

IESO Stakeholder Advisory Committee
Meeting Notes
May 11, 2016
St. Andrew's Club & Conference Centre, Toronto

Advisory Committee Members:

Mr. Brian Bentz – Chair (representing Distributors and Transmitters)
Mr. Steve Baker (representing Related Businesses/Services)
Mr. John Beaucage (representing Ontario Communities)
Ms. Darlene Bradley (representing Distributors and Transmitters)
Mr. Jack Burkom (representing Related Businesses/Services)
Mr. David Butters (representing Generators)
Mr. Jared Donald (representing Generators) (via teleconference)
Ms. Julie Girvan (representing Consumers)
Ms. Valerie Helbronner (representing Generators)
Mr. Geoff Lupton (representing Ontario Communities)
Mr. Rob Mace (representing Distributors and Transmitters) (via teleconference)
Mr. Mark Schembri (representing Consumers)
Mr. James Scongack (representing Generators)
Mr. Paul Shervill (representing Related Businesses/Services)
Mr. Todd Wilcox (representing Distributors and Transmitters)
Mr. Terry Young (representing IESO)

Absent:

Mr. Mark Passi (representing Consumers)
Ms. Ersilia Serafini – Vice Chair (representing Ontario Communities)

Presenters:

Kim Marshall, CFO & VP, Corporate Services
Lia Kotic, Director, Financial Planning & Analysis
Ahmed Maria, P.Eng, Senior Manager, Connections & Registration
Michael Lyle, VP, Planning, Law and Aboriginal Relations

IESO Board Members:

Mr. Tim O'Neill – Chair
Mr. Bruce Campbell
Ms. Cynthia Chaplin
Mr. Murray Elston
Ms. Susanna Han
Ms. Margaret Kelch
Mr. Bruce Lourie
Ms. Deborah Whale

Item 1: Welcome – Brian Bentz

Mr. Bentz introduced the IESO Board of Directors and SAC members and reviewed the agenda items for the day.

Item 2: IESO Business Update – Terry Young

Mr. Young introduced the IESO executive team in attendance.

Within the Achievable Potential Study, the IESO is working with the local distribution companies (LDCs) to look at the conservation potential achievable within the Conservation First Framework, as directed by the Energy Minister. The study is working with an initial number of 6.7 terawatt-hours (TWh) for energy savings, province-wide but the results will also incorporate results from a study on behind-the-meter combined heat and power (CHP) projects. The intent is to finalize the report within the next six to eight weeks.

The IESO is working with all LDCs on a new information technology system for the Conservation First Framework. In response to feedback, the IESO will delay the launch to the next quarter in order to respond to customer-facing issues.

With respect to the *peaksaver* PLUS program, new installations will no longer be funded. Maintenance of already installed devices will continue to be funded. As per the directive received from the minister, the IESO is looking to move residential demand response (DR) into the market. A DR auction was successfully completed last year.

Revisions have been made to the new terms of reference for the Technical Panel, and these have generally been accepted. Revisions will be taken to the Board in June for its consideration.

A stakeholder engagement has been created for the Market Renewal initiative, and feedback has been received. The next steps including a response to stakeholder feedback will be posted soon.

With respect to the 2016-2018 IESO Business Plan, the IESO currently has its 2016 Revenue Requirement Submission application before the Ontario Energy Board (OEB). SAC members have also been provided with a copy of the 2015 annual report.

The IESO hosted a webinar in March on cap and trade for IESO-contracted natural gas-fired generators to discuss contractual implications. The IESO is working through the comments and will respond.

Comments

Regarding the Achievable Potential Study, Mr. Wilcox asked whether there will be a change in targets and budgets at the individual LDC level. Mr. Young said there is potential for change. An engagement will be launched this summer to look at the mid-term review. There will be variations among LDCs, but targets are fairly consistent at a provincial level with the earlier APS. Mr. Wilcox said there are many practical issues at the operational level. He asked whether there is any flexibility with respect to policy impact on small CHP and cap and trade projects. Mr. Young said these flexibilities are of potential interest.

