

Non Emitting Resource Sub-Committee

DRAFT Terms of Reference

November, 2017

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1. INTRODUCTION

The Non Emitting Resource Sub-Committee (NER-SC) is a sub-committee of the Market Renewal Working Group¹ (MRWG) tasked with investigating how non-emitting resources can efficiently participate in Ontario's future electricity market in order to meet the province's policy objectives for the electricity sector. These policy objectives, as discussed in the Long-Term Energy Plan ([LTEP](#)), demonstrate a commitment to a "made in Ontario" market solution that also considers greenhouse gas emission targets set out in the Climate Change Action Plan.

Market Renewal is an ambitious set of initiatives which will amount to a fundamental redesign of Ontario's electricity markets. Market Renewal will address existing issues with Ontario's market design and prepare the province for future change within the electricity sector. As part of its role to provide advice on strategic issues, the MRWG recommended that a dedicated forum be established to further examine and consider issues related to the participation of non-emitting resources under Market Renewal.

Participants of the sub-committee will contribute to understanding how non-emitting resources will operate under the new market design, as well as exploring approaches to incentivizing clean energy. To ensure the success of this work, group members are expected to participate fully throughout. Regular updates on the findings of the sub-committee will be provided to the MRWG, leading to a final report that the sub-committee will produce to help inform the Working Group of any strategic decisions related to Market Renewal.

These terms of reference are intended to outline the roles and responsibilities of the Non Emitting Resource Sub-Committee, its relationship to other stakeholder forums and a description of how it will contribute to the overall success of Market Renewal.

2. ROLE OF THE NON EMITTING RESOURCE SUB-COMMITTEE

2.1. Role

- 2.1.1. The NER-SC is a stakeholder forum tasked with investigating how non-emitting resources can efficiently participate in the future market contemplated under Market Renewal. NER-SC members will contribute to this work in a number of ways including but not limited to providing information on (i) potential barriers to participation in the Market Renewal new market and (ii) the technical capabilities of non-emitting resources. This information will help to ensure non-emitting resources can efficiently participate in the future market and that the electricity sector will be well positioned to deliver on policy goals.

¹ For further information about the role and purpose of the MRWG please see the Terms of Reference.

2.2. Relationship to other IESO Engagements

2.2.1. The NER-SC will primarily work alongside the MRWG but can also expect to interact with the individual Market Renewal stakeholder engagements, in addition to other relevant stakeholder forums, as appropriate, such as the Demand Response working group.

2.2.1.1. Market Renewal Working Group (MRWG) – The NER-SC is a sub-committee to the MRWG. The MRWG will provide guidance on the scope of work of the sub-committee, while the sub-committee will provide regular updates to the working group on its activities and progress, including delivery of a final report which addresses the scope of work established by the MRWG.

2.2.1.2. Market Renewal stakeholder engagements - The Non Emitting Resource Sub-Committee will have the opportunity to interact directly with the Market Renewal work-streams as they seek input and advice from stakeholders on technical and related issues.

2.2.2. The IESO will ensure that there is alignment and transparent communication between related stakeholder forums and the Non Emitting Resource Sub-Committee.

3. RESPONSIBILITIES OF THE NON EMITTING RESOURCE SUB-COMMITTEE

3.1. Responsibilities

3.1.1. To work together with the MRWG to ensure that the identified initiatives under Market Renewal have fully considered the participation of non-emitting resources.

3.1.2. To review materials in advance of meetings and come prepared to contribute to discussion.

3.1.3. To help guide the research, analysis, and modelling as outlined in the scope of work.

3.1.4. To contribute research and presentations as appropriate to further the work of the NER-SC.

3.1.5. To provide regular updates to the MRWG on the activities and progress of the sub-committee.

3.1.6. To contribute to the organization of related discussions and events with the broader stakeholder community as necessary to complete the work of the NER-SC.

