bill

- A wide variety of arrangements exist to facilitate this type of program

Third-party standards for CECs

- Voluntary CECs can be certified by independent third-party standards

  - The Green-e standard is the biggest verification system in the U.S.

  - In Canada, the ECOLOGO Certification Program is commonly used

- Third-party certification helps consumers ensure the validity of credits and may also be helpful or required for corporate reporting purposes

  - Helps to avoid double-counting

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2. CEC Registry Development Considerations

CEC Registry Development Considerations

- The government ask identified a number of design considerations:

  - Scoped to Ontario: Design to enable trading of credits within Ontario

  - Voluntary: The purchase of credits to be entirely voluntary

  - Customer choice: Evaluate market demand via stakeholder engagement and design products to satisfy that demand

  - Monetize investments: Credit offerings should include existing clean non-emitting generation; enable proceeds to flow to ratepayers

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CEC Registry Development Considerations (cont.)

- Future Proof: Build the registry to offer flexibility and the potential for future expansion to other products or markets

- Maximizing market opportunity: Work with existing generators & brokers to maximize potential and report back on price ranges

- Avoiding double counting: Assess the impact of the CEC sales on other environmental goals to avoid unintended consequence of double counting efforts to meet those goals

- Support efforts to further decarbonize Ontario's electricity system and reduce Ontario's greenhouse gas emissions

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CEC Registry Development Considerations - IESO Findings

- Initial IESO research/outreach has identified a number of other considerations:

  - Double-counting: Sale of credits from existing generation may impact the share of clean energy and the greenhouse gas intensity of the residual supply mix for Ontario. Appropriate accounting methods may need to be developed.

  - Customer choice: Customers have a wide range of preferences and objectives, indicating the importance of stakeholder input into exploration of options

  - Third-party certification: Existing contracted generation may not qualify for third-party standards (such as EcoLogo)

  - Product definition: Some customers are seeking a more granular (e.g. hourly) product

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3. CEC Engagement & Work Plan

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Stakeholder Input

- IESO is seeking input on customer preferences for CEC product offerings and registry development to ensure that customer preferences inform IESO recommendations to government

- IESO plans to seek feedback from stakeholders through the following channels:

  - Survey large customers on specific CEC preferences & priorities

  - General feedback on CEC registry options and development

  - Potential for technical sessions (focus groups) to discuss specific topics in depth

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CEC Survey

- Insight into market demand and preferences for CECs is a key requirement for registry development

- IPSOS is running a brief survey specifically focused on CEC preferences

- Requesting that loads/customers complete the survey to ensure product offerings meet your needs

- To receive a link to the survey, please email engagement@ieso.ca

Potential Technical Session Topics

- Technical sessions could include discussions of the survey results or conversations around the following topics, subject to stakeholder interest:

  - Experience of existing generators and brokers who currently offer voluntary or clean energy credits

  - Understand how customers are/will report clean energy activities in order to avoid unintended consequences of a registry on efforts to meet clean energy goals (including the potential for double-counting)

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Work Plan

Date	Activity
March 17, 2022	• Deadline for stakeholder feedback
Mid-late March, 2022	• CEC Survey closes
March 31, 2022	• Responses to stakeholder feedback published
Q2 2022	• Further engagement & technical sessions, as needed
July 4, 2022	• Report submitted to Minister

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Stakeholder Feedback

- IESO is looking for feedback on the following topics through the engagement feedback form:

  - What are the key opportunities and challenges the IESO should be aware of in developing a CEC registry?

  - Which design considerations outlined in this presentation are most important to you and why? What other design considerations should IESO be aware of?

  - Which stakeholder groups and/or design topics are most important to include in the planned focus group discussions?

  - Are there any additional engagement opportunities the IESO should consider?

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Thank You

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