

Developing the IESO Implementation Plan: Proposed Activities, Scope and Engagement

November 22, 2017

Context

- On October 26, the Ministry of Energy released the Long Term Energy Plan as well as an Implementation Direction to the IESO
- The Implementation Direction contains specific directed initiatives for the IESO to report back to the Minister of Energy - this formally starts the development of the IESO's Implementation Plan
- The IESO will provide opportunities for community and stakeholder engagement in each directed initiative
- The IESO has also begun identifying opportunities for coordination with the OEB on shared directive initiatives
- The IESO's Implementation Plan is due to the Minister of Energy by January 31, 2018; the Implementation Plan is subject to the Minister's approval
- The following slides outline the directive initiatives and the proposed key deliverables, activities and engagement scope to respond to them

What is an Implementation Plan?

- Energy Statute Law Amendment Act, 2016: “...*the IESO shall ... submit to the Minister an implementation plan containing an outline of the steps the IESO intends to take to meet the requirements set out in the directive including, if the directive requires it, the development of processes for entering into procurement contracts, processes for selecting transmitters, or both.*”
- The Implementation Plan document will outline the context, scope and objectives, general approach, estimated milestones and timelines, and targeted outcome or output for each of the nine (9) Directive Items

LIST OF DIRECTIVE INITIATIVES, GROUPED BY THEMES:

- Supporting Indigenous Capacity and Leadership
 - Encouraging an Innovative Sector
 - Delivering a Flexible and Efficient System
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Implementation Directive Initiatives

Supporting Indigenous Capacity and Leadership

- 1.1 Review and propose options to improve energy support programs to First Nations and Métis, with the objective of better aligning programs with community needs and interests. Options proposed shall include activities related to the implementation of community energy plans and be informed by engagement with First Nations and Métis
- 1.2 Prepare a report on options to improve conservation programs, and access to programs, for First Nations and Métis, including communities served by Independent Power Authorities. This report will include an assessment of existing programs offered under the Conservation First Framework (CFF) and the Demand Side Management (DSM) Framework, as well as energy support programs. The report timing shall be aligned with the Mid-Term Review of the CFF and be informed by engagement with First Nations and Métis

Implementation Directive Initiatives cont.

Encouraging an Innovative Sector

- 2.1 Develop a program to support a select number of innovative renewable distributed generation demonstration projects, strategically located and paired with other distributed energy resources and smart-grid technologies, as well as virtual net-metering demonstration projects. The program shall be administered by IESO, and will inform future grid modernization and net metering policies, support grid interoperability and be aligned with market renewal
- 2.2 In coordination with the Ontario Energy Board, review market rules, industry codes, and regulations, in order to identify potential obstacles to fair competition for energy storage with other technologies in the delivery of services and, where appropriate, propose mitigation strategies
- 2.3 Identify options for pilot projects that evaluate the electricity system benefits, costs and GHG emission reductions of using electricity to create hydrogen

Implementation Directive Initiatives cont.

Delivering a Flexible and Efficient System

- 3.1 Develop a formal integrated bulk system planning process that ensures solutions are identified transparently as needs materialize. The process shall also include a coordinated, cost-effective, long-term approach to replacing transmission assets at end of life, in order to better align investments with power system and market conditions and needs, including with respect to system operability and resilience, integration of distributed energy resources and customer reliability. In doing so, the IESO shall request information, as required, from transmission asset owners
- 3.2 Develop a competitive transmitter selection or transmission procurement process that is transparent, efficient and able to respond to changing policy, market and system needs. In addition to other details the IESO considers appropriate, the IESO may include the following in its implementation plan:
- identification of specific pilot projects, if any are suitable, to be selected based on the suitability of their scale, scope and need timeframe for a competitive selection or procurement process
 - an implementation strategy including milestone dates and key objectives taking into consideration competitive tension, transparency, Indigenous community participation in the sector and other factors the IESO considers relevant
 - consideration of the option of a tiered process scaled to the complexity of project
 - identification of potential amendments to statutes, regulations, policies or programs that would support the implementation of the proposed transmitter selection or procurement processes

Implementation Directive Initiatives cont.