3.1.7. To deliver a technical report to the MRWG that provides information on the questions posed in the scope of work.

3.1.8. To comply with these Terms of Reference; and,

3.1.9. Inform the Co-Chairs about conflicts of interest.

3.2. Coordination

- 3.2.1. The NER-SC, led by the co-chairs, will take an active role in communicating with other stakeholders and other forums and groups to help ensure continued coordination, alignment and overall integration of the Market Renewal initiative.

4. SCOPE AND OBJECTIVES OF THE NON EMITTING RESOURCE SUB-COMMITTEE

4.1. Scope of work

- 4.1.1. The scope of the sub-committee is to identify how non-emitting resources could participate in the future market, understand their potential effects on market outcomes, as well as considering the various incentive mechanisms available to non-emitting resources in instances of clear policy direction. The underlying need is for the NER-SC to provide information that will help form any design decisions within the Market Renewal initiatives and to consider potential further design enhancements once Market Renewal is implemented.

- 4.1.2. The focus of the sub-committee will be to explore the following three areas for non-emitting resources:

- 4.1.2.1. Participation: future integration and barriers to participation for non-emitting resources in the proposed Market Renewal design scope;

- 4.1.2.2. Market efficiencies: market impacts associated with higher levels of non-emitting resources with very low to zero marginal costs;

- 4.1.2.3. Commercial mechanisms: the potential need for additional incentive mechanisms to value environmental attributes and support net zero / low carbon emission facilities.

4.2. Issues and questions to address on participation

- 4.2.1. Are the current design options proposed for the wholesale electricity market (energy, capacity and ancillary services) adequate to retain and acquire non-emitting resources to meet public policy goals?

- 4.2.2. Do all resources have the opportunity to compete in all market revenue streams?

- 4.2.3. What challenges will zero-emitting resources face in participating in the market contemplated by Market Renewal?

- 4.2.4. What wholesale market design changes would further facilitate deployment of non-emitting resources, make better use of existing assets to lower customer costs and

support the potential “missing money problem” from certain revenue streams; such as, the Incremental Capacity Auction or the Single Schedule Market?

4.3. Issues and questions to address on market efficiencies

- 4.3.1. What are the market impacts of integrating higher levels of non-emitting generation with very low marginal costs?
- 4.3.2. What reliability challenges will need to be managed in markets with a high penetration of these resources?
- 4.3.3. What are the market efficiency impacts of sustained negative pricing?
- 4.3.4. What options are available to mitigate or address market inefficiencies from sustained negative pricing?
- 4.3.5. What approaches are being considered in other jurisdictions to manage these challenges and what lessons can Ontario learn from other jurisdictions?
- 4.3.6. What are the market impacts of environmental regulations that further constrain low emission fossil fuel generation?
- 4.3.7. Are today’s wholesale market designs adequate to operate low emission fossil fuel resources effectively to meet flexibility needs and not increase costs for the customer with increasing levels of non-emitting generation?

4.4. Issues and questions to address on commercial mechanisms

- 4.4.1. Is there a need for an additional incentive mechanism, to work alongside cap and trade, to effectively integrate non-emitting and net zero carbon resources into the re-design of Ontario’s wholesale electricity market?
- 4.4.2. What are the pros and cons of potential mechanisms that could be considered (e.g. Renewal Emission Credits (REC) market, Renewable Portfolio Standard (RPS) policy, clean energy auctions, energy pricing)?
- 4.4.3. Which mechanism/s would integrate best with Market Renewal and be the most cost-effective to meet environmental and emission policies?
- 4.4.4. What are the next steps? (As an example, should any proposed mechanism be included in the scope of the Market Renewal Project, explored further through a broader IESO stakeholder engagement initiative or addressed outside of the IESO market).

4.5. Work plan

- 4.5.1. The sub-committee will work through the issues and questions outlined in the scope leading up to the publication of a final report, targeted for Q3/4 2018.

