

Market Renewal Working Group

February 6, 2018

Agenda

1:00 pm – Welcome and Introduction

1:15 pm – Stakeholder Engagement and Governance

2:00 pm – MRWG in 2018 and beyond

2:30 pm – Energy and Capacity design update

3:30 pm – NER-SC and RFI

4:00 pm - Wrap up

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STAKEHOLDER ENGAGEMENT AND GOVERNANCE

IESO Engagement Update

- Seeking and acting on input from stakeholders, customers and communities is integral to the IESO's mission
- The IESO recognizes the amount of engagement activities currently underway and planned
- The IESO believes in continuous improvement of its engagement process
- In spring, 2018, the IESO will deliver an engagement strategy

Feedback on Engagement Processes

- IESO has received feedback from a number of sources
 - Stakeholder surveys
 - Ongoing engagements such as MRWG
 - Stakeholder Advisory Committee
 - Technical Panel
- Feedback highlights opportunities for improvement
 - The amount of engagement and the potential for fatigue
 - Transparency of IESO decision-making
 - The way feedback is considered by the IESO
 - Lack of inclusion of Low Volume Customers
- To better understand the feedback, the IESO is currently conducting additional research with stakeholders

Developing an Engagement Strategy – Spring 2018

- The IESO will create an engagement strategy that will consider and identify:
 - Clear objectives for engagement that will be included in Corporate Performance Metrics
 - Stakeholder behaviour/drivers
 - Greater participation of Low Volume Customers
 - Enhancements to the engagement process
 - Opportunities for efficiencies for activities, forums or channels
 - More clarity on the role of standing committees and advisory groups

Engagement Strategy - continued

- Strategy will be developed for consideration by the IESO Board
- Consideration will be informed by a review of the strategic direction by SAC
- Strategy will include consideration of potential updates to the Technical Panel Terms of Reference to ensure TP is able to continue to deliver on its accountabilities for review of market rules
 - Strategy will not include changes to the role or accountabilities of the TP

Scope of Governance Conversation

- The IESO requests MRWG feedback on governance, within the parameters identified as in-scope
 - In scope – MRP design issues, such as mechanisms for stakeholder engagement and dispute resolution within MRP
 - Out of scope – delegation of IESO decision-making authority, policy changes / sector evolution exceeding scope of MRP mandate

Considerations of In-Scope Stakeholder Input

- MRP design issues, such as mechanisms for stakeholder engagement and dispute resolution within MRP
 - Issues raised by stakeholders such as the design of the ICA demand curve
 - Scope of overall engagement of market renewal

Considerations of other Stakeholder Input

- Other Stakeholder feedback received through the MRWG will be considered outside of the market renewal program:
 - Technical Panel Membership
 - Market Rule Amendment Process

Design Challenges for Stakeholder Feedback

- Identify general principles that should inform the design of MRP for stakeholder engagement and dispute resolution.
- Identify MRP components that may trigger ongoing stakeholder participation, such as recurring amendments.
 - Consider FERC jurisdiction examples, where a tariff may prescribe a dedicated stakeholder process that departs from the general participation model.

Design Challenges cont.

- Identify the perceived adequacy or inadequacy of the existing Market Rule dispute resolution framework, as concerns the implementation of MRP.
 - Consider whether an alternative or expedited dispute resolution mechanism should be introduced, and if so, identify the potential scope of application – in what circumstances would the remedy be available?
- Identify MRP components that may change risk allocation and suggest mechanisms or enhancements that may provide greater investor certainty for market participants.
 - Specific to market mechanisms, not amendments to electricity supply contracts (subject to separate engagement).
- Identify any other design challenges within scope of the current governance engagement parameters.