Referring to cap and trade, Mr. Butters asked whether there has been an update on Bill 172. Mr. Young said he is not aware of the legislative timetable of the Bill. Mr. Butters added that governance is an issue within the Market Renewal initiative. It will be difficult to have faith in significant market renewal unless the situation in Ontario with out-of-market interference improves. More independent oversight of the market is required.

Ms. Girvan asked what the process for the mid-term review will be, whether it will be internal or external, and who will be involved. Mr. Young said a formal engagement will be done. The mid-term review does not have to be completed for another two years. The Achievable Potential Study and CHP reviews are ahead, and a stakeholder engagement initiative is expected this fall.

Mr. Baker said his understanding is that a fair amount of CHP was built into LDC conservation and demand management plans. He asked how policy uncertainty will impact these plans as well as the timing of the mid-term review. Mr. Young said the ministry directive states that the mid-term review must begin no later than June 2017. With respect to CHP, approximately 1 TWh of the 7 TWh is within the combined plans. Clearing up uncertainty is a priority for the IESO and the LDCs.

Mr. Schembri asked whether residential DR includes small, commercial initiatives that are currently managed by the LDCs. He asked whether there will be a direct relationship between the IESO and residential DR participants. Mr. Young said the plan is to move residential DR to the auction and that qualifying LDCs will be included. Initial work was done in preparation for the first auction and the rules enabling further participation in the auction must be examined by the working group. Mr. Schembri asked whether aggregators will be able to pursue residential loads. Mr. Young said that although the rules are not yet written, he sees no reason why this would not be allowed.

Mr. Schembri asked how cap and trade will affect consumer costs for natural gas generator contracts. Mr. Young said the IESO is looking at the webinar feedback.

Ms. JoAnne Butler said language exists in contracts, however, nothing can be confirmed until the Cap and Trade regulation is finalized and the OEB provides the framework for the recovery of Cap and Trade compliance costs.

Mr. Shervill agreed with Mr. Butters that outside influences are a concern for market renewal. He suggested that this concern be discussed at the upcoming meeting with the Board.

Mr. Butters said the timeline for cap and trade contracts is aggressive. The bill has not yet been proclaimed in the legislature, and there is no OEB process to measure the compliance utilities' plans. Contract negotiations will follow. It will be difficult for the IESO to accomplish all of this in 2016.

Mr. Burkom said a recent rule change implemented by the IESO regarding curtailment of wheel-throughs is frustrating. He noted that the rule change was announced on April 21, there was a webinar on April 28, five days were allocated for comments, and implementation of the design change was rolled out on the sixth day. From a stakeholdering standpoint, the process reveals a governance problem. It is discriminatory and gives preferential access to the transmission grid. It is hoped that the IESO will change the manner in which issues are brought to stakeholders. This expedited approach has happened in the past and it is hoped that the IESO will reconsider the approach. Mr. Kim Warren replied that behavioural changes within the marketplace are causing the IESO some reliability-based concerns. Feedback was received from those who do intertie trade in the province and the IESO responded to those comments and have republished further changes for additional comments for one to two weeks. There are no market rule changes associated with this change. Issues with trading agreements are not anticipated. Imports are already being curtailed, and similar behaviours for reliability-based concerns are being seen with neighbouring jurisdictions. The IESO executive team acknowledges there are some concerns from the marketplace and look forward to receiving further comments to consider.

Item 3: 2017 Corporate Performance Measures – Lia Kosic

Ms. Kim Marshall said the IESO is seeking feedback from the SAC on the development of corporate performance measures (CPMs) for 2017. SAC members have requested more detail for a better understanding of how the achievement of objectives is measured. Also, they have requested that performance measures be outcome-oriented rather than activity-oriented. Last year, 2015, was about transitioning. This year the IESO Board and executive team are focused on long-term achievements.

