



**OCTOBER 19, 2021**

# Industrial Energy Efficiency Program Engagement Session #2

**Evelyn Lundhild, Senior Manager, Program Services**  
**Cory Cook, Supervisor, Program Design**

## Webinar Participation (including audio)

- To interact, click the “Show Conversation” icon (message bubble symbol) to submit a written question or click on the “Raise hand” icon (hand symbol) at the top of the application window to indicate to the host you would like to speak
- Audio should be muted at all times. To unmute audio, click on the microphone icon at the top of the application window
- This webinar is conducted according to the [IESO Engagement Principles](#)

# Webinar Participation (Connection Issues)

- If you experience issues logging in:
  - Disconnect from remote server connections (VPN) and try logging in again
  - Download the mobile app and join through mobile
- Need help? Contact [Microsoft Office Support](#)

# Agenda

- Engagement Objective and Scope
- Recap of the Industrial Energy Efficiency Program
- Summary: Phase 1 and Phase 2 of Engagement
- Phase 2 (Today): Present and solicit feedback on proposed program framework (eligibility, application and project selection process)
- Request for Stakeholder Input
- Next Steps

# Engagement Objective

- To gain insights from stakeholders on the core components required to implement a successful "call for proposals" style of energy efficiency incentive program for large industrial entities
- To gather input from stakeholders including the identification of critical success factors for a large industrial energy efficiency program (June 2021)
- To obtain feedback on a draft program framework (Today)
- To present the final program framework (Q1 2022)

# Engagement Scope

- This program will be offered within the context of the 2021 – 2024 Conservation and Demand Management (CDM) Framework, which includes an energy savings target, a demand savings target, and cost-effectiveness requirements
- Projects must fit under the definition of CDM in the Minister's Directive to the IESO dated Sept. 30, 2020, which sets out the authority for the 2021 – 2024 CDM Framework
- Program will aim to supplement (i.e. not duplicate) existing offers, and minimize overlap with other Save On Energy programs

# Engagement Summary: Phase 1 and 2

## Phase 1 – Enhance (June 2021)

## Phase 2 – Revise (October 2021)

Goal	Directional feedback on support for program concept, input on key program parameters; identify any key areas of concern	Provide a draft program framework for stakeholder review, based on feedback received in phase 1
Proposed Plan	Provide clarity on context and objectives, propose key program elements for consideration	Present key draft program requirements, eligibility, project selection framework and proposed timelines
Engagement	Questions that will inform key areas of program design (e.g. eligibility, project selection framework and alignment with participant decision making processes)	Targeted questions on areas of program design that are still subject to change or refinement



## **Phase 2: Refinement of program elements**

Proposed eligibility requirements and project selection framework

# Introduction

- The IESO's 2021 – 2024 CDM Program Plan includes the launch of a new customer focused program in 2022 – an Industrial Call for Proposals
- Envisioned as **two rounds** of an open-ended call for proposals from large industrial customers with an incentive budget approaching \$40M per round
- Focused on larger, complex projects that are not necessarily “one for one” replacements of existing equipment, with preference for projects that cost effectively meet system needs
- Greater flexibility and streamlined administration compared to the past Industrial Accelerator/Process and Systems Upgrade programs

# Planned Program Schedule

## First Program Round

- Q1 – Q2 2022: Program launch, open for proposal submissions
- Q3 – Q4 2022: IESO review of proposals and awarding of contracts to successful proponents
- Q1 2023: Funds available to successful proponents (timing and payment milestones will be subject to program terms and conditions)

## Second Program Round

- Q1 – Q2 2023: Second round of call for proposals, open for proposal submissions



# Eligibility

Defining an eligible participant and project

# Defining an Eligible Participant

1. A business customer with ownership of, or operational authority over, the facility where the proposed project is being installed
2. Third-party participants who are able to demonstrate sufficient influence over project execution in order to deliver the proposed lifetime savings of the project being installed
  - An application for third-party participation should provide sufficient information to enable the IESO to determine a third-party applicant's managerial and technical capability to provide the service it intends to offer
  - The application should outline the roles and responsibilities of the participating facility and the participating third-party in order to demonstrate cooperation and facility commitment
3. The application will need to be signed by a principal officer of the participant; a third-party application for participation should be signed by the third-party as well as a principal officer of the participating facility

