

NOVEMBER 12, 2020

Participating in the Energy Efficiency Auction Pilot: IESO Public Webinar

Agenda

- Context and objectives of the Energy Efficiency Auction Pilot
- Overview of eligibility requirements
- Summary of detailed design changes and clarifications
- Overview of participation logistics



Energy Efficiency Auction Pilot Context and Objectives

Overview – Auction Pilot

- Pilot aims to procure **demand reduction** from energy efficiency and sustained load-shifting projects during peak demand periods
- Open to projects in all sectors (e.g., industrial, commercial, residential), and both facility owners/managers and aggregators)
- Auction will be held in March 22-23, 2021 and resources must be fully implemented by November 2022 and/or June 2023
- Budget of \$5M sourced from the IESO's Grid Innovation Fund

Pilot Learning Objectives

- Assess interest/ability of different participants (e.g., large or multi-site customers, energy service companies, LDCs) to compete to provide permanent peak demand reductions through an auction mechanism
- Evaluate strengths and weaknesses of Measurement & Verification procedures
- Discover price and assess characteristics (e.g., implementation timeline, deliverability, savings persistence) of competitively procured energy efficiency versus traditional capacity resources

IESO Resource Procurement Initiatives

Energy Efficiency Auction Pilot

- Complements existing energy-efficiency programs and procurement initiatives
- Pilot learnings can inform future resource acquisition strategies

Save on Energy Programs

- Existing energy-efficiency programs continue to be offered under the Interim Framework (deadline for pre-approvals December 31, 2020)
- Direction received for a new 2021-2024 CDM Framework, will launch January 2021; see [saveonenergy.ca](https://www.saveonenergy.ca) for details

Capacity Auction

- Evolves existing DR auction to enable competition between more resource types (energy efficiency not currently eligible)
- Auction #1 - December 2, 2020 for 2021 summer and 2021-22 winter obligation periods

Auction Procurement Goal

The IESO is seeking up to 13 MW of **incremental** permanent reductions in demand from energy-efficiency resources during specific hours during two seasonal obligation periods

Obligation Period	Days	Hours
Winter	November 1, 2022 – February 28, 2023	4 p.m. – 9 p.m. EST (Non-holiday weekdays)
Summer	June 1 – August 31, 2023	12 p.m. – 9 p.m. EST/1 p.m.– 10 p.m. EDT (Non-holiday weekdays)

The EE Capacity Product

- Peak demand reduction referred to as “EE capacity” for the pilot
- Auction participants can choose to offer EE capacity for the summer, winter, **or both** obligation periods
- EE capacity will be measured as average demand reduction during the specified hours for each seasonal obligation period
 - Resource that delivers 500 kWh savings over winter demand-reduction window would be assessed as providing 100 kW of EE capacity
 - Expressed as $\text{kW}_{\text{WINTER}}$ and $\text{kW}_{\text{SUMMER}}$



Energy Efficiency Auction Pilot Eligibility

Terminology

- Pilot auction participant – an entity that is seeking an EE capacity obligation in the auction pilot
- Facility – a building structure
- Measure – the equipment, process or system that is more efficient or shifting load outside of the defined demand reduction windows
- EE Resource – one or more new measures installed or implemented at one or more existing facilities that deliver demand reductions

Eligible Participants

- Must be an incorporated entity, not an individual
- Must be able to provide audited financial statements, unless already participating in IESO-Administered Markets¹
- Can offer resources located at an individual facility or participate as an aggregator across multiple facilities

¹Market participant list available at:

<http://www.ieso.ca/en/Sector-Participants/Registered-Participants>

Eligible Facilities

- Must be connected to the IESO-controlled grid or an Ontario distribution system (or behind the meter of another customer)
- Do not need to be registered market participants
- May participate in the Industrial Conservation Initiative, or as a dispatchable load or directly, or as a contributor to, an hourly demand-response resource
- Do not need interval/smart metering (unless necessary for M&V)

EE Resource Measures

- A measure refer to:
 - Behind-the-meter installation of more efficient equipment or implementation of more efficient processes and systems, exceeding current building codes or other relevant standards
 - Installation of equipment or implementation of processes and systems shifting load outside defined EE demand reduction windows
- Once implemented, measures must provide sustained demand reduction without requiring any notice, dynamic price signal or dispatch while maintaining comparable service quality

EE Resource Eligibility Measures

- To qualify as new:
 - Measure must not have been already installed/implemented
 - No binding commitment to acquire measure before publication of auction results in the post-auction report
- Measures receiving funding from the IESO or other electricity ratepayer-funded EE programs are ineligible
 - No restrictions on funding from other sources
 - Measures must have an effective useful life of at least two years