Ms. Kosic said the focus for 2017 and beyond is to refine targets and ensure linkages within the CPMs to a variety of inputs. Stakeholder priorities, as identified in March 2016, have been incorporated and connected with strategic objectives, and this will shape the long-term view. The IESO is taking a bottom-up approach to work with business-unit-level inputs to understand immediate priorities for 2017. These priorities will generate the narrative for the business plan and provide input into the CPMs.

The IESO wants to hear feedback on the level of detail for the CPMs as well as on areas of focus for 2017. Highlights of the 2017–2019 business plan, including draft performance measures, will be brought to the SAC meeting in August for discussion. Later in August the draft business plan will be presented to the Board for approval and submitted to the Minister in September.

Comments

Mr. Baker asked whether the SAC members have received the CPMs. Ms. Marshall said members have received the 2016 targets along with progress made as of the first quarter of the year. Mr. Baker suggested a move to more outcome-based rather than activity-based CPMs. The 2016 targets appear to be activity-based. For example, he would like to see some measure on price to the ratepayers incorporated, and he asked how that would be measured and what the benchmark would be. Ms. Butler said the IESO is looking for more market-based mechanisms over time to lower costs. Mr. Baker asked whether there is a benchmark that combines existing contracts and competitive procurements. He asked how success will be measured in three years in terms of cost management, and how this will be communicated by the IESO. Ms. Marshall said SAC members have brought this question forward many times. Ms. Butler said the IESO is following through on commitments made in the Long-Term Energy Plan, and this is the pricing benchmark. There will be new pricing benchmarks going forward under the new plan.

Mr. Bentz echoed Mr. Baker's comment regarding the need for outcome- versus activity-based CPMs. For example, the Integrated Regional Resource Plans (IRRP) process is an outcome-based measure in terms of timelines, but consideration should be given to a multi-faceted measure. The point is not simply to achieve timelines; it is to engage communities and come up with innovative solutions that make sense. The performance measure should reflect that. There might be a measure at the end that captures how the communities felt during the IRRP process and whether they thought it was useful. This relates to expanding the definition of what the performance outcomes look like.

Mr. Shervill said that as efforts are made to continually engage new market participants, the newest participants will be smaller, and a greater focus on education will be required. The IESO must be an externally facing organization to do this well. He said he is unsure how this would be translated into a performance measure, but it bears thinking about. The IESO will need to redouble efforts on engaging smaller market participants. Ms. Marshall said regional plans can serve multiple purposes, including education and engagement components. She acknowledged Mr. Shervill's point that the IESO must ensure that engagements are meaningful. This is not just a tool to accomplish objectives; it is the role of the organization.

Ms. Girvan asked whether a complete list of CPMs for 2016 has been provided to SAC members. Ms. Marshall said it was sent out in the past; she will send it out again.

Mr. Burkom echoed Mr. Baker's and Mr. Bentz's comments about the need for outcome-versus activity-based CPMs, particularly around price impacts for consumers. He said it is good that the IESO has recently been providing more transparency around the breakdown of costs within the system, such as global adjustment (GA) versus energy by technology. More could be done in this area that would help paint the picture of price impacts, not just for electricity but for capacity and non-emitting environmental attributes, and in deriving the least-cost resource on the system. The IESO could break down what is being paid for each product and compare this to least-cost and other products that have been procured.

Mr. Butters referred to the last bullet on page 5 in the handout on progress being made on 2016 CPM targets, which reads: "LDCs and gas utilities to collaborate to maximize efficiencies and reduce costs." He asked what this means and how it would be measured. Mr. Young said the IESO wants to see collaboration between gas utilities and LDCs. To date, only one or two LDCs are collaborating with gas utilities on different initiatives. Mr. Baker noted that on the gas side, plans have only recently been approved. Initiatives and programs are now being addressed. There is a practical issue of timing and process.