# Defining an Eligible Project

- Eligible measure technologies must address an industrial process
  - Industrial process means *"the extraction, growth, refining, processing, production, manufacture or preparation of materials"*
- Must be an industrial process improvement project, with an element of electricity conservation/energy efficiency that can be clearly described
- Proposed technologies should be commercially available according to [ISC Technology Readiness Level \(TRL\) 9](#), defined by Innovation, Science and Economic Development Canada as "actual technology proven through successful deployment in an operational setting"

## Defining an Eligible Project (2)

- New construction may be allowed if it meets all other eligibility requirements
- Projects must be completed within three years of receiving an incentive offer
- Generation projects: behind the meter generation projects are *ineligible* other than waste energy recovery, where the waste energy is created on site
- Storage projects: any form of behind the meter storage is *ineligible*, except where the storage is a component of the project configuration and the overall project results in a reduction in total energy use
- Lighting projects are also *ineligible*

# Incentive Contribution

- The amount of the project incentive will be proposed by the applicant, based on the minimum amount needed to overcome internal project hurdles
- Incentives are subject to the following constraints:
  - \$5 million project incentive cap
  - Incentives will cover up to a maximum of 75% of eligible project costs
  - Incentive stacking with funding from parties other than the IESO or the Government of Ontario will be allowed, with other 3<sup>rd</sup>-party contributions subtracted from eligible project costs
  - Electricity ratepayer investment must be cost effective

Project Cost:	\$1,000,000
3 <sup>rd</sup> Party Contribution:	\$250,000
Eligible Costs:	\$750,000
Max. Incentive (75%):	\$562,500

# Savings Estimate and Project Thresholds

- The following electricity savings thresholds are proposed to support the objective of serving large industrial projects:
  1. Projects must propose a minimum electricity savings of 2,000 MWh per year based on engineering estimates
  2. Savings are to be a minimum of 15% of the baseline electrical energy use of the system within the project boundary\*

\*or the system that would have been built, in the case of new construction

# Aggregated Projects

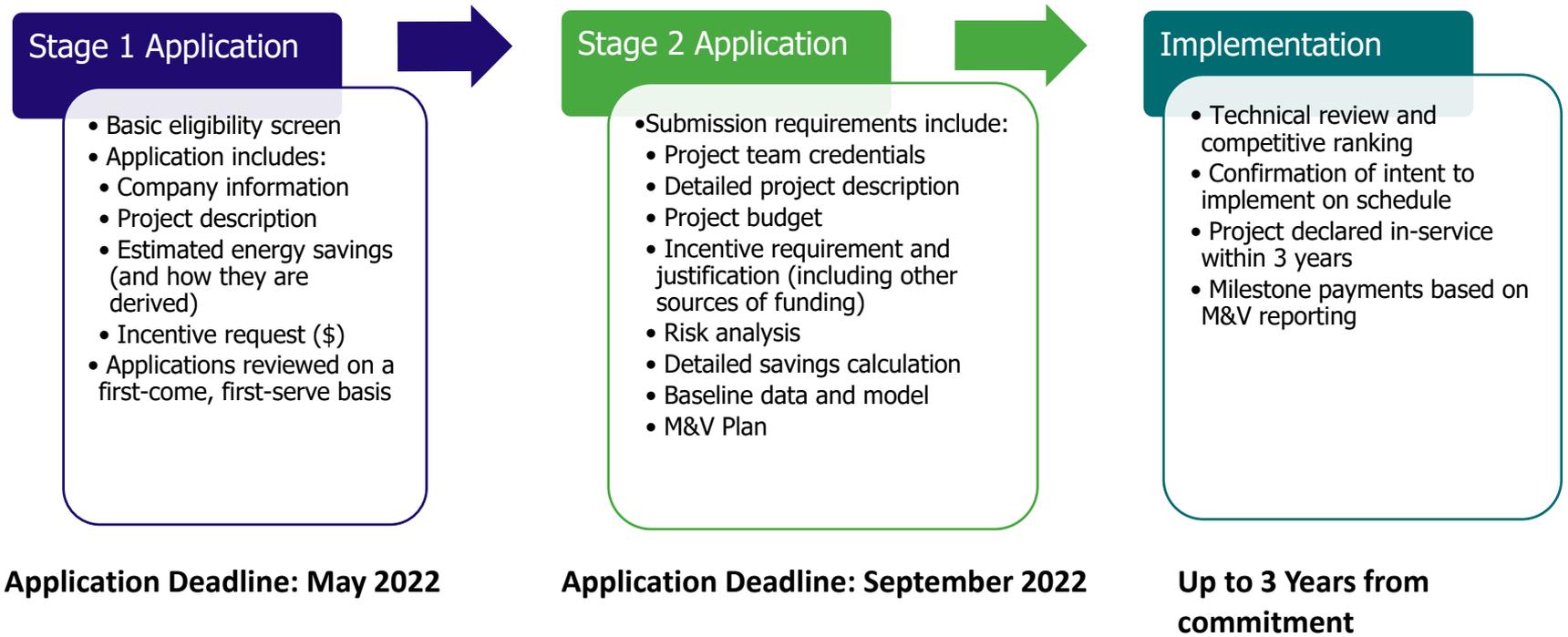
- Aggregation of multiple projects will be allowed, provided the aggregator is an eligible participant:
  - Business customer aggregating projects from multiple facilities which they own/operate
  - Third-party applicant aggregating projects from multiple facilities which are owned/operated by one or more business customers
- For projects which form part of an aggregated portfolio, minimum electricity savings of 500 MWh per project required (portfolio must also meet the 2,000 MWh minimum threshold)
- The \$5M incentive cap will also apply to the aggregated portfolio