Ineligible Resource Measures

- Behind-the-meter generation, including combined heat and power and renewable energy generation sources, e.g., solar PV, wind
- Removal of equipment, processes, or systems (“load destruction”)
- Fuel-switching to natural gas, diesel, or other carbon-emitting fuel
- Improvements to transmission and distribution efficiency
- Installation of electrical energy storage, or thermal storage dispatchable on an hourly or sub-hourly basis

Eligible Resources

- An EE resource is one or more new measures installed or implemented at one or more facilities
- Size requirements:
 - Minimum 100 kW
 - Maximum 3.25 MW



Detailed Design Clarifications & Updates

Overview of Updates

Several updates to EE Auction Pilot design documents [now posted](#):

- Detailed EE Auction Pilot Design Document – see next slides
- Auction Pilot Participant Agreement – Updated to reflect Design Document changes
- Auction Pilot M&V Procedures – Updated to reference the IPMVP Application Guide on Non-Routine Events & Adjustments
- EE Resource Plan Template – Fields added for potential participants to enter summer and winter annualized capacity for proposed resources

Clarification #1: Dispatchability language

- **Previous language:** “Any measure technically capable of responding to hourly or sub-hourly IESO dispatch instructions is ineligible for the pilot.”
- **Revised language:** “...measures must provide sustained demand reduction – i.e., delivered in all hours that the measure is operational, or scheduled to operate, over the demand reduction window for the duration of measure’s useful life as described in the EE Resource Plan. Measures must not require any notice, dynamic price signal, or dispatch to provide demand reductions.”

Clarification #1: Rationale

- Pilot aims to procure sustained demand reduction over obligation window, not demand reduction activated on an hourly or sub-hourly basis in response to dispatch instructions
- Revised language aims to clarify this requirement while reducing ambiguity around meaning of “technical dispatchability”
- Programmed demand reduction or shifting outside of the obligation window (e.g., using smart thermostats or permanent operational schedule changes) are eligible to be included in an EE Resource

Clarification #2: DR Interaction, Dispatch Obligations

Previous Language

“...any otherwise eligible measure that would require its operations to be shut down, cycled or otherwise modified to comply with a demand-response (DR) activation or other dispatch instruction is not considered eligible where this would impact the demand reduction that would have occurred under normal operating conditions”

Revised Language

“...any eligible measure that will be used to simultaneously provide a sustained demand reduction... while also providing a demand reduction in response to a demand-response (DR) activation or other dispatch instruction, must ensure that the EE capacity provided ... is incremental to the DR or dispatch obligations ...”