Delivering a Flexible and Efficient System

- 3.3 Review and report on the regional planning process, taking into account lessons learned, and provide options and recommendations. The IESO may use existing processes and working groups in its review and consult stakeholders and experts, and, in addition to other details the IESO considers appropriate, shall:
- identify barriers to the implementation of cost effective non-wires solutions such as conservation and demand management and distributed energy resources, and provide options to address any such barriers, including potential legislative or regulatory changes, as well as options to address local distribution company capacity
 - propose approaches for improving the integration of regional planning with bulk system, distribution and community energy planning, and approaches to ensure alignment with market-based approaches
 - include consideration of improved planning for replacement of transmission assets reaching end of life
 - propose approaches for streamlining the regional planning process
- 3.4 Review and report on its technical criteria used to assess customer reliability in order to identify and evaluate options for local area enhancements. In addition to other details the IESO considers appropriate, the IESO shall consider potential improvements to customer load restoration criteria, including in remote areas, and the cost and funding of any proposed changes including impacts on electricity consumers, distribution and transmission utilities and other stakeholders

Engagement Approach – Implementation Plan

Development of IESO Implementation Plan

- The IESO will accept feedback until December 13
- The IESO is looking for feedback exclusively on:
 - The overall approach to the development of its Implementation Plan (e.g. will the proposed activities effectively respond to the directive or are other activities required)
 - Priority/timeline for responding to the directive initiatives
- Feedback on specific activities is out-of-scope
- This engagement initiative will complete when feedback is responded to and the Implementation Plan is submitted to the Minister of Energy

Engagement Scope

- Considerations for each directive initiative:
 - Linkages to other IESO initiatives (e.g. Market Renewal Program)
 - Linkages to similar sector discussions to leverage sector knowledge of directive initiatives (e.g. intricacies of technology)
 - Ensuring a cost effective approach to achieving deliverables
- Questions for stakeholders and communities to consider:
 - Is an adequate and efficient scope of activities proposed to meet the implementation directive?
 - Are there other factors or linkages (e.g. in-progress initiatives from other organizations, market renewal program, etc) that should be considered in the design of the timeline of activities?
 - Is the relative priority of the engagement schedule achievable?

Engagement Channels and Forums

- The IESO will use a variety of channels and forums based on the need and applicability of the directive initiative such as:
 - Existing public engagement methods and forums
 - Targeted meetings with associations, key stakeholders and/or community representatives
 - Communications vehicles to solicit feedback such as public web presence, social media, broadcast emails
 - New forums/committees to publicly capture feedback
- Audience segmentation: will be conducted in each of the engagement initiatives to ensure opportunities for broad input is provided
- Input in this engagement will be brought forward into Post Implementation Plan engagement efforts

Timeline to Deliver Implementation Plan

Activity	Target Completion
LTEP Release	October 26
Engagement begins on Implementation Plan	Mid-November
Communities and Stakeholders to provide input	Mid-November – December 13
Webinar with Communities and Stakeholders	November 22
Provide updates at IESO Regional Forums	November-December
Stakeholder Advisory Committee public meeting	November 29
Feedback due on the Implementation Plan proposal	December 13
IESO Response to Stakeholder and Community Feedback	By January 31
Submit Implementation Plan to Minister of Energy	By January 31

Post Implementation Plan

- Detailed engagement plans will be developed for each directive initiative after the Implementation Plan is approved by the Minister in accordance with the timeline
 - Plans to include specific activities, timelines, forums, methods, etc
 - Detailed engagement plans will be available, consistent with the timelines established in the Implementation Plan, with the consideration of stakeholder and community feedback
- All engagement activities will be communicated through the IESO Weekly Bulletin and IESO website
- The response to each initiative will include an open engagement component in adherence with IESO Engagement Principles

SUPPORTING INDIGENOUS CAPACITY AND LEADERSHIP

Directive Initiative 1.1: First Nations/Métis Energy Support Programs

Review and propose options to improve energy support programs currently offered by IESO to First Nations and Métis, with the objective of better aligning programs with community needs and interests. Options proposed shall include activities related to the implementation of community energy plans and be informed by engagement with First Nations and Métis