# Two Stage Application Process

## Information Requirements at Stages 1 and 2

# Overview of Proposed Program Application Process



## Stage 1 Proposal Timeline

- Application window will open in March 2022 and close in May 2022
- Applications will be reviewed as received
- The IESO anticipates approximately one month turn-around time between a Stage 1 submission and customer notification that they are eligible to submit a Stage 2 proposal
  - Timelines may be impacted if additional information requests or clarifications are requested by the IESO

# Stage 1 Proposal Information Requirements

- Company information
  - Participating customer/facility information as well as third-party information if a third-party applicant
  - If third-party applicant, confirmation of participating customer/facility support (form will be provided by the IESO)
- Brief project description, sufficient to pre-screen for technology eligibility, describing how savings will be achieved

## Stage 1 Proposal Information Requirements (2)

- Statement of estimated energy savings to be delivered by the project
- Statement of estimated project costs broken into three categories:
  - Capital/Equipment
  - Project Labour
  - Other Project Implementation Costs
- Anticipated Incentive request (\$)

## Stage 2 Proposal Timeline

- Application window will open in July 2022 and close in September 2022
- IESO anticipates making funding awards prior to year end
- Timelines may be impacted if a high volume of projects is received or if numerous additional information requests or clarifications are requested by the IESO

## Stage 2 Proposal Information Requirements

- Detailed project description, sufficient to enable 3-party technical review
- Project plan and implementation timeline
- Project Team credentials
- Detailed project risk analysis and mitigation strategy, including but not limited to:
  - Project execution
  - Project timeline
  - Delivery of lifetime savings
  - Project team

## Stage 2 Proposal Information Requirements (2)

- Statement of incentive amount requested as well as any third-party funding anticipated to be received to contribute to the project
  - Must provide support for the amount of funding requested
  - May include internal memo, meeting notes, etc. which demonstrate how the incentive will help meet internal hurdle rate and/or payback requirements
- Identification of reliability issues in facility service area or confirmation that facility is located in area identified by the IESO as a local/regional constrained area (IESO to provide identified regions in advance)

## Stage 2 Cost and Savings Estimate Requirements

- Detailed breakdown of project costs (aligned with level of detail in Appendix A: Eligible Expenses)
- Baseline energy consumption model representing systems within project boundary
  - Model must have a Coefficient of Variation of Root Mean Squared Error (CV(RMSE)) no greater than 15%
- Estimated annual electricity savings and peak demand savings based on appropriate and detailed engineering calculations
- Effective Useful Life (EUL) of the project (i.e. expected persistence of electricity savings in years)