Mr. Butters suggested placing CDM targets into buckets by priority and by category. Mr. Young agreed this was a good suggestion. Ms. Marshall said the IESO is trying to move toward buckets in support of a bigger objective, beyond conservation, supply, and operations. It is moving toward a competitive mechanism with many participants and different resources. Mr. Butters said the way the targets are currently set out in the handout is not easy to understand.

Mr. Bentz asked about setting out a process for the 2017 CPMs. There is a connection between the broader strategy of the organization in the context of provincial energy policy versus initiatives such as market renewal, cap and trade, conservation demand management, or managing the electricity markets. He asked how the broader strategy ties into prioritizing such initiatives for 2017. Ms. Marshall said at the top are strategic themes of public value, stakeholder engagement, and organizational resiliency. These break down into strategic objectives, such as an efficient marketplace, reliability and what that means, and broad themes of stakeholder goals around what is to be achieved. These create broad initiatives that cover multiple years, but at the same time particular goals are set for 2017. Market renewal is a good example, with its short- and long-term goals. It is a top-down and a bottom-up approach.

Mr. Schembri suggested setting specific targets around synergy savings. Ms. Marshall agreed. As it relates to ratepayer costs, Mr. Schembri said the IESO is in a strong position to have insight into global adjustment (GA), manage Hourly Ontario Energy Price (HOEP) more effectively, and set targeted cost savings around that bundled cost. There is the fee item, and then there is the market and the cost to consumers for the areas

controlled by the IESO. It would be wonderful to get a sense of where things will stand in two to five years.

Mr. Lupton said different audiences (residential, commercial, industrial) will need to understand the plan, and they must all be kept in mind.

Mr. Donald said he appreciated how the IESO recognized the SAC commentary on previous performance measures around minimum targets around FIT and MicroFIT. He said he looks forward to the setting of minimum targets.

Item 4: Operations Update – Ahmed Maria

Mr. Kim Warren said the operations team has spoken in recent years about the need for additional flexibilities as the supply mix continues to evolve. In 2014 it was time to stop speaking about flexibility and start speaking about actual needs. Specific operational assessments have since been done with an eye toward innovative and transparent market mechanisms to meet the needs. Mr. Maria was invited to explain the findings of the assessments.

Mr. Maria focused on the current challenges facing the power system as well as challenges coming up. In the next few months, the IESO will address these challenges by launching a stakeholder initiative and issuing requests for information (RFIs) and requests for proposals (RFPs). Many of the operating challenges are not unique to Ontario. They are happening throughout North America due to an evolving supply mix.

The most recent 18-month outlook for Ontario illustrates how energy needs will be met. Approximately 65% will come from nuclear generation, 25% from hydro, 5% from gas, 5% from wind, and 1% from biofuel. The concern is that the supply mix is somewhat inflexible, and this creates challenges. Nuclear generation has limited maneuverability. Hydro output is determined by environmental regulations and water availability. Wind generation is flexible, but only in a downward direction. Gas units in Ontario are mostly combined-cycle facilities, so they take a long time to come online; once online, however, gas is relatively flexible.

The outlook also plots reserve above requirement, that is, the difference between supply and what is required, beginning in April 2016. There is enough supply to meet reliability requirements. Operability concerns are related to the nature of the supply, not the amount of supply.

The 2016 operability assessment examined changes to the system that will come in the next five years and how they will affect operations. The changes will come from nuclear refurbishment, continued connection of wind and solar generation, behaviour due to conservation, connection of more gas units, and enhancements to the transmission

system. The concerns have been grouped into three key areas: scheduling of resources to balance supply and demand, frequency regulation, and grid voltage control. None of the concerns came as a surprise, and many are currently being managed today. The assessment indicates that the concerns will continue in the coming years and, in some cases, could worsen.

Mr. Maria then discussed the three areas of concerns identified in the operability assessment as outlined in the presentation.