Key Deliverable

- To respond to the directive, the IESO will review and propose options to improve energy support programs informed by engagement with First Nations and Métis
 - Leveraging ongoing engagement discussions, this deliverable is expected to be completed in Q1 2018
- To inform the options, the IESO will complete the following activities:
 - Various engagement sessions with First Nations and Métis
 - A review of learnings taken from the Indigenous Energy Symposium and feedback collected through various engagement activities
 - Opportunity to provide input into proposed options

Scope of Engagement Activities

- Engagement activities currently ongoing and will include:
 - Regional engagement sessions with all First Nation communities (Q4 2017)
 - Survey to identify needs and gaps
 - Engagement session with all Métis councils
 - Open engagement and outreach for all interested parties
- Engagement activities will seek feedback from communities in areas such as:
 - The need for re-alignment or expansion of programs to meet the needs and interests of First Nations and Métis
 - Improving the application process of existing Energy Support Programs for First Nations and Métis
 - Supporting the implementation of Indigenous community energy plans

Directive Initiative 1.2: First Nations/Métis Conservation Programs

Prepare a report on options to improve conservation programs, and access to programs, for First Nations and Métis, including communities served by Independent Power Authorities. This report will include an assessment of existing programs offered under the Conservation First Framework (CFF) and the Demand Side Management (DSM) Framework, as well as energy support programs. The report timing shall be aligned with the Mid-Term Review of the CFF and be informed by engagement with First Nations and Métis

Key Deliverable

- To respond to the directive, the IESO will prepare a report on options to improve conservation programs, and access to programs, for First Nations and Métis
 - Leveraging ongoing engagement discussions, this deliverable is expected to be completed in Q1 2018
- To inform the options, the IESO will complete the following activities:
 - Various engagement sessions with First Nations and Métis
 - A review of feedback collected through engagement activities
 - Review of existing and historical programs and results
 - Review of Aboriginal Community Energy Plans
 - Opportunity to provide input into draft report

Scope of Engagement Activities

- Engagement activities will include
 - Regional engagement sessions with all First Nation communities (Q4 2017)
 - Survey to identify needs and gaps
 - Community meetings in southern and remote northern First Nation communities
 - Engagement session with all Métis councils
 - Open engagement and outreach for all interested parties
- Engagement activities will seek feedback from communities in areas such as:
 - Underlying electricity and energy efficiency related issues in on-reserve First Nation communities
 - Opportunities for technologies or processes that would support energy efficiency for First Nations and Métis
 - Gaps in program design or delivery for existing conservation programs
 - Options for programs for off reserve First Nation and Métis peoples

ENCOURAGING AN INNOVATIVE SECTOR

Directive Initiative 2.1: Renewable Distributed Generation Demo Program

Develop a program to support a select number of innovative renewable distributed generation demonstration projects, strategically located and paired with other distributed energy resources and smart-grid technologies, as well as virtual net-metering demonstration projects. The program shall be administered by IESO, and will inform future grid modernization and net metering policies, support grid interoperability and be aligned with market renewal

Key Deliverable

- To respond to the directive, the IESO will develop a program for innovative renewable distributed generation projects to demonstrate enhanced system integration and deployment potential, specifically for providing local and/or bulk system level value
 - To inform the program, the IESO will:
 - Provide a review of renewable distributed generation demonstration projects in Ontario
 - Provide a review of demonstration/pilot program best practices
 - Identify 3-5 topics to investigate through the program (e.g. virtual net metering)
 - Develop a program design, including process and funding agreement
 - Ensure alignment with the energy storage obstacles directive initiative
- (2.2)

Scope of Engagement Activities

- Seek feedback from stakeholders and communities to inform:
 - Topics/areas of investigation/demonstration through the program
 - Program design, processes and funding agreement

Directive Initiative 2.2: Energy Storage Obstacles

In coordination with the Ontario Energy Board, review market rules, industry codes, and regulations, in order to identify potential obstacles to fair competition for energy storage with other technologies in the delivery of services and, where appropriate, propose mitigation strategies