4.5.1.1. Engagement with stakeholders, including the non-emitting resource community, is an integral part of this work. Stakeholders will be given the opportunity to present to the rest of the group areas of the scope that they have particular technical expertise.

4.5.1.2. The IESO will look to retain the services of a consultant(s) to support the sub-committee with research, in depth analysis, and modelling of the future market under different circumstances. Stakeholders will be involved throughout the process of this work, and findings will be communicated at Non-Emitting Resource Sub-Committee meetings for further discussion and consideration.

5. COMPOSITION OF THE NON EMITTING RESOURCE SUB-COMMITTEE

5.1. Participation

5.1.1. The NER-SC will be Co-Chaired by a representative of the IESO and a representative selected by participants of the sub-committee. Participation in the NER-SC is open to all stakeholders; however, group members are expected to participate fully throughout the process so as to ensure the success of the work being conducted by the sub-committee.

5.2. Co-Chair

5.2.1. The NER-SC will select a Co-Chair from the stakeholder community.

5.2.1.1. Stakeholder participants in the NER-SC will select a Co-Chair through discussion and/or a vote. Time will be set aside at one or more NER-SC meetings, as required, to complete this process.

5.2.1.2. The NER-SC may opt to select more than one individual for the role of Co-Chair.

5.2.2. Roles and Responsibilities of Co-Chair

5.2.2.1. Along with the IESO, the Co-Chair will play a leadership role and help to provide effective governance, administration and facilitation of all Non Emitting Resource Sub-Committee meetings.

5.2.2.2. The Co-Chair will assist the IESO in the planning and development of Non Emitting Resource Sub-Committee meetings and agenda items.

5.2.2.3. The Co-Chair will help guide, support and advance collaborative discussion within the Non Emitting Resource Sub-Committee.

5.2.2.4. The IESO will have regular discussions with the Co-Chair on how best to meet certain sub-committee deliverables and milestones.

5.2.2.5. The Co-Chair will serve as an important liaison between the MRWG and related stakeholder forums. In doing so, the Co-Chair will provide an independent stakeholder perspective and assist with providing updates to the MRWG and other forums where and when required.

6. ORGANIZATION AND ADMINISTRATION OF MEETINGS OF THE NON EMITTING RESOURCE SUB-COMMITTEE

6.1. Number of Meetings

6.1.1. While a specific number of meetings have not been determined, the NER-SC can expect to meet in person on at least a monthly basis. Stakeholders can expect regular communication between meetings, and additional meetings may be added on an as needed basis.

6.2. Meeting Authority and Normal Order of Business

6.2.1. The Chair and Co-Chair or their delegate shall preside over meetings of the NER-SC.

6.2.2. Each meeting shall begin with roll call, review of the agenda and prior meeting's minutes.

7. MEETING MINUTES AND MATERIALS

7.1. Distribution of Meeting Agenda and Materials

7.1.1. The IESO will endeavor to distribute meeting agenda and materials at least one week in advance of the next scheduled meeting.

7.1.2. Materials will be distributed via email and posted on the IESO website.

7.2. Distribution of Minutes

7.2.1. The IESO will endeavour to distribute the draft meeting minutes, including any accompanying written submissions to all Working Group members for review at least one week in advance of the next scheduled meeting.

7.2.2. At the next meeting, the Co-Chair will invite Working Group members to provide any comments on the draft minutes prior to their finalization.

7.2.3. The IESO will then publish the final meeting minutes and related written

materials and post on the IESO website.

8. REVIEW, UPDATE AND EVALUATE

8.1. Updates Procedure

8.1.1. These Terms of Reference are not exhaustive and NER-SC participants may encounter circumstances not contemplated in this document. In these instances, the Co-Chair will consult with the sub-committee on how best to address such circumstances.

8.1.2. The MRWG may recommend changes or additions to these Terms of Reference from time to time.

8.2. Review

8.2.1. At regular intervals, the IESO will invite the sub-committee to submit their views on the effectiveness of the group and its mandate.

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