Meeting Notes of the Stakeholder Advisory Committee

Meeting date: 09/Mar/2022 Meeting time: 09:30 a.m. Meeting location: Video conference Chair: James Scongack Scribe: Smarter Shift Inc.

Meeting materials can be accessed on the $\underline{\mathsf{SAC}}$ web page.

Invitees	Representing	Attendance Status Attended, Regrets
Nicolas Bossé	Energy Related Businesses	Attended
	and Services	
David Butters	Generators	Attended
Brandy Giannetta	Generators	Attended
Ed Gilbert	Ontario Communities	Attended
Malini Giridhar	Energy Related Businesses	Attended
	and Services	
Paul Grod	Energy Related Businesses	Attended
	and Services	
Bala Gnanam	Consumers	Attended
Jim Hogan	Distributors and Transmitters	Attended
Bruno Jesus	Transmitters and Distributors	Attended
Frank Kallonen	Distributors and Transmitters	Attended



Invitees	Representing	Attendance Status Attended, Regrets
Amanda Klein	Distributors and Transmitters	Attended
Tonja Leach	Ontario Communities	Regrets
Paul Norris	Generators	Attended
Mark Passi	Generators	Attended
James Scongack	Generators	Attended
Annette Verschuren	Energy Related Businesses and Services	Attended
Agnieszka Wloch	Consumers	Attended
IESO Presenters		
Leonard Kula		
Michael Lyle		
Carla Nell		
Julia McNally		

Agenda Item 1. Welcome Remarks

James Scongack welcomed everyone to the virtual meeting. He acknowledged the traditional First Nations, Métis, and Inuit territories occupied by all of the participants. In recognition of International Women's Day on March 8, he said there is strength in diversity and that more women are needed within the electricity sector. In recognition of the events taking place in Ukraine, Mr. Scongack noted that SAC member Paul Grod is a prominent leader within the local Ukrainian Canadian community and president of the Ukrainian World Congress.

Many items under way by the IESO are expected to advance $\frac{1}{100}$ after the spring provincial election, Mr. Scongack said. Therefore, it is prudent to anchor down $\frac{1}{100}$ a few areas of urgency to ensure that everyone is clear on the facts so that solutions to problems can be found.

Today's meeting will focus on three topics:

- 1. The IESO business updates are posted online and for expediency will be taken as read. Leonard Kula will provide a verbal update on Ontario's winter operations.
- 2. The IESO is seeking discussion on Pathways to Decarbonization and the next steps on the engagement.
- 3. SAC working group members will present a challenge statement that will help inform the work of the IESO and other industry and community participants. The urgency and timing of new resources required to meet future needs is a key area of focus. Strong consensus on the challenge statement is the goal.

Agenda Item 2. IESO Business Updates

Carla Nell said the IESO looks forward to hearing about progress on a challenge statement around the urgency and timing of system needs. It is often assumed that people have a clear understanding of the problems. Being able to ground everything in a statement is very valuable for a broad cross section of stakeholders. These are very busy times for the entire sector with many moving parts that require close coordination. The SAC's expertise, commitment, and feedback are highly valued by the IESO.

Ontario's electricity system and demand situation is changing rapidly. Technologies are evolving. Stakeholders and advocacy groups are asking how to decarbonize the electricity system. The IESO has identified four key focus areas for 2022:

- 1. Create a flexible and competitive framework for resource acquisition.
- 2. Create opportunities for more resources and innovation to drive down costs.
- 3. Explore pathways to decarbonisation.
- 4. Proactively engage with a wide variety of audiences toward developing solutions to challenges.

With respect to engagement, last year's virtual meetings brought about an increase in participants and helped to attract a broader audience. Ms. Nell said the IESO would consider balancing meeting preferences for stakeholders in future.

February's Engagement Days provided a robust agenda that included conversations about Clean Energy Credits project work as well as Pathways to Decarbonization. There were also important engagements to support work in the innovation space.

