

# Non-emitting Resources Request for Information Phase 1

**Request for Information No.: NER RFI-1-2018**

**RFI Issued: March 21, 2018**

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## Part 1: Request for Information

### 1.0 Introduction and Purpose

This Request for Information (“RFI”) is being issued by the IESO to gather information to better understand how non-emitting resources can participate in current and future IESO markets and contribute to a reliable and efficient electricity system in Ontario today and tomorrow. The purpose of the RFI is to solicit information on the technical characteristics of existing resources and potential projects, while gaining a better understanding of the barriers facing different resource types from participating in the IESO administered markets. Information from the technical component and barriers to participation will inform the Market Renewal Program (MRP) and the Non-Emitting Resource Subcommittee (NERSC).

In order to support the timelines for MRP and NERSC, this RFI is being issued in two phases:

- Phase 1 (current) is soliciting information related to how non-emitting resources can participate in the IESO administered electricity markets of today and tomorrow.
- Phase 2 (proposed for Q3 2018) will solicit information on how non-emitting resources are developed, project economics and additional considerations.

**Market Renewal Program.** Together with its stakeholders, the IESO has begun a major initiative to renew its electricity market design. The objective of the MRP is to address existing market inefficiencies and lay a foundation for a more efficient market place in the future.

**Independent Electricity System Operator.** The Independent Electricity System Operator (the “IESO”) works at the heart of Ontario's power system – ensuring there is enough power to meet the province's energy needs in real time while also planning and securing energy for the future. It does this by:

- balancing the supply of and demand for electricity in Ontario and directing its flow across the province's transmission lines;
- planning for the province's short term, medium term and long-term energy needs and securing clean sources of supply to meet those needs;
- overseeing the electricity wholesale market where the market price of electricity is set; and
- engaging in activities that promote electricity conservation and the efficient use of electricity.

**Market Evolution.** Since the market opened in 2002, the province’s power sector has experienced significant change, including coal phase-out, thousands of megawatts (MWs) of new or refurbished generation and conservation, a growing demand response program and increased amounts of distributed energy resources. Looking into the future, change is expected to accelerate with a greater penetration of renewables, smart grid technology implementation and the government’s policy of further reducing its carbon footprint. Major trends in the electricity industry include falling costs for non-emitting resources like solar PV and storage resources, a drive towards decarbonization, and new technologies and business models that are enabling the growth of distributed resources. With all of this change there is potential for the electricity sector of 2030 to look substantially different than it does today.

## 1.1 Integration with Current IESO Initiatives

This RFI is intended to solicit information that may inform IESO-led initiatives, including the work streams of the MRP.

The [MRP](#) will enhance the Ontario electricity market design by putting in place a foundation to manage a range of potential energy futures driven by decentralization, digitization and decarbonization. By doing so it will address known issues within the existing market design and deliver ratepayer value by meeting system needs more cost-effectively. Responses to this RFI that identify barriers to participation for non-emitting resources will support the MRP design work, as it enhances an unbundled market structure with significant enhancements to the energy market and introduction of an incremental capacity auction.

The long-term goal of the IESO is to develop new and transparent revenue streams. Establishing energy and capacity prices that more accurately reflect locational needs, will mean investments can be made in the regions where they provide greatest value. For example, as resources at the distribution level grow and distribution services become better defined, the revenue streams available at the transmission level can help to incent effective investments in distributed energy resources. The IESO is also examining options to meet operability requirements, which may offer additional revenue streams that will help to drive new investment decisions or the more efficient use of existing resources.

Responses to this RFI will also support the work of the NERSC, which is a subcommittee of the Market Renewable Working Group (MRWG). The NERSC's mandate is to ensure the unique characteristics of non-emitting resources are appropriately reflected in the MRP design and to begin to identify how Ontario can build upon the foundation established by the MRP to prepare for the system of the future. Responses are intended to inform the NERSC technical report, to be presented to the MRWG in Q3/4 2018. Information on the technical capabilities and the economics of various non-emitting resource types will contribute to the subcommittee's modelling exercise, which will take into account a range of potential futures.

## 2.0 Information Requested

Each respondent should provide the information requested in Appendix A and Appendix B to this RFI.

Appendix A: Respondent and Technical Information Spreadsheet, requests respondent contact information and information about the facility or non-emitting resource. Appendix B: Questionnaire, supplements information related to the respondent's facility or resource, in addition to how it currently or could prospectively provide a series of products or services. The focus of the questions ranges from the current IESO market to future market evolution. Respondents are encouraged to review the questionnaire carefully and answer each question in as much detail as possible. Supporting information and examples/comparisons from other jurisdictions are welcome.

The RFI aims to collect information from a broad range of resources, technologies, facilities and project types. As such, questions are intended to be phrased in a way that allows respondents to reply in the

context that best fits their technology, project or facility, and stage of development, as applicable. Where a respondent wishes to provide information that appears to not be captured by the questions provided in Appendix A or B, they are encouraged to do so, either in response to the most relevant question or through supplemental documentation in the format of their choosing.

## 2.1 Facility/Project Characteristics

This RFI does not define qualifying non-emitting resources, as it is intended to be broad and inclusive. Below are examples of technologies and resources considered in scope.

1. Facility/Project:
  - New build
  - Upgrade
2. Development status:
  - Planning and design
  - Development and permitting
  - Commissioned and operating
3. Facility/Project type:
  - Variable generation
    - Energy not continuously deliverable due to limited resource availability
  - Dispatchable generation
    - Can be dispatched on and off at the request of the system operator
  - Self-scheduling generation
    - Non-dispatchable generator that may not be able to increase or decrease energy output at the request of the system operator
  - Multi-technology projects
  - Demand response resources
    - A load resource with the ability to reduce its energy demand at specific times of power system need, as dispatched by the system operator
  - Energy efficiency program
  - Energy storage
4. Electrically connected to:
  - the IESO-Controlled Grid
  - a Local Distribution Company's (LDC's) distribution grid
  - an end-user connected to either of the above
  - a power system outside of Ontario

The IESO recognizes that information requested in Appendix A and B may not be applicable to all resources, facilities or projects, depending on their status. Respondents are encouraged to provide as much detailed information as possible.

