

**IESO Stakeholder Advisory Committee**  
**Meeting Notes**  
**August 13, 2015, 9:15 am**  
**St. Andrew's Club & Conference Centre, Toronto**

**Advisory Committee Members:**

Mr. Brian Bentz – Chair (representing Distributors and Transmitters)  
Ms. Ersilia Serafini – Vice Chair (representing Ontario Communities)  
Mr. Steve Baker (representing Related Businesses/Services)  
Ms. Darlene Bradley (representing Distributors and Transmitters)  
Mr. Jack Burkom (representing Related Businesses/Services)  
Mr. David Butters (representing Generators)  
Mr. Jared Donald (representing Generators)  
Ms. Julie Girvan (representing Consumers)  
Ms. Valerie Helbronner (representing Generators)  
Mr. Geoff Lupton (representing Ontario Communities)  
Mr. James Scongack (representing Generators)  
Mr. Adam White (representing Consumers)  
Mr. Todd Wilcox (representing Distributors and Transmitters)  
Mr. Terry Young (representing IESO)

**Absent:**

Mr. John Beaucage (representing Ontario Communities)  
Mr. Rob Mace (representing Distributors and Transmitters)  
Mr. Mark Schembri (representing Consumers)  
Mr. Paul Shervill (representing Related Businesses/Services)

**Presenters:**

Ms. Kimberly Marshall  
Ms. Sorana Ionescu  
Mr. Andrew Pietrewicz

**IESO Board Members:**

Mr. Bruce Campbell  
Ms. Cynthia Chaplin  
Mr. Ronald Jamieson  
Ms. Margaret Kelch  
Mr. Bruce Lourie  
Mr. Timothy O'Neill  
Ms. Deborah Whale

### **Agenda Item No. 1: Welcome – Brian Bentz**

Mr. Bentz welcomed all to the first meeting of the new Stakeholder Advisory Committee (SAC). He said the new IESO has worked hard during the past seven months to amalgamate the old IESO and OPA. He introduced members of the IESO Board of Directors and SAC members in attendance and welcome all others participating in person and by telephone.

### **Agenda Item No. 2: IESO Business Update – Terry Young**

Mr. Young provided updates on active stakeholder engagement activities.

#### **Stakeholder Engagement Update**

##### Demand Response Auction

The first auction will take place in December 2015, with capacity obligations for successful participants beginning in May 2016. The market rules are currently being developed through the Technical Panel, and market rules were posted for stakeholder comments August 13. The final set of rules is expected to go to the IESO Board for approval in October.

The Demand Response Pilot Program has resulted in 80 megawatts being awarded to five projects: Tembec Industries Inc., Renewable Energy Systems Canada Inc., Conestoga Cold Storage, EnerShift Corporation, and HEC Energy Inc. More information is available on the IESO website.

##### Enhancing the value of the MDMR – Foundation Working Group Update

A set of recommendations will be produced for the September meeting of the working group. These will focus on enhancing the data set as well as on third-party access. SAC input on the proposed recommendations will be invited at the October 1 meeting.

##### Floor Price Review

With the integration of renewable generation, floor prices were established for wind and solar and flexible nuclear. Further analysis has pointed to a need for changes to some wind and solar floor prices, and the stakeholder engagement is ongoing.

##### Gas-Electric Coordination Enhancements

Last month stakeholders were presented a revised process intended to enhance communication efforts among gas generators and pipeline operators in order to better manage risk and reliability. For example, the new protocol will provide criteria for when the IESO shares non-public information in advance of extreme conditions on the power system. The stakeholder engagement is ongoing.

### Technical Panel

A meeting was held a few days ago. A proposed rule regarding limiting congestion management settlement credits during ramp-down will be presented to the IESO Board for approval later in August.

A review of the Technical Panel process completed a year ago was presented to the Technical Panel and SAC for comment. The IESO is now looking at this process in light of the merged organization. A proposal for a revised process will be available to SAC for comment in October.

### Comments

Mr. Butters said he has concerns with the floor price review around contract uncertainty and risk. He suggested postponing the review until the first or second quarter of 2016 because the data and analysis supporting the current discussion are insufficient. Generators have expressed concern about the gas-electric coordination enhancements process and whether the level of detail that has been suggested is actually needed. Also, there are significant concerns about sharing confidential data between contracted IESO parties and utilities; more discussion between them is needed. Mr. Young responded that the IESO will set up further discussion on the gas-electric coordination enhancements.

Mr. White said the MDM/R Foundation Working Group, of which he is a member, is in good hands and on the right track.