Request for Stakeholder Feedback

- Based on stakeholder responses, the IESO may undertake further due diligence to facilitate informed MRWG discussion on priority issues
 - Akin to FERC jurisdictional analysis and dispute resolution presentations by IESO Legal at the October and November 2017 MRWG meetings
- Feedback will be accepted until February 20 on the questions identified in this presentation
- The IESO response to feedback will address comments previously received from stakeholders on governance related issues

MRWG IN 2018 AND BEYOND

MRWG in 2018 and beyond

- The MRWG has played an important role in the Market Renewal engagement framework:
 - Has provided a forum for frank and open discussions, identified and helped to resolve issues at an early stage, and provided helpful strategic guidance
- There remains an important role for the MRWG in Market Renewal in 2018 (as we work towards completion of the high-level designs, oversight of NER-SC etc.)
- However, as Market Renewal transitions to detailed design, there is an opportunity for the role of the MRWG to evolve

MRWG and Market Renewal in 2018

Key focus areas for the MRWG in 2018 will include:

1. Contribute to the completion of the high level designs (HLDs) for Market Renewal
 - Provide guidance on the content and roll out of the HLDs
 - Help to resolve challenging design decisions
 - Help to ensure there is a cohesive design across the HLDs
2. Oversee the work of the Non-Emitting Resource Subcommittee (NER-SC) and ensure relevant findings from that group are appropriately incorporated into Market Renewal
3. Help to ensure that governance issues pertaining to Market Renewal are appropriately addressed
4. Help to ensure stakeholder engagement meets the needs of the sector

Potential Evolution of the Group

- The group could continue to support detailed design work but could also take on a role beyond Market Renewal, for example:
 - Play a role in exploring/scoping operability work
 - Take a role in developing a Market Development Roadmap
 - Provide input on MRP design features that require periodic review (e.g., the ICA demand curve)
 - Other?

For discussion:

- *How would you like to see the group evolve in 2018?*
- *What are the group's strengths and how can it provide the most value?*

ENERGY AND ICA UPDATE

Energy work stream update

- Single Schedule Market stakeholder session held 30th January:
 - Presented preliminary decisions for Load Pricing and Financial Transmission Rights
 - Shared feedback on Intertie Congestion Pricing
- Day-Ahead Market and Enhanced Real-Time Unit Commitment stakeholder session held 31st January:
 - Presented list of design elements for preliminary decisions
 - Remaining design elements within work stream to be presented for discussion and preliminary decision at next stakeholder session in March