Key Deliverable

- To respond to the directive, the IESO will identify potential obstacles to fair competition for energy storage with other technologies and develop an action plan that proposes mitigating strategies, where appropriate
- To inform the identification of obstacles and potential mitigation strategies, the IESO proposes to complete the following activities:
 - Conduct a jurisdictional review to determine how barriers to energy storage are being addressed in other jurisdictions
 - Develop a set of principles to help guide the assessment of the appropriateness of potential obstacles
 - Identify potential obstacles to the fair competition of energy storage resources
 - Determine which of the potential obstacles are inappropriate and develop mitigating strategies accordingly
- Ensure a coordinated approach with the Ontario Energy Board, Ministry of Energy as well as directive initiative 2.1 on renewable distributed generation and IESO market renewal program activities

Scope of Engagement Activities

- Engagement activities will seek feedback from communities and stakeholders, specifically the storage sector, in areas such as:
 - The development of principles to help guide the assessment of the appropriateness of potential obstacles
 - The identification of potential obstacles within the current Market Rules, industry codes, or regulations to ensure none are missed

Directive Initiative 2.3: Hydrogen Electricity System Benefits

Identify options for pilot projects that evaluate the electricity system benefits, costs and GHG emission reductions of using electricity to create hydrogen.

Key Deliverable

- To respond to the directive, the IESO will identify options for pilot projects that are capable of demonstrating the potential of power-to-gas opportunities
- To inform the development of these projects, the IESO proposes to complete the following activities:
 - Undertaking market research on the opportunities for power-to-gas, including a review of the respective regulatory requirements.
 - Develop a Request for Expression of Interest (RFEI) regarding the operational effectiveness of power-to-gas
 - As applicable, identify potential pilot project initiatives to demonstrate, test, and evaluate the opportunity for power-to-gas applications

Scope of Engagement Activities

- Seek feedback from stakeholders and communities to inform:
 - Development of RFEI for potential opportunities for power-to-gas applications
 - Recommendations for the development of pilot project(s), as applicable

DELIVERING A FLEXIBLE AND EFFICIENT SYSTEM

Directive Initiative 3.1: Bulk System Planning Process and End-of-life Transmission Assets

Develop a formal integrated bulk system planning process that ensures solutions are identified transparently as needs materialize. The process shall also include a coordinated, cost-effective, long-term approach to replacing transmission assets at end of life, in order to better align investments with power system and market conditions and needs, including with respect to system operability and resilience, integration of distributed energy resources and customer reliability. In doing so, the IESO shall request information, as required, from transmission asset owners

Approach

- The IESO proposes to respond to this directive Initiative with two distinct workstreams:
 1. Develop a bulk system planning process
 2. Develop an approach to transmission end-of-life assets
- There will be linkages with directive initiative 3.3 on the regional planning process

Key Deliverable:

1. Bulk System Planning Process

- To respond to the directive, the IESO will develop a transparent bulk system planning process that includes initiating events, assessment methodology, engagement, inputs, products, timelines, milestones
- To develop the bulk planning process, the IESO will:
 - Review how bulk system planning is presently carried out
 - Conduct a jurisdictional review of best planning practice
 - Explore ways of co-ordinating how needs on the bulk system are identified
 - Explore ways of identifying and evaluating solutions to meet needs
 - Explore possible mechanisms for implementing the solutions in the bulk system plan (e.g. through the markets, RFP etc.)
 - Determine what information the IESO should provide to the market place on plans that it has developed and how often

Scope of Engagement Activities

- Information gathered from reviews will inform the objectives of engagement activities
- Engagement activities will seek feedback from communities and stakeholders in areas such as:
 - Process design
 - Co-ordination with other planning processes, including Regional Planning, and the Long Term Energy Plan
 - How and when stakeholders and communities are incorporated in a bulk system planning process (e.g. on needs, decision criteria, and solutions)

Key Deliverable:

2. Transmission Assets Reaching End of Life

- To respond to the directive, the IESO will develop a process for obtaining transmission asset end-of-life information.
 - This information will be one of the inputs into the IESO's bulk system planning process and will improve the information used in the regional planning process
- To develop this process, the IESO will:
 - Complete a jurisdictional review
 - Work with Transmitters and LDC's to outline existing processes and constraints related to identifying end-of-life assets
 - Jointly with Transmitters and LDCs, develop a process for obtaining and screening end of life information in a timely manner
 - Work with the OEB to address any changes required to the regulatory framework