In 2016 the IESO will issue an RFI and RFP for more regulation services. The RFI will likely be issued in June. Its purpose is to understand the depth and breadth of the regulation market. There is a need to know how much regulation is available and what technologies are available to provide regulation services. The information gathered will be used to produce an RFP for more regulation services. Both the RFI and the RFP will be technology agnostic.

The IESO will launch a stakeholder initiative in June to determine the best approach for acquiring additional response capability in Ontario.

The IESO is now working with transmitters to improve the management of transmission system voltages.

Comments

Mr. Baker asked for clarification of the terms *ramping capability* and *response capability*. Mr. Maria said ramping capability mostly comes from combined-cycle gas generation, which takes more than six hours to bring online. Combined-cycle gas generation has a lot of ramping when online but does not have good response capability – for example, the ability to come online quickly when needed. Mr. Baker asked what the overall cost will be, given that many of the issues are driven primarily by the entry of wind and solar generation. Mr. Maria said costs will be kept in mind during the procurement, and the process will be competitive and transparent.

Mr. Beaucage asked what impact ramping and curtailing of requirements will have on aging infrastructure, particularly on transformer stations, which can blow up from overheating. Mr. Maria said he is not an expert in this area. Mr. Beaucage asked whether the priority will be to find technical efficiencies or economic efficiencies in the RFIs and RFPs. Mr. Maria said the technical needs will be stated, and there will be a search for the most cost-effective ways to meet them.

Mr. Schembri asked for the ratio of wind to solar and for the growth forecast in each category. Mr. Maria said 7,000 MW is expected to turn into 10,000 MW during the next five years. Mr. Schembri asked whether the issues are caused mainly by wind generation. Mr. Maria said error distributions are roughly the same for wind and solar

generation. Mr. Warren said other elements are in play, such as load moving, conservation, and behind-the-meter generation. Ms. Butler said there are 200 MW to 380 MW [as corrected] in transmission-connected solar and approximately 2,180 MW [as corrected] in distribution-connected solar. For wind, there is approximately 5,250 MW [as corrected], of which approximately 4,550 MW [as corrected] is transmission-connected and more than 700 MW [as corrected] is distribution-connected.

Mr. Wilcox asked how operating concerns might translate into greater volatility in costs. Mr. Maria said the IESO is not looking at this yet.

Mr. Bentz asked whether, given the uncertainty in the forecasting error, especially in the day-ahead scenario, the IESO is comfortable with the operating reserve in the short term. Mr. Maria said this is being looked at. Mr. Bentz asked whether storage would take out the intermittency problem with the forecast error on the renewables, and whether this should perhaps be given preference in the frequency regulation RFI and RFP. Mr. Maria said storage is a viable option from a technical perspective.

Mr. Butters said it is important to look at products and services, not just technologies - the IESO is looking for performance attributes, and this is a good direction to move in.

Mr. Burkom echoed Mr. Warren's point that there are other resources to consider beyond wind and solar. Nuclear generation dwarfs what has been done in renewables, begging the question as to why Ontario would overcommit to nuclear generation given the need for more flexibility. He suggested looking at other jurisdictions, such as California. Mr. Maria said other jurisdictions will be looked at. Mr. Beaucage said California has natural gas issues due to the coordination of fuel and transportation. Mr. Baker said California relies on gas-fired generation and commits its fleet to it. Once committed, gas is ramped up and down. If Ontario does not commit to a gas fleet, there will be no quick-start flexibility. Mr. Butters said he hopes for solutions that will allow current combined-cycle gas turbine plants to be more flexible.

Mr. Donald said Ontario is not a global leader in renewable energy integration. Germany and the Netherlands deal with these issues regularly, and much can be learned from them.

An observer suggested greater integration with Quebec, expanding interties and upgrading Hydro One to remove existing blockages given that Ontario is fortunate to be next door to Quebec, which has the most flexible electricity system in North America. . He asked whether integration will be on the agenda, now that the IESO is in negotiations for a medium-term electricity supply agreement with Quebec. Mr. Warren said that all options are on the table and will be invited through a formal stakeholder engagement process next month.