SSM Design Elements

Prelim design decision

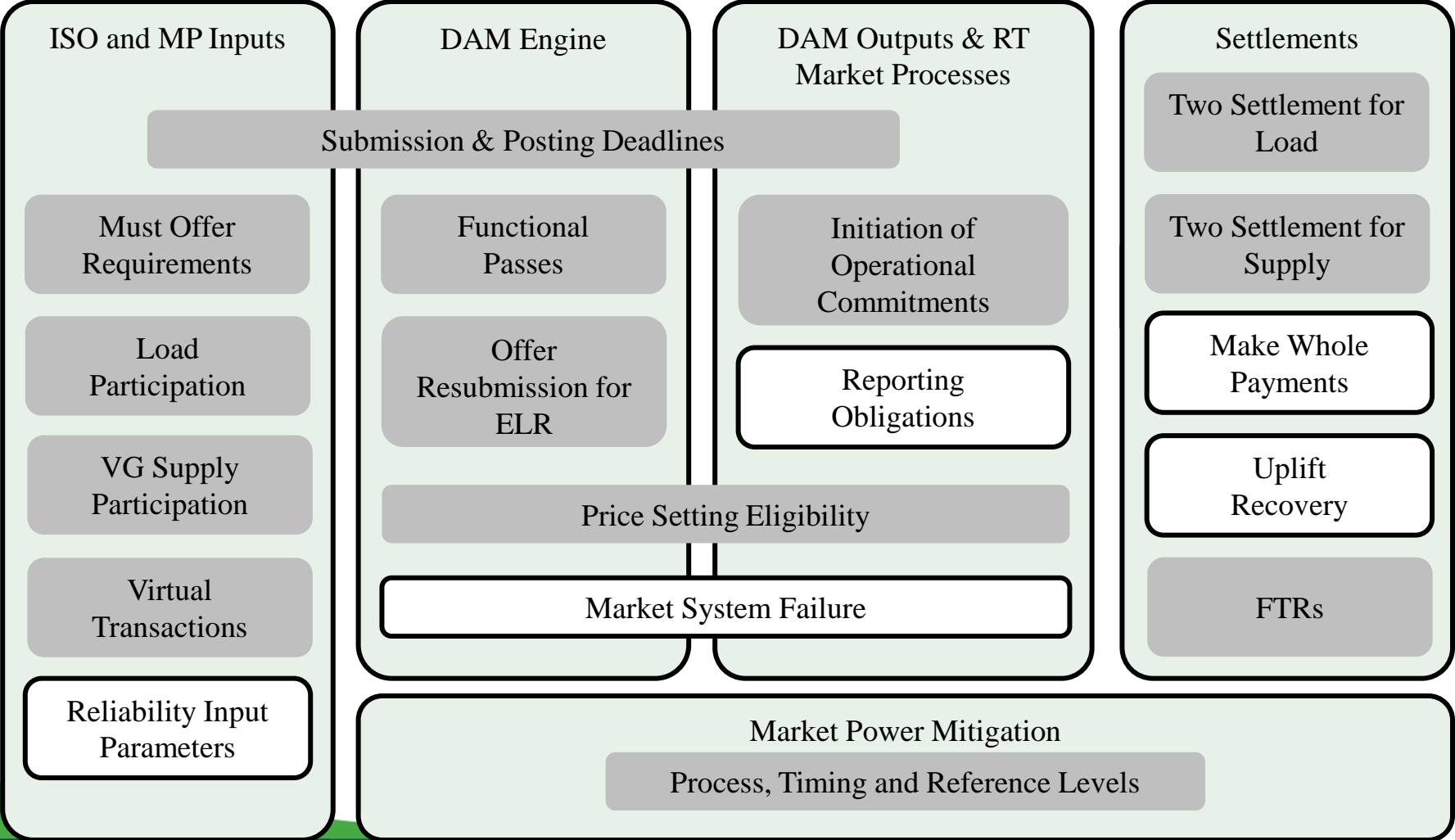
No prelim decision - analysis on-going

**Prelim decision communicated and awaiting stakeholder feedback*

Price Formation - LMP		11	Price Setting Eligibility for Resources with Operational Scheduling Requirements and Fast Start Offline Resources
1	LMP Energy Reference Price	12	Out of Market Operator Actions
2	LMP Energy Congestion Price Component	Market Power Mitigation	
3	LMP Intertie Congestion Price Component	13	Mitigation Process
4	LMP Energy Reference Price Loss Component	14	Timing of Application
5	Supplier Pricing	15	Reference Levels
6	Operating Reserve Reference Price	Load Pricing	
7	Operating Reserve Congestion Price	16	Pricing for Loads*
Price Formation - Other		17	Financial Transmission Rights*
8	Resolving Constraint Violations, Constraint Penalty Functions and Violation Variables	Settlement	
9	Multi-interval optimization (MIO) pricing run and Ramp Rate Multiplier	18	Make Whole Payments
10	Pre or Post-interval Pricing	19	Uplift Recovery

DAM Design Elements

Prelim design decision
 No prelim decision - analysis on-going



ERUC Design Elements

Module	Module Name	#	Design Element	Preliminary decision
A	Engine Parameters	1	Functional Passes	Yes
		2	Look Ahead Period	No - still in dev
		3	Timing and Frequency of Run	No - still in dev
		4	Time Step	Yes
B	Participation and Input Data	5	Intertie Transactions	No - still in dev
		6	Must Offer Requirements	Yes
		7	Eligibility Requirements	Yes
		8	Market Participant Data	Yes
C	Market Power Mitigation	9	Commitment Cost and Non-Price Bids/Offers	Yes
		10	Bid/Offer Changes	Yes
D	Output of Engine	11	Binding Start-up Instruction and Operational Schedule	Yes
E	Settlements	12	Calculation of Make Whole Payment	No - still in dev
		13	Failure Charge	Yes

ICA Design Elements

Options have been presented for 15 of 19 Design Elements

Pre Auction		10	Target Capacity
1	Participation Requirements	11	Min/Max Capacity Limits
2	Resource Eligibility	12	Net Cost of New Entry
3	Qualified Capacity	13	Max Auction Clearing Price
4	Market Power Mitigation	Forward Period	
Auction Parameters		14	Rebalancing Auctions
5	Length of Forward Period	15	Resource Obligations (within forward period)
6	Commitment Period(s)	16	Non-performance Implications (within forward period)
7	Multi-year Commitments	Commitment Period	
8	Locational Considerations	17	Resource Performance Obligations
Demand Curve		18	Performance Assessment
9	Slope of Demand Curve	19	Cost Recovery