With respect to resource adequacy, Michael Lyle said the medium-term RFP document was posted at the end of January and proposals are due by April 28. With respect to the long-term RFP, the next engagement is tomorrow where discussions will continue on procurement design, including term length, energy revenues, rated criteria, and connection and deliverability considerations.

With respect to energy efficiency and the 2021-2024 Conservation and Demand Management (CDM) Framework, the IESO is commencing work on preparation of a mid-term progress report that is due to the Minister of Energy by the end of the year. With respect to the Conservation First Framework, a Ministerial Directive was received in December 2021 to extend the timelines to August 31 for completion of projects under certain eligible programs. The extension reflects the challenges people faced in implementing projects during the pandemic.

Mr. Kula provided an overview of the 2021-2022 winter operations as well a glimpse into what 2022 will look like, as it will be atypical year.

Ontario's electricity demand this past winter was within the forecast provided in the quarterly reliability outlook. The reliability outlooks forecast demand of 21,000 MW under normal weather and 22,300 MW under extreme weather conditions. Demand this winter reached a peak of 21,300 MW which is higher than normal, but below the extreme weather peak.

There were cold stretches this winter when temperatures fell below -20 C in Toronto and -40 C in Northern Ontario. The IESO issued four severe weather alerts and six extreme condition alerts. Severe weather alerts are issued days ahead to provide awareness that actions may be taken to address reliability. Extreme weather alerts are issued when certain conditions are realized and the IESO may or has taken actions to address reliability.

In general, the system performed well. Ontario achieved good resource and transmission asset performance. Cold weather in northeastern Canada resulted in tight supply conditions. Quebec set an all-time winter peak at just over 40,000 MW and NERC energy emergency alerts were issued in the Maritime Provinces and in New York.

Within eastern Ontario's 650 GW interconnected system, natural gas prices were observed to be higher than coal, causing coal generation in areas south of Ontario to offset natural gas generation. That dynamic caused changes in flow patterns within Ontario because energy flows from the Midwestern United States to the east coast.

Looking ahead to 2022, there are three nuclear generating units on refurbishment. There will be two vacuum building outages where an entire station is removed from service for about one month. There are a significant number of important transmission maintenance projects to expand transfer capability and replace old equipment. Supply conditions will be tight until October. There are no reliability concerns. As people apply for outages of generation or transmission, more work will be required to ensure that the outages can fit reliably. In some instances, an outage could be rejected.

Comments

David Butters asked if there is potential for cyber threats in light of the current crisis in Ukraine. Mr. Kula said there could be impacts on New York and New England which are dependent on natural gas, and a source of which is liquid natural gas. Alex Foord said the IESO has been closely watching the cyber situation across Canada and North America. There have been no direct impacts as yet, but there has been an uptick in attack attempts. Detection and remediation are key activities. The general consensus is that the threats coming in are fewer than anticipated.

Annette Verschuren asked if more coal generation displacement of gas is anticipated, and if it might impact imports and exports. Mr. Kula said jurisdictions that are heavily dependent on coal, such as the Southwest Power Pool, were delaying coal generation because the stations could not get coal easily. When generators and system operators look at fuel supply, they look at security of generation. From a spot perspective, the right economic solution was to generate with coal, given its lower cost relative to gas. However, in the long term, the use of coal will decline rapidly due to cost and environmental impact.

Mr. Scongack said with respect to cyber security, the energy sector is only as strong as our weakest link. In addition to cyber security, information security of business systems is an important topic, and much can be done to protect information breaches as well as the credibility of the sector.

Mr. Foord echoed Mr. Scongack's point, stating that business networks, front offices, and email platforms and networks are commonly under attack.

Agenda Item 3. Pathways to Decarbonization

Julia McNally said the Minister has asked the IESO for two pieces of work. The first is to assess a moratorium on acquiring new natural gas. This work will be done by re-running the APO 2021 with only non-emitting resources and comparing the results to APO 2021 in terms of cost, emissions, and reliability.

The second piece of work is to develop a pathway through to 2050. This will entail developing a demand scenario that includes electrification.