### **Agenda Item No. 3: Draft IESO Business Plan for 2016 to 2018 – Kimberly Marshall**

Ms. Marshall (VP, Corporate Service & Chief Financial Officer) introduced colleagues Terry Young (VP, Conservation & Corporate Relations), Kim Warren (VP & Chief Operating Officer), JoAnne Butler (VP, Market & Resource Development), Michael Lyle (VP, Planning, Law and Aboriginal Relations), and Doug Thomas (VP, Information Technology Services & Chief Information Officer).

She thanked stakeholders for their feedback previously received in building this draft, integrated business plan for the new IESO. She noted feedback received on how the IESO operates, contract management and transparency. She also noted feedback heard on the long term role of the IESO and that stakeholders want performance metrics to be more specific, measurable, and externally focused.

In reviewing the draft business plan details, she noted that both financial and non-financial objectives must be reflected in the business plan. She added that the IESO intends to deliver a reduction in usage fees in the coming years, along with a rebate this year.

Efficiencies have been found within the two predecessor organizations. Additionally, the implications of a recent arbitration award with the Society of Energy Professionals are being considered.

Ms. Marshall described the three key components of the business plan:

- The core: This addresses the ongoing business of running the market, supporting planning, settlement, and contract management, while revamping systems to reflect continuous improvement.
- Looking for long-term efficacy for the IESO and the province: This addresses what can be done during the next three years, in a time of relative marketplace stability. For example, long-term efficacy should be considered when setting up and investing in the demand response auction.
- Investing in driving change for the future: The next three years is a period of opportunity to look at investing in tools and systems and seeing what others are doing throughout North America. Now is a good time to address a market vision and to see what can be done differently.

Policy initiatives are an uncertain area, cap and trade being a good example. The IESO's role is unknown in the long term. It is an area for the IESO to have influence, and the IESO will be watching for impacts on the business.

The IESO is currently managing two sets of conservation programs with the current and previous frameworks. A significant Conservation First IT project for a repository of information will be going forward.

Projected capital spending for 2016 is \$28 million, which is quite significant, Ms. Marshall said. System refreshes are required regardless of change in functionality and infrastructure activities are ongoing. The NERC CIP5 project should be in place for the first quarter of 2016. Conservation program infrastructure, demand response and capacity auctions are very important in setting the system up for the long term.

Corporate performance measures for 2016 are a focus for the IESO. A more structured approach is sought. There is a plan to establish a baseline this year to ensure that stakeholders and local communities are satisfied with the engagement process, along with improvement targets for 2016 and beyond.

The management and mitigation of key risks is also a focus.

As part of the merger legislation, the target for providing information to the Ministry of Energy was moved from the beginning of October to the beginning of September. Input will be delivered in 10 days, and follow-up will be done to see whether the business plan addresses the needs of the Ministry and the sector.

#### Comments

Ms. Helbrunner asked for more information about the potential impact of insufficient support from key stakeholders and Aboriginal communities on the ability to effectively pursue key initiatives. This was identified as Key Risk No. 1 in the handout. Mr. Lyle replied that the risk of insufficient support from Aboriginal communities is addressed by the work of a small, but capable, First Nations & Métis Relations Team. The Team is involved in supporting regional planning (particularly in Northern Ontario), developing the new conservation for First Nations communities living on reserves as well as working with communities on the IESO programs available to fund community participation in the electricity sector.

Mr. Young said while the IESO will seek support from stakeholders and Aboriginal communities a consensus may not be possible. Ms. Helbrunner asked whether there are specific areas of concern. Mr. Young said there are none at this time.

Mr. Scongack said challenges for stakeholders have traditionally been centred on getting public, community, and stakeholder support and on engaging Aboriginal communities. While participating in public consultations may be seen as discretionary, there is a great potential for risk if stakeholder consultations are not managed well. With respect to working with Aboriginal groups, the Canadian Nuclear Safety Commission has carried out a robust public participation process with a relatively modest financial commitment. Mr. Scongack suggested that the IESO think about engaging in such a structured process.

He said the media has been dramatizing the risk of a significant IESO cyber security event occurring (identified as Key Risk No. 4 in the handout), and he suggested being bullish about restoring public confidence in the system.

Mr. Donald said procurement is becoming more complex. Megawatts on paper do not always come to fruition. The focus should not be only on procuring but also on executing.

Ms. Serafini said the IESO is a key player in the low-carbon economy, so defining its role in partnership with electrical utilities is important. There is a need to look more broadly at efficiency standards and mobilizing financial sector involvement to increase tools that will drive the conservation strategy. Second, she asked why there is a significant projected reduction in capital spending from 2016 to 2017. Mr. Thomas replied that some

big projects are finishing in 2016, including the Energy Management System, demand response auction, Tier 1 storage, and firewall infrastructure.