## Stage 2 M&V Plan Requirements

- An M&V Plan details how project performance will be measured and analyzed, including both pre- and post-project implementation, to determine energy and demand savings
  - Note that the absence of something (avoided energy use) cannot be measured, so measured data – from before and after the implementation of the project – must be analyzed and compared to determine savings
  - In order to do so, a predictive baseline energy model (relating energy use to independent variables such as day of week or production levels) must be developed in order to adjust and compare the measured post-project conditions to the measured baseline conditions
  - The Plan will also contemplate approaches to any necessary baseline adjustments in order to account for non-routine events

## Stage 2 M&V Plan Requirements (2)

- M&V Plan for the project to be submitted by the applicant (typically produced by an independent consultant or M&V specialist)
- The IESO's third-party technical reviewer will review and approve M&V Plans (or advise on revisions if necessary)
- Costs associated with M&V Plan development and data collection are included in eligible project costs
- Participant bears the risk of delivering the electricity savings in the proposal; the M&V plan reports will document the actual savings achieved

# Payment Schedule

- No advance payments (before project is in-service)
- Deferred payments based on M&V reports, as follows:
  - 50% of the approved amount based on Q1 M&V
  - Final payment based on Y1 M&V

# Incentive Payment Will Be Scaled With Performance

Category	Electricity Savings relative to application, as demonstrated by M&V results*	Resulting Payment
1	Lower than 50%	Non-compliance, no incentive
2	Equal to 50% but lower than 75%	50% of the approved incentive
3	75% and above	100% of the approved incentive

\*For aggregated projects, percentage requirements apply to the total portfolio



# Project Selection Framework

## Competitive Assessment at Stage 2

## Stage 2: Project Selection Framework

- Projects will be selected for funding based on the following categories:
  - Project Proposal (35 Points)
  - Proposed Savings (25 Points)
  - Ratepayer Investment (40 Points)

## Stage 2: Project Selection Framework (2)

- Project Proposal (35 Points)

<b>Evaluation of Project Proposal</b>	<b>Points</b>	<b>Description</b>
Strength of written proposal, including demonstrated funding requirement, project plan, and timeline	15	<ul style="list-style-type: none"><li>• Clear outline of project</li><li>• Demonstrated funding requirement</li><li>• Suitable project plan and timeline</li></ul>
Thorough project risk analysis and proposed mitigation strategies	10	<ul style="list-style-type: none"><li>• Relevant risks identified: execution, timeline, savings, team</li><li>• Appropriate mitigation strategies proposed</li></ul>
Strength of project team	10	<ul style="list-style-type: none"><li>• Evidence of participant commitment and project champion</li><li>• Project implementer experience &amp; expertise</li></ul>

## Stage 2: Project Selection Framework (3)

- Project Savings (25 Points)

Evaluation of Proposed Savings	Points	Proposed Allocation
Project Size (First Year Annual Savings)	10	<ul style="list-style-type: none"><li>2,000 - 5,000 MWh = 2.5 Points</li><li>5,001 - 10,000 MWh = 5 Points</li><li>10,001 - 15,000 MWh = 7.5 Points</li><li>&gt; 15,000 MWh = 10 Points</li></ul>
Project Effective Useful Life	10	<ul style="list-style-type: none"><li>3 - 4 Years = 2.5 Points</li><li>5 - 9 Years = 5 Points</li><li>10 - 19 Years = 7.5 Points</li><li>&gt; 20 Years = 10 Points</li></ul>
Contribution to Summer Peak Demand Reduction	5	<ul style="list-style-type: none"><li>kW/MWh ratio of 0.01 - 0.1 = 2 Points</li><li>kW/MWh ratio of 0.11 - 0.15 = 3 Points</li><li>kW/MWh ratio of 0.16 - 0.25 = 4 Points</li><li>kW/MWh ratio &gt; 0.25 = 5 Points</li></ul>

## Stage 2: Project Selection Framework (4)

- Ratepayer Investment (40 Points)