A successful engagement session was held on February 24 with more than 200 actively engaged stakeholders in attendance. The session was followed by the release on March 2 of preliminary modelling assumptions. Stakeholders have been asked to provide technical feedback and to identify gaps by March 16. Outreach meetings with key stakeholder groups are being set up.

Comments

Brandy Giannetta asked where storage fits as an alternative to energy supply optimization. Ms. McNally said storage will be included in the capacity expansion tool. The project is a launch pad that will create more questions than provide answers.

Mr. Butters commended the IESO on its off-gas study, which looked at reliability, rates, and costs. It is an important strength to build on.

Ms. Verschuren said it is important to build flexibility into the work because the pathway will change many times during the next year.

Joe Oliver supported the comments by Mr. Butters and Ms. Verschuren. The role of the IESO is to provide independent, data-based analysis, and not to push an agenda. This was the approach taken with the off-gas study.

Mr. Butters said energy security will continue to be a big issue, and made-in-Ontario solutions would make a lot of sense. Ms. McNally asked what percentage should be made in Ontario. Mr. Butters said getting maximum value from existing assets while ensuring that new procurements come from Ontario should be the goal.

Amanda Klein said, from a distributor perspective, it is important to know when net zero is coming and what increases in electricity demand to expect. The timelines are important to the investors who are building the new infrastructure. Scenario planning will play an important role toward building a coordinated plan and will require inputs from various levels of government.

Paul Luukkonen, Customized Energy Solutions, echoed a comment by Ms. Giannetta regarding storage needs, and Ms. Verschuren's note that there will be many iterations of the pathway in the next year. Storage is a transmission solution for a congested area and for short-term capacity constraint. It is important to identify short-term constraints and storage as a solution. Ms. McNally said storage would be a resource to choose from within the modelling.

Mark Passi supported Mr. Butters' suggestion to focus on made-in-Ontario solutions. If Ontario has a carbon-emitting problem the problem should be looked at it holistically, not just from the narrow lens of the electricity sector.

Paul Norris said the Ontario government recently announced an initiative to invest in Ontario, which is something to keep an eye on when thinking about made-in-Ontario solutions. He asked if there might be an opportunity to do socioeconomic analyses on decarbonization scenarios both provincially and regionally. It would be helpful to know what decarbonization means to the broader economy with respect to employment and investment. Ms. McNally said such an analysis is not currently within the scope of the study, but will be taken into consideration.

Ms. Verschuren added that there is great opportunity for Indigenous partnerships. Ms. McNally said the IESO considers Indigenous partnerships to be very important and will reach out to these communities to determine their roles.

Malini Giridhar asked if there is an economic constraint within the high-demand scenario that says fuel switching from other fuels to electricity would be such that the customer is not worse off. What are the socioeconomic considerations? Ms. McNally said the high-demand scenario and parameters are currently being built. Information will be shared on the modelling assumptions made. On the supply side, rate impacts and cost implications will be considered. The models are cost-optimizing.

Comments from Observers

Justin Rangooni said Energy Storage Canada would release a report within the next few months that that may be of interest to the SAC members. Mr. Scongack said the report would be welcomed and invited other associations to share their reports with the SAC as well.

Agenda Item 4. Urgency and Timing of New Resources

A SAC working group was formed under the leadership of Ms. Giannetta to create a challenge statement to address the urgency and timing of new resources. The statement is posted on the IESO website. The goal of the statement is to get everyone working from the same set of facts and challenges. She provided an overview of the challenge statement for SAC and public feedback.

Ontario is approaching a critical time for electricity system planning. Ontario's near-term capacity needs will overlap with energy needs in this decade. There will be discussion around new and existing generation within the system within the context of maintaining reliability.

Since 2016, the IESO's Annual Planning Outlooks have consistently indicated the trajectory of system shortfalls that lies ahead, along with the capacity and energy needs required. These are good reference documents.

A Ministerial Directive for a long-term RFP for new resources is in the design and consultation phase. It will be a challenge to meet the ministerial directions within a short timeframe to determine what resources will be needed, how they will be procured, and at what cost. Investor confidence is a key focus.