Another observer asked if the pie chart in the 18 month outlook that describes how Ontario's energy needs will be met accounts for imports or just local generation. Mr. Maria said the 18-month energy assessment looked only at internal resources when producing that chart. The participant asked for a prediction for the growth of natural gas in 2020 and beyond. IESO staff noted that gas production is now 10% of the overall energy production in Ontario and will remain so in 2020. Following the retirement of Pickering, it will go up. The participant asked whether Ontario has contingencies in place for a sudden rise in natural gas pricing. Mr. Warren said one might see an increase in HOEP, a decline in GA, and a marginal increase in overall cost. The last Long-Term Energy Plan showed slight increases in the price of electricity annually, and he expects it would follow that pattern. Another observer said the core contingency is that Ontario has a diverse supply mix that mitigates any potential impacts.

An observer noted that as nuclear generation goes offline and more gas generation comes in, some of these problems will go away. Mr. Maria said committing to more combined cycle gas generation may not solve the problem as the system grows more dynamic and unpredictable. This is because these generators do not have the response capability that is needed.

Item 5: Ontario Planning Outlook

Mr. Lyle said the planning outlook, risks, and opportunities were discussed at the last SAC meeting. Leading up to that discussion, the IESO met with approximately 25 organizations to get feedback. Approximately seven written comments were received, primarily from the generation community, and also from the storage community.

Stakeholders emphasized the need to recognize various risks and opportunities and their potential impacts. For example, the IESO is looking at nuclear availability, uncertainty around delay, demand uncertainty with respect to conservation targets, and availability of generation resources as contracts expire. Opportunities will be considered as technologies move forward. The report should address the implications of climate change policies and the impact of electrification. Also, the impact of cap and trade on greenhouse gas emissions as well as scenarios related to electrification will be considered.

Stakeholders said the report should discuss the role of various technologies and opportunities for interjurisdictional trade. Intertie capabilities and opportunities for imports from Quebec and other jurisdictions will be considered, along with opportunities for waterpower resources within Ontario.

Different resources can provide different value to the system. IESO planning will focus on identifying system needs and looking to market mechanisms. A less prescriptive approach toward planning is sought.

The IESO heard that the plan should recognize evolving customer choice and participation, and this will evolve as the province moves toward a more distributed electricity system.

Stakeholders have asked for more detail related to data and the assumptions underpinning the report. These details will be published. The government sees this as a major benefit of the new planning process.

The IESO is waiting for the legislature to pass Bill 135. If and when it is passed, the next step will be that the IESO will receive a letter from the Minister requesting delivery of the technical report.

A draft of the technical report will be submitted to the IESO Board in late May or early June. In turn, the report will be submitted to the government in late June or early July.

Comments

Mr. Burkom said he wishes to continue to advocate for market participants being brought in to the discussions on the Planning Outlook early and fully throughout the planning period.

Mr. Butters said ongoing dialogue is important in a changing world. Efforts should be made to stay connected on the issues.

Mr. Wilcox asked whether, to increase customer involvement, the IESO is looking toward decentralized or centralized planning. Mr. Lyle said considering the extent to which incremental needs would be addressed at the local level is part of the ongoing regional planning dialogue.

Mr. Bentz said flexibility is needed in system planning. Changes in disruptive technology, evolution of the sector, and changing consumer preferences must be emphasized.

Mr. Mace said he hopes to see quantification or prioritization of risks in order to keep a collective eye on them. If risks surface quickly, it would be good to know what to do.

Referring to an earlier discussion about conservation targets within the Ontario Planning Outlook, an observer said a comment was made about LDCs being unable to reach their CDM targets in the past. He said this has been true for the peak demand targets, but not true for the energy savings targets.

Item 6: Other Business

No other business.

Item 7: Adjourn

Mr. Bentz thanked everyone for coming. The next SAC meeting is on August 17, 2016.