Design Element - Status at a Glance

	Design Element		Status / Key Outstanding Decisions (KOD)
Pre Auction	1	Participation Requirements	KOD - Quantum of deposit (pre-auction) and performance security (post-auction)
	2	Resource Eligibility	KOD – Establish the type of information required to strike optimal balance between administrative burden and the level of performance security required
	3	Qualified Capacity	Status – High level approach generally set, awaiting results of “deliverability” discussion from the Locational Considerations design element
	4	Market Power Mitigation	Status - Options presented at Jan 24 th SE meeting, awaiting feedback

Design Element - Status at a Glance

	Design Element		Status / Key Outstanding Decisions (KOD)
Auction Parameters	5	Length of Forward Period	KOD – Timing of the base auction (specific month of year to align with neighbouring jurisdictions) and number years in the forward period (will be between 3 and 4.5)
	6	Commitment Period(s)	KOD – Whether to adopt a seasonal or annual design
	7	Multi-year Commitments	KOD – Eligibility, maximum duration and auction mechanics for multi-year commitments
	8	Locational Considerations	Status - Options to be presented at the April 17 th SE meeting

Design Element - Status at a Glance

	Design Element		Status / Key Outstanding Decisions (KOD)
Demand Curve	9	Slope of Demand Curve	Status - Brattle to present preliminary modelling results at April 17 th SE meeting
	10	Target Capacity	KOD - Whether or not a “hold-back” mechanism will be employed as part of the design
	11	Min/Max Capacity Limits	Status - Options to be presented at April 17 th SE meeting as part of “Locational Considerations – Part 2”
	12	Net Cost of New Entry	Status - Anticipate issuing a Request for Services (RFS) in the coming months to secure third party consultant
	13	Max Auction Clearing Price	Status - Brattle to present preliminary modelling results at April 17 th SE meeting

Design Element - Status at a Glance

	Design Element		Status / Key Outstanding Decisions (KOD)
Forward Period	14	Rebalancing Auctions	Status - Options to be presented at the March 7 th SE meeting
	15	Resource Obligations (within forward period)	Status - Options to be presented at the March 7 th SE meeting
	16	Non-performance Implications (within forward period)	Status - Options to be presented at the March 7 th SE meeting