Scope of Engagement Activities

- Information gathered from reviews will inform the objectives of engagement activities
- Engagement activities will seek feedback from transmitters/LDCs in areas such as:
 - Developing a process for identifying assets reaching end-of-life
 - Extending the planning horizon on sustainment investments from the current 3-5 year period to at least a 10 year horizon
 - Developing a set of criteria for screening the identified end-of-life assets for opportunities to better align with future power system and market conditions through more comprehensive and transparent long-term planning

Directive Initiative 3.2: Transmission Procurement Process

Develop a competitive transmitter selection or transmission procurement process that is transparent, efficient and able to respond to changing policy, market and system needs.

Key Deliverable

- To respond to the directive, the IESO will develop a competitive transmission selection or transmission procurement process
- To develop a transmission procurement process, the IESO will:
 - Select pilot projects, either generic or specific, that will guide the development of the process
 - Complete a jurisdictional review
 - Review the legal and regulatory context to determine policy, legislative, and/or regulatory changes that may be required
 - Design the various steps in the process, including qualification requirements, bid selection criteria and procurement timelines
 - Prepare all of the relevant procurement documents (e.g. RFP)

Scope of Engagement Activities

- Information gathered from reviews will inform the objectives of engagement activities
- Engagement activities will seek feedback from communities and stakeholders in areas such as:
 - Process design (e.g. timelines, qualification requirements, bid evaluation criteria)
 - Options for Indigenous Community participation
 - How and when stakeholders and communities are incorporated in the procurement process

Directive Initiative 3.3: Regional Planning Process

Review and report on the regional planning process, taking into account lessons learned, and provide options and recommendations.

Key Deliverable

- To respond to the directive, the IESO will produce a report and/or recommendations on ways to:
 - Improve the efficiency of the regional planning process
 - Better align Regional Planning with the other planning processes (bulk system, distribution system and community energy planning)
 - Reduce barriers to non-wires solutions

Key Deliverable cont.

- To inform these recommendations, the IESO will:
 - Review the existing regulatory framework and regional planning process, gather information from stakeholders and conduct jurisdictional reviews
 - Work with the OEB, Hydro One and key stakeholders to identify:
 - Opportunities to streamline the regional planning process
 - Opportunities to better align with other planning processes
 - Opportunities to coordinate asset end of life replacement with regional needs
 - Barriers to evaluating and implementing non-wires solutions
 - Brainstorm solutions and seek input from stakeholders and communities
 - Propose adjustments to the regional planning process and regulatory framework and develop an action plan

Scope of Engagement Activities

- Information gathered from reviews will inform the objectives of engagement activities
- There will be linkages with the bulk system planning process and end-of-life transmission assets directive initiatives (3.1)
- Engagement activities will seek feedback from communities and stakeholders in areas such as:
 - Barriers to the implementation of cost effective non-wires solutions
 - Effectiveness of customer, community and stakeholder engagement in the existing regional planning process
 - Proposed changes to the regional planning process

Directive Initiative 3.4: Customer Reliability

Review and report on its technical criteria used to assess customer reliability in order to identify and evaluate options for local area enhancements. In addition to other details the IESO considers appropriate, the IESO shall consider potential improvements to customer load restoration criteria, including in remote areas, and the cost and funding of any proposed changes including impacts on electricity consumers, distribution and transmission utilities and other stakeholders

Key Deliverable

- To respond to the directive, the IESO will produce a report and/or recommendations for changes to IESO customer reliability standards
- To inform the recommendations, the IESO will complete the following activities:
 - Determine the contribution of disturbances on the IESO Controlled Grid to customer reliability
 - Complete a jurisdictional review
 - Review past feedback on customer reliability from customers, communities and stakeholders.
 - Complete additional outreach, (e.g. on evaluation methodology)
 - Based on feedback and information gathered, develop and evaluate alternatives, considering the cost and benefits for changes to IESO standards changes, if needed