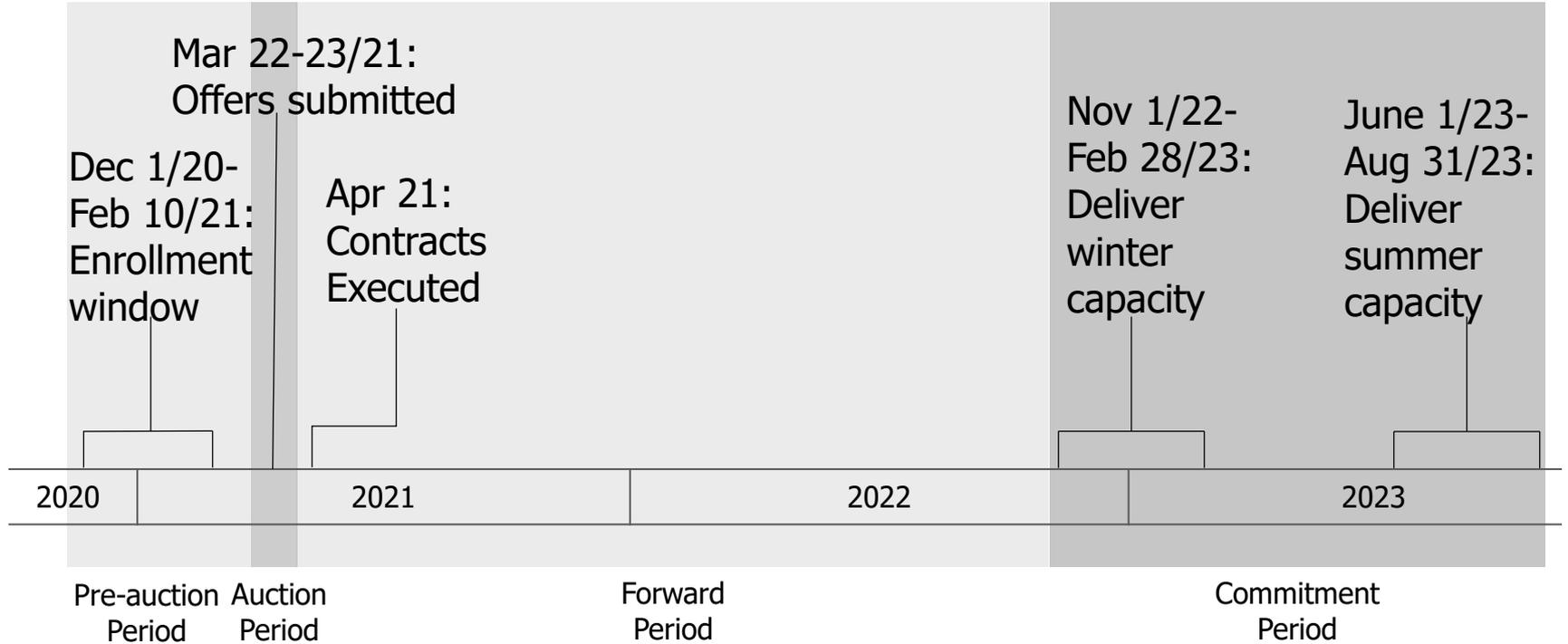
Clarification #2: Rationale

- An EE Resource can provide both sustained energy savings over the obligation window and respond to dispatch instructions to provide an additional demand reduction on an hourly or sub-hourly basis
- What is important is that the EE Capacity procured through the EE Auction Pilot is incremental to any load reduction committed through DR or other dispatch obligations
- Revised language aims to clarify this intent



Energy Efficiency Auction Participation Logistics

Timeline Summary





Pre-Auction Period

Step 1: EE Capacity Enrollment

- Prospective auction participants submit information to verify:
 - Participant eligibility
 - Resource EE capacity
- When: December 1, 2020 – February 10, 2021

Step 1: EE Capacity Enrollment (cont'd)

- To verify participant eligibility, an organization provides:
 - Articles of Incorporation
 - Most recent audited financial statement (no more than three years old) unless a registered market participant
- A signed [Participation Agreement](#) confirming neither insolvent nor an individual

Step 1: EE Capacity Enrollment (cont'd)

- To verify resource eligibility, an organization must submit a completed EE resource plan, which provides:
 - Proposed measures and their Effective Useful Life
 - Estimated EE capacity
 - Proposed M&V approach
 - Planned facilities or information on recruitment and delivery strategy if TBD
- Substantiation sheets required for measures not in the Measure Reference Manual
- Optional – full M&V plan can be submitted during enrollment for IESO review

Step 2: IESO Confirms EE Capacity Enrollment

- By March 12, 2021, the IESO confirms:
 - Participant eligibility
 - Resource eligibility
 - Enrolled EE capacity (i.e., the maximum EE capacity that can be offered with respect to the resource)
 - Capacity annualization period (weighted avg for multiple *measures*)
 - A unique resource identifier (used for auction offers and reporting)



Auction Period

Step 3: Offer Submission

- Enrolled auction participants complete [Auction Offer](#) for each resource stating \$/kW price and quantity offered for each obligation period with a brief description of the resource
- Up to 20 different auction offers for a single resource, no more than one offer per resource will be selected
- Offers submitted as email attachment to eeauctionpilot@ieso.ca
- IESO confirms receipt

When: March 22-23, 2021

Step 4: Offer Validation

- IESO will perform QA/QC checks to confirm that:
 - Offered EE resource has been enrolled (i.e., accepted by IESO in Step 2)
 - Offered EE capacity and claimed effective useful life do not exceed that confirmed in enrollment process
 - Offered EE capacity respects minimum and maximum resource size limits, auction price cap, etc.

Step 5: Auction Clearing

- Pilot will use a pay-as-offer, single round, sealed-offer format
- IESO enters offers into auction engine and runs auction for both obligation periods
- When clearing the auction, offer prices will be annualized based on the Effective Useful Life of the EE resource subject to a 10-year cap
- E.g., an EE resource offered at \$400/kW with four-year persistence has an annualized capacity cost of \$100/kW_{WINTER}

Step 5: Auction Clearing (cont'd)

- \$5M for pilot to be evenly distributed between obligation periods
- For each obligation period, the IESO will accept the most optimal set of offers to minimize cost while respecting the constraints of:
 - \$2.5M seasonal budget
 - 13 MW seasonal maximum capacity limit
 - Limit of one offer per resource and consideration for contingent offers
 - Price cap of \$1000/kW
- Successful auction participants will be paid their offer price (\$/kW)