Design Element - Status at a Glance

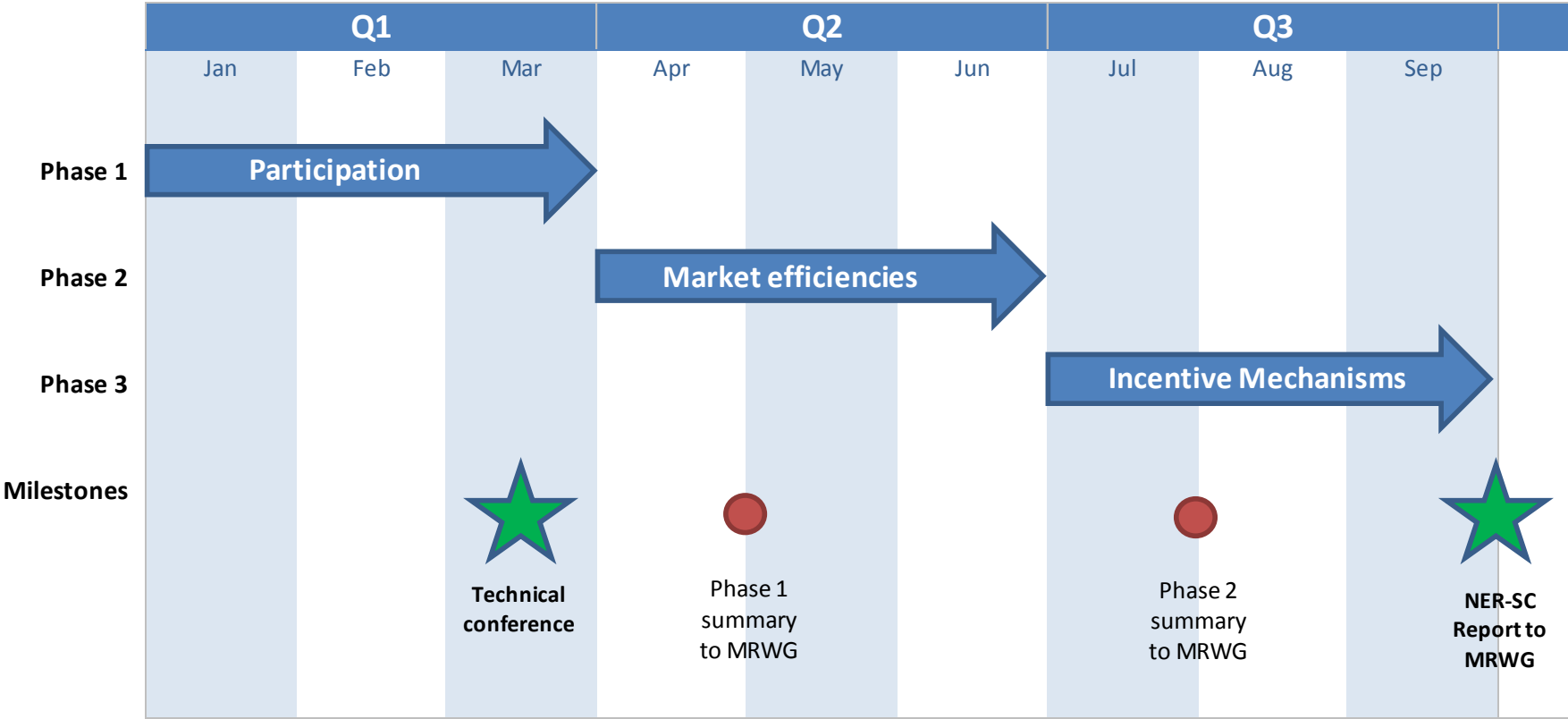
	Design Element		Status / Key Outstanding Decisions (KOD)
Commitment Period	17	Resource Performance Obligations	Status – Provided further details regarding the “Pay-for-Availability” and “Pay-for-Performance” mechanisms at the Jan 24 th SE meeting to clarify their mutual exclusivity, highlight pros/cons of each approach and to elicit further stakeholder feedback to help inform the preliminary decision
	18	Performance Assessment	Status – See above
	19	Cost Recovery	Status - Options presented at Jan 24 th SE meeting, awaiting feedback

Additional Project Updates

- Anticipate issuing an RFP in 2018 for the design and build of the Auction Engine once sufficient design details are available to define the scope of work
- Current agenda for April 17th SE meeting:
 - Brattle to present results of Demand Curve modelling
 - IESO to present options for features of Locational Considerations
 - “Check Point” on timing of first auction
 - Proposal regarding Decision Phase work plan
 - Feedback from both Jan 24th and March 7th SE meetings
- Design team is also investigating what decisions related to “Auction Mechanics” need to be made as part of the HLD (e.g. auction format, offer structure, objective function, price formation, etc.)