As stakeholders perceive it, there are four roles for the IESO going forward:

- 1. Provide timely and accurate information and data to support identification and timing of needs,
- 2. Consult and develop timely and feasible competitive procurement mechanisms to address multiple objectives of reliability, affordability, and non-emitting policies,
- 3. Maintain reliability of the system in compliance with Ministerial Directives,
- 4. Develop and execute solutions to meet future needs in a timely manner.

The working group also assessed the roles of others, including those with existing investments and those looking to invest. Potential participants need sufficient line of sight. It is a two-way communication with the IESO in terms of investors communicating what constitutes a strong market signal and what is required to gain confidence in the market in hope that the IESO is able to adopt and design mechanisms to attract investment.

Stakeholders will be looking to the Government of Ontario for a long-term planning policy, including an understanding of the environmental and socioeconomic impacts, prior to procurement.

On the demand side, communities and other stakeholders need to engage in discussions regarding how they plan and manage their operations.

The IESO has already begun moving toward solving the problems and has been directed by the Minister. The timing is getting very tight. Planning mechanisms should recognize that it might not be possible to be fully inclusive. Some assets take longer to develop. Hydro assets take longer to develop than an energy storage project, for example. As well, understanding the demand side needs to continue.

The IESO's technical expertise in operating the energy system must be recognized and optimized. Stakeholder engagement will continue to attempt to meet the multiple objectives of reliability, affordability, and non-emitting. It will likely be impossible to reach 100% consensus.

Incorporating and coordinating Distributed Energy Resources (DERs) in the EU Internal Energy Market (IEM) will continue. Prioritizing solutions to meet urgent needs will require a pragmatic approach.

Finally, the impacts of international resource supply chains and resource security are recognized as being areas of growing concern and importance.

Comments

Mr. Butters thanked Ms. Giannetta for the work. With respect to the role of the IESO, "non-emitting policies" would be better phrased as "emission-reduction policies."

Mr. Passi agreed that "non-emitting" should be thought of as "lower-emitting" to ensure all options are on the table. In terms of current events, he said energy security and resilience of system would have high priority, and made-in-Ontario solutions would be preferred. In the context of Ministerial Directives, the Minister's questions and provision of a pathway are not absolutes. Getting off gas may or may not be in the cards.

Mr. Norris said sustainability can be defined in terms of emission reduction targets, so it is a good idea to know what it means. The IESO is now procuring or reacquiring resources in both competitive and other mechanisms, and the IESO approach to achieving its objectives should not be restricted. Ms. Giannetta said the statement would be updated to make note of this.

Agnieszka Wloch said with respect to demand side planning, it would be important to remain flexible during the transition to electrification. Ms. Giannetta acknowledged that disruption to consumers on the demand side would need to be accounted for in real time.

Ms. Verschuren said Canada is an important and secure country to do business with and there is a big opportunity to recognize the many great innovators across the country and the many fronts to work toward.

Mr. Scongack said the word "urgency" implies making big commitments in a short period of time. He recommended adding the word "options" when referring to "solutions." For example, it could be asked what "options" are available, depending on how things materialize. It would give the sense that there is a pipeline.

Mr. Oliver said to look at "lower-emitting policies" is to examine the responsibility and consequences in providing reliable and affordable energy. Policy makers will tell the province which way to go, but the implications of taking various routes are important to discuss.

Ms. Giannetta said other SAC working groups would be presenting similar formats and issues to today's challenge statement in the future, and that discussion will be ongoing.

Mr. Norris said suggested that the IESO invite input and advice on the challenge statement going forward. Jason Grbavac agreed that the IESO would consider the challenge statement a living

document for future discussion and updating. A feedback form will be made available after today's meeting for written comment.

Agenda Item 5. Other Business

There was no other business.

Agenda Item 6. Adjourn

Mr. Scongack thanked the IESO team and SAC members for their participation. The next SAC meeting will take place on June 29, 2022 and will focus on maximizing existing resources.