Step 5: Post-Auction Report

- Once the auction has been cleared, the IESO will publish a public report that includes the following for each seasonal obligation period:
 - Amount of EE capacity cleared;
 - Number of participants that offered in;
 - Lowest, highest, and weighted average accepted offer price; and
 - List of successful auction participants, including quantity of cleared EE capacity and a description of their EE resource

When: by April 2, 2021



Forward Period

Step 6: Contracting

- For successful auction participants, IESO appends a schedule to the Participant Agreement stating details of the cleared EE capacity offer, countersigns, and returns the executed agreement
- A successful pilot auction participant with an executed agreement becomes a “EE capacity provider”

When: April 2021

Step 7: Online IESO Registration

- EE capacity providers who are not already registered market or program participants will be required to register in Online IESO to facilitate settlements
- IESO will providing training materials to familiarize EE capacity providers with Online IESO

When: Prior to start of first obligation period

Step 8: EE Resource Plan Update

- At approximately midpoint of the forward period, EE capacity providers will provide a **concise update** on the state of EE resource development and identify any major risks to delivery of their EE capacity obligation

*When: January 17-21, 2022 for winter-only and bi-seasonal resources,
May 2-6, 2022 for summer-only resources*

Step 9: EE Resource Plan and M&V Plan

- EE capacity providers will be required to submit:
 - An [EE Resource Report](#) confirming measures and facilities contributing to the resource
 - An M&V plan in alignment with the [M&V Procedures](#)

When: By September 1, 2022 for winter-only and biseasonal resources, by April 3, 2023 for summer-only resources

Step 9: EE Resource Plan and M&V Plan

- EE capacity providers may ask to replace measure(s) stated in a resource's EE Resource Plan or add additional measure(s)
 - Replacement measures must have an effective useful life \geq original measures included in the EE Resource Plan
 - Additional measures must have an effective useful life \geq weighted average effective useful life of the original measure or 10 years

When: By August 3, 2022 for winter-only and bi-seasonal resources, by March 3, 2023 for summer-only resources

Step 9: EE Resource Plan and M&V Plan

M&V Category	EE Capacity Thresholds	Acceptable M&V Methods
Basic	Measure is \leq 50 kW	Deemed EE capacity from EE Auction Pilot Measure Reference Manual or IESO-accepted Measure Substantiation Sheet IPMVP Protocol Option A, B, C
Enhanced	Measure is $>$ 50 kW	IPMVP Protocol Option A, B, C

Step 10: IESO Review of M&V Plan

- IESO reviews M&V plan to confirm alignment with M&V Procedures requirements and identifies any deficiencies that must be remedied

When: By October 31, 2022 for winter-only and bi-seasonal resources, by May 31, 2023 for summer-only resources



Commitment Period

Step 11: EE Capacity Delivery

- The measures constituting an EE resource must be fully installed/implemented on the first day of the first obligation period or the capacity provider risks non-performance charges

When: Winter obligation period is November 1, 2022 – February 28, 2023. Summer obligation period June 1, 2023 – August 31, 2023.

Step 12: M&V Reporting

- After the conclusion of each applicable obligation period, EE capacity providers provide an M&V report (as described in M&V Procedures) for each resource in alignment with the approved M&V plans

When: April 29, 2023 for winter obligation period, October 30, 2023 for summer obligation period

Step 13: M&V Report Review

- IESO will review each M&V report and confirm the delivered EE capacity payment due
- Where EE resource delivered less than its full EE capacity obligation, payment will be reduced by difference between the obligated and delivered capacity, multiplied by twice resource's accepted offer price
 - Example: a \$350/kW resource that under-delivers by 1 kW would have its capacity payment reduced by \$700

When: Within 60 days of receipt of M&V report

Step 14: Settlement

- EE capacity providers receive payment following completion of each seasonal obligation period, subject to confirmation of M&V reports
- Payments will be made on gross peak demand reduction
- EE auction participants will upload an invoice for EE capacity payment via the CDMIS portal in Online IESO

When: following confirmation of IESO acceptance of M&V report

Step 15: Evaluation

- Similar to process for Save on Energy programs, following Commitment Period, the IESO will procure third-party consultant to confirm the peak demand savings attributable to pilot and capture lessons learned
- Under the terms of the participant agreement, EE capacity providers will be obliged to cooperate with the evaluation consultant

For More Information

- For questions or to be added to the subscription list for news and updates, please contact eeauctionpilot@ieso.ca

Thank You

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