Evaluation of Ratepayer Investment	Points	Allocation
First Year Savings Acquisition Cost (\$/kWh)	20	<ul style="list-style-type: none"><li>\$0.01 - \$0.10/kWh = 20 Points</li><li>\$0.11 - \$0.20/kWh = 15 Points</li><li>\$0.21 - \$0.30/kWh = 10 Points</li><li>&gt; \$0.30/kWh = 5 Points</li></ul>
Program Administrator Cost test (PAC) score - A simple tool will be provided	15	<ul style="list-style-type: none"><li>1.00 - 1.50 = 5 Points</li><li>1.51 - 2.00 = 10 Points</li><li>&gt; 2.00 = 15 Points</li></ul>
Aligned with identified area of local or regional grid constraint	5	<ul style="list-style-type: none"><li>No evidence of identified local/regional constraint: 0 points</li><li>Identified reliability issues in facility area: 2 points</li><li>Facility in area identified by IESO as local/regional constraint: 5 points</li></ul>

## Stage 2: Project Selection Framework (5)

- The Program Administrator Cost test (PAC) is an important metric for determining the value of the ratepayer investment relative to the cost
  - “Value” = electricity system benefit (based on avoided system costs that would have been required to generate the electricity saved)
  - “Cost” = participant incentive (as well as program administration)
- As outlined, PAC will be an important factor in project selection and a tool will be provided to assist applicants in calculating the PAC for their project proposal

# Stage 2: Example PAC Calculation

## Application Inputs:

Funding Requested	\$1,000,000								
FY Energy Savings (MWh)	5,000								
In-Service Year	2023								
Effective Useful Life (Years)*	10								
Annual Savings Profile	Winter On Peak	Winter Mid-Peak	Winter Off-Peak	Summer On Peak	Summer Mid-Peak	Summer Off-Peak	Shoulder Mid-Peak	Shoulder Off Peak	Summer Peak Demand*
Industrial - Miscellaneous_Industrial - Compressed_Air	7%	8%	18%	6%	9%	18%	14%	19%	0.000114

## Outputs:

Peak Demand Savings (kW-year)	571	
Benefits from lifetime energy savings	\$1,374,046	
Benefits from annual summer peak demand reduction	\$301,833	
PAC Result	1.68	<----- Energy Benefits + Peak Demand Benefits - Funding Request

\*Must be less than 35 years



# Stakeholder Input

## Request for Feedback

# Request for Stakeholder Input

- The IESO is seeking general input on today's presented materials
- A stakeholder feedback form is posted on the [engagement webpage](#)
- Stakeholder feedback is due by November 10
- The IESO response to stakeholder feedback document will be posted in December

# Stakeholder Feedback Questions

1. Are there additional participant or project eligibility criteria that the IESO should consider? Are the project size thresholds sufficient to allow for meaningful projects to be developed?
2. Are the project approval timelines sufficient for customers to develop and implement their project proposals?
3. Are the project selection criteria sufficiently transparent and rigorous? Are there other factors that should be considered?
4. Will participants be comfortable with taking on the risk of savings delivery? Should the contract build in mitigation options beyond simple reduction of incentive?

# Next Steps

## Timing

## Engagement Activity

October 7, 2021

Engagement materials posted on IESO website

November 10, 2021

Stakeholder feedback due

December 2021

Responses to feedback posted on IESO website

---

# Thank You

[ieso.ca](http://ieso.ca)

1.888.448.7777

[customer.relations@ieso.ca](mailto:customer.relations@ieso.ca)

[engagement@ieso.ca](mailto:engagement@ieso.ca)



[@IESO Tweets](https://twitter.com/IESO)



[facebook.com/OntarioIESO](https://facebook.com/OntarioIESO)



[linkedin.com/company/IESO](https://linkedin.com/company/IESO)



# Appendix

## Appendix A: Eligible Expenses for Stage 2 Submission

1. Capital expenses;
2. Equipment and products, including diagnostic and testing tools and instruments, and associated software;
3. Data collection services, including processing, analysis and data management;
4. Meter purchase, installation and configuration costs associated with implement the M&V Plan;
5. Salaries and benefits of employees directly involved in the design, selection, purchase and installation of the measure(s) included in the project;
6. Professional, engineering, scientific, technical, management and contracting services, including the required for training employees in the proper operation of the project;
7. Travel, including accommodation but excluding meals;
8. Printing services;
9. Permits and license fees;
10. Costs associated with environmental assessments;
11. Technical audits and studies associated with the project;
12. Additional category of costs as may be consented to by the IESO in writing in advance of such expenses being incurred.