Ms. Serafini asked how engaging intervenors will roll out. Mr. Lyle replied that the IESO will spend more time with intervenors to go through issues and get feedback before the application is filed in early November. Ms. Marshall said five or six issues have been consistent in recent years. Metrics is one. Specific individuals have been identified for outreach.

Mr. Wilcox said affordability for customers is key, as customers continue increasingly to shoulder the burden of cost. Customers' only option is time-of-use pricing. He suggested engaging with customers during the next three years to see where the market potential lies. Whether this a role for the Ontario Energy Board (OEB) or the IESO must be clarified. The Meter Data Management/Repository (MDM/R) could be a helpful tool. Mr. Wilcox also said there will be a challenge with resourcing, specifically conservation and demand management (CDM) and contract administration. He asked if the IESO is holding tight on resourcing, whether it expects distributors and transmitters to pick up more work. The question is how to handle this efficiently without confusing customers.

Mr. White said he does not see engagement listed as a core business. Instead, engagement has evolved as a core competency for the IESO. There is a missed opportunity to capture the alignment between the IESO's core business areas and core competencies. Identifying engagement more as a core business would encourage more systemic thinking, resulting in more long-term outcomes, for example. Mr. White asked how the status quo could be mapped for effective baselining, and how outcomes could be measured.

Ms. Girvan asked whether there are metrics for the key performance indicators. Ms. Marshall replied that some indicators have quarterly measures that go to the Board. Ms. Girvan asked whether there is a further list of individual metrics. Ms. Marshall replied that while a list of individual metrics is not available there are expected outcomes that could be used as an awareness indicator.

Speaking about combined usage fees, Ms. Girvan asked whether there are implications around who pays. Ms. Marshall said this is an important area for intervenor engagement. Mr. Lyle said a cost allocation study has been done and the IESO will engage with intervenors before filing with the OEB.

Mr. Bentz asked how the strategy statement might inform the business plan. There are higher-level principles that can guide how objectives and long-term visions are viewed. He asked how tying together the short- and long-term business goals will roll out. Ms. Marshall replied that the IESO has embarked on a dual process, which is not ideal. It would have been better to spend time on the vision and mission, and then ensure they

align. Mr. Young said this will be brought up for discussion at the SAC meeting on October 1.

Mr. Bentz said policy directives and priorities can change and the energy sector is in transformation. He asked how flexibility affects broader plans for policy development and technical change. Ms. Marshall replied that the IESO wrestles every day with public value, resiliency, and stakeholder engagement. The goal is to be flexible.

Mr. Burkom said there is concern about a case contested before the OEB regarding usage fees for export transactions with respect to cost causality, particularly how this will play out now that the OPA and IESO are one organization. Second, he was happy to know that the demand response auction was proceeding on schedule but noted that the capacity auction work has seemed to have slipped a bit and would like to see that work schedule. Demand response provides capacity, but steel in the ground is the biggest volume of capacity. Third, under strategic priorities, he said more focus on planning would be good. There should be an open process. Private capital has solutions to help the decision-making process.

Mr. Butters supported Mr. Burkom's comment about usage-fee issues, stating that more information would be welcomed. He asked whether the IESO initiative to increase efficiencies of the market to lower cost (listed under Key Initiatives in the handout) refers to lower overall system costs versus today or compared to what they might otherwise have been. If the idea is to lower system costs more than they are today, "you're chasing a phantom," he said. Mr. Butters also said he expected reliability or superior performance to be first on the list of strategic objectives, not conservation. (Objectives are not ranked in the list within the handout, but conservation is listed first.)

Ms. Helbronner echoed Ms. Girvan's concern about metrics for key performance indicators and said she would like to understand these better. She said it would be good to get feedback on whether SAC comments have been accepted or not, in an effort to evaluate the efficacy of the stakeholder process. Mr. Young acknowledged that the IESO should demonstrate to stakeholders that their voices have been heard and responded to. Ms. Helbronner also supported Mr. Donald's comment that performance metrics are needed to evaluate why some work that is contracted is not built.

Mr. Baker suggested working more in advance to engage intervenors and letting people know that the IESO will listen to comments prior to filing with the OEB. He also asked what the IESO's role is with respect to bending the cost curve and in initiatives around cost and cost transparency. Mr. Young said this question is being actively discussed. Mr. Baker replied that perhaps this discussion should be a strategic priority. Ms. Marshall noted that there are two sides to the discussion: contribution to price and cost curve.

Mr. Butters supported Mr. Baker's comment about engaging intervenors early. He asked for a definition of "high risk violation risk factor." Mr. Warren defined it as activities that could lead to such things as significant cascading outages and detrimental effects to assets.

Ms. Girvan said she is very concerned about whether ratepayer funds are being used effectively. If not, the issue of ratepayer funds should be revisited, even before the mid