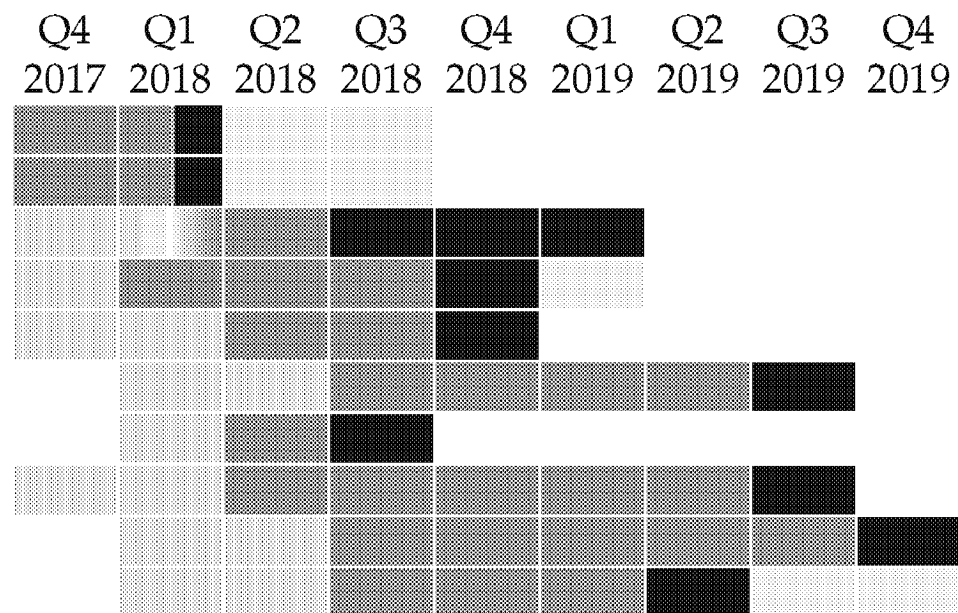
Scope of Engagement Activities

- Information gathered from reviews will inform the objectives of engagement activities
- Engagement activities will seek feedback from communities and stakeholders in areas such as:
 - Customer reliability delivered by the IESO-controlled grid to Ontario customers/communities/stakeholders.
 - Relative weighting of some attributes the IESO will be using as decision-making criteria to compare alternatives for standard development
 - Draft alternatives and recommendations for standard development
 - Other areas raised in the review

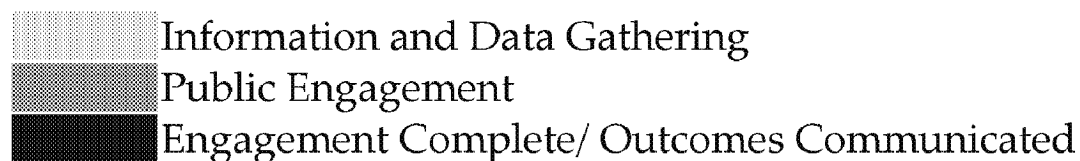
Proposed Timeline / Next Steps

Proposed Timeline of Activities

- 1.1 First Nations/Métis Energy Support Programs
- 1.2 First Nations/Métis Conservation Programs
- 2.1 Renewable Distributed Generation Demo Program
- 2.2 Energy Storage Obstacles
- 2.3 Hydrogen Electricity System Benefits
- 3.1 Bulk System Planning Process
- 3.1 End-of-life Transmission Assets
- 3.2 Transmission Procurement Process
- 3.3 Regional Planning Process
- 3.4 Customer Reliability



* This timeline may change depending on factors such as: alignment between initiatives, available resources, other considerations



Next Steps: Feedback

- The IESO's final Implementation Plan is due to the Minister of Energy for approval by January 31, 2018
- The IESO is seeking feedback on the overall approach to its Implementation Plan, and on timelines for engagement on each directive initiative:
 - Is an adequate and efficient scope of activities proposed to meet the implementation directive?
 - Are there other factors or linkages (e.g. in-progress initiatives from other organizations, market renewal program, etc) that should be considered in the design of the timeline of activities?
 - Is the relative priority of the engagement schedule achievable?
- The IESO will only not be accepting feedback on the specific activities proposed for each initiative until post Implementation Plan (with the exception of ongoing engagement discussions under items 1.1 and 1.2 above)
- Please send feedback to engagement@ieso.ca by December 13