NER-SC AND RFI UPDATE

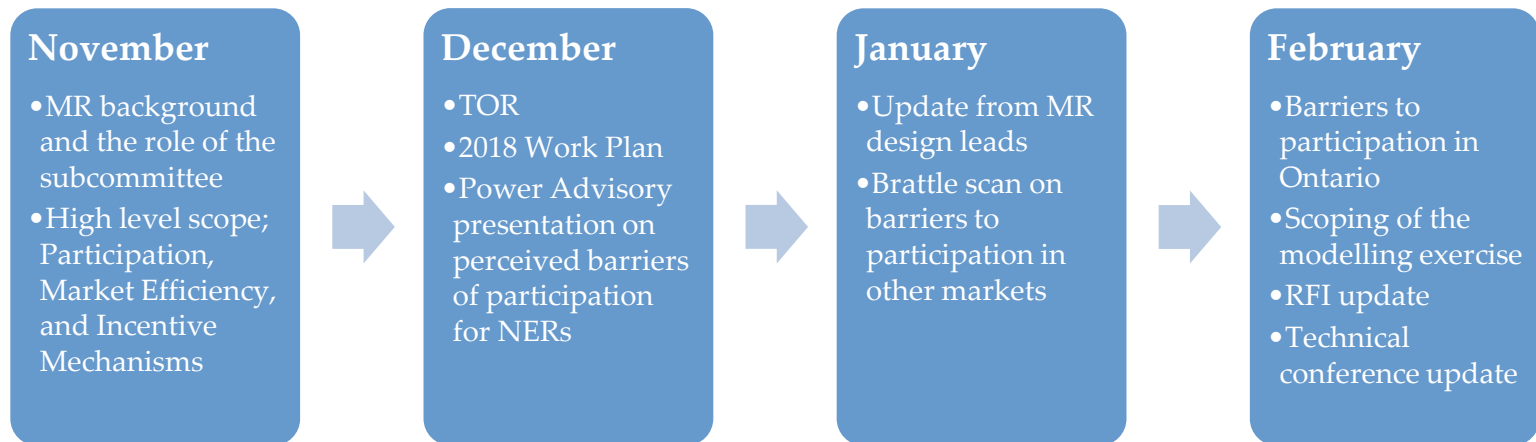
Recap of NER-SC Activities and Milestones



Note that these are indicative timelines

Progress Report – Participation

- The ground work for the NER-SC has been set
 - Terms of Reference and work plan have been established
 - Have explored areas of interest for NERs in Market Renewal and considered high-level takeaways from other jurisdictions
- Focus (for phase 1) is now: how can NERs provide value to Ontario's bulk system and what barriers might prevent them from doing so
- Findings from the first phase of the scope, barriers to participation for NERs, will be presented to the MRWG in early Q2



Milestones and Expectations

- Presentations at the spring technical conference will help inform stakeholder RFI submissions
- In turn, the findings from the RFI will provide valuable input for the modelling of the future market

1. Technical Conference

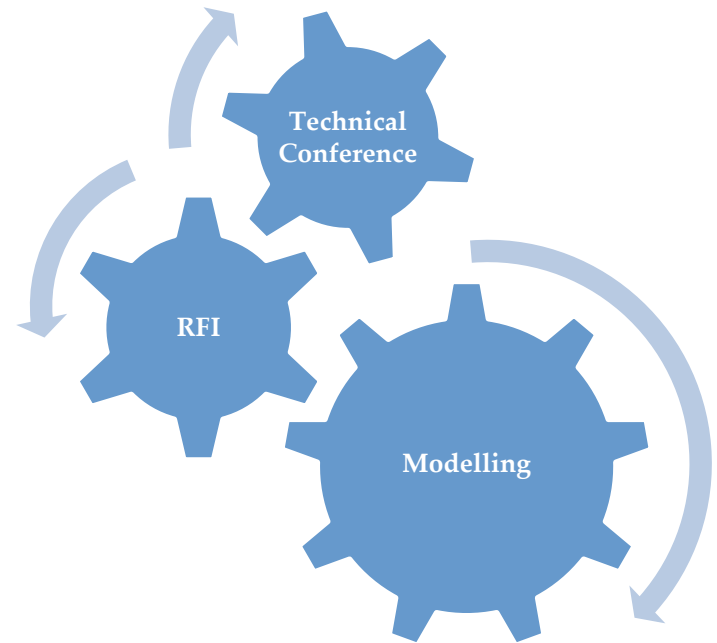
- A platform for stakeholders to showcase current resources and potential projects, while interacting directly with the MR design leads

2. RFI

- Information gathered from the RFI will assist the NER-SC in understanding the barriers of participation, and inform modelling of NERs in the future market

3. Modelling

- A consultant will carry out modelling of the future market which aims to explore: potential revenue streams available, market efficiencies under a range of scenarios, and potential market outcomes



RFI Status

- Have received feedback from Dec. 21 webinar
 - Feedback window extended from Jan. 10 to Jan. 17
- IESO is reviewing feedback and preparing responses
- Aiming to post draft Request for Information (and response to feedback) in early February
- More information will be provided in RFI webinar to be held straight after NER-SC meeting on February 16

Wrap-up

- Thanks for your participation
- Next meeting is March 20
- Any final comments or questions?