## **2.2 Multiple Configurations and Facilities**

If a respondent wishes to provide technical information about a number of different configurations or technologies, the respondent should do so within a single submission, as opposed to multiple submissions. Within the submission, provide separate Respondent and Technical Information Spreadsheets and Questionnaires, for each of those different configurations/technologies, as applicable.

## Part 2: Terms & Conditions

### 3.0 RFI Timetable

The following is the schedule for this RFI (all times noted in Toronto time):

Post draft Phase 1 RFI for comment	February 16, 2018
Comments due on draft Phase 1 RFI	March 2, 2018
Issue Date of RFI	March 21, 2018
Submission deadline	May 4, 2018 (11:59 pm)
Evaluate responses and design draft Phase 2 RFI	May - August, 2018

This RFI timetable is tentative only and may be changed by the IESO. Any change to the RFI timetable will be shared via communication on the [RFI website](#).

### 4.0 Submission Instructions

Respondents should submit all requested documents electronically to the IESO at [engagement@ieso.ca](mailto:engagement@ieso.ca), by the proposal submission deadline, identified above. The IESO will only be accepting electronic submissions and in the interest of limiting administrative effort, electronic submissions should reference the respondent's name and the Non-Emitting Resources RFI at [engagement@ieso.ca](mailto:engagement@ieso.ca).

**Email:** [insert email address]

**Subject:** "Name of Respondent" \_RFI – Non-Emitting Resources

The Respondent and Technical Information Spreadsheet should contain the respondent's full name and address and should include the main contact information of the respondent. The IESO may request additional information in relation to a response after the submission deadline. Additionally, the IESO may request to meet with select respondents to further discuss their response.

### 5.0 Inquiries and Clarifications

This RFI and any related documentation will be posted publicly and will be accessible via the RFI website. The IESO invites questions and comments from all interested parties regarding the information provided in this RFI to [engagement@ieso.ca](mailto:engagement@ieso.ca). The IESO will endeavor to respond to questions as they are received, depending on quantity.

Any response to a question or comment that may be relevant to all potential respondents will be posted publicly. If a question or comment is posted publicly the IESO will redact any respondent or project/facility specific information.

## **6.0 Confidentiality and Disclosure of Information**

The respondent consents to the IESO's collection of information as contemplated under this RFI for the uses contemplated hereunder. The respondent further consents to the disclosure of its RFI submission to the Ministry of Energy, including any confidential information, which will be shared with the Ministry of Energy under confidentiality agreement with the IESO. Respondents are advised that any non-confidential information or redacted versions of a respondent's RFI submission may be posted publicly, in the interest of transparency and information sharing with stakeholders. Respondents are advised that information provided may be shared with the NERSC, MRWG and to other IESO initiatives, as appropriate, in an aggregated and non-identifiable manner.

The Freedom of Information and Protection of Privacy Act, R.S.O. 1990, c.F.31, as amended, applies to information provided to the IESO by a respondent. A respondent should clearly identify any information in its response or any accompanying or supplemental documentation which is supplied in confidence and for which confidentiality is to be maintained by the IESO. Where the respondent is providing information in confidence, the word "Confidential" should precede the specific response. The confidentiality of such information will be maintained by the IESO, except as otherwise required by law or by order of a court or other administrative body.



## Appendix A: Respondent and Technical Information Spreadsheet

See the Microsoft Excel version of the Respondent and Technical Information Spreadsheet on the RFI website.

The intention of Appendix A is to capture existing facilities, proposed facilities, potential facilities, projects and resources. For respondents submitting information pertaining to an existing or planned facility/project, provide the relevant information about that facility/project. For responses related to non-emitting resources only, where the respondent does not have an existing or planned facility, it is not necessary to create a theoretical facility.

In addition to existing or planned facilities, Appendix A may be completed for a portfolio of existing or planned facilities, either by aggregating information onto one submission (i.e., one single Appendix A showing the aggregate data for a portfolio) or by providing multiple different versions of Appendix A , each representing a separate existing or planned facility.

Respondents may choose to complete Appendix A in a manner that allows them to best provide relevant information, even if this information is not specifically requested in Appendix A. Respondents are asked to provide context where applicable, in order to aid the IESO in interpreting the information provided. Context may be provided through the comment fields in Appendix A or through additional documentation.

## Appendix B: Questionnaire

See a fillable Microsoft Word version of the Questionnaire on the RFI website.

The intention of Appendix B is to gather information from providers of non-emitting technologies, generation facilities and load resources, as well as other relevant stakeholders. This information will help the IESO understand the prevailing market conditions under which non-emitting resources are currently operating both in Ontario and elsewhere, the opportunities for increased participation in IESO markets and the role that the IESO can play in further enabling that participation.

Where a particular question does not specify the status of a facility, respondents may assume that the intention of the question is to capture existing facilities, proposed facilities, potential facilities, projects and resources. If a particular question appears to target a specific technology or resource type, it does not preclude other parties from answering. Please provide context around answers that will help the IESO more easily understand the responses and the information provided.

For respondents who feel that the questions posed in Appendix B do not offer ample opportunity to provide the information relevant to their particular context, they are encouraged to provide additional information using the space provided in the questionnaire or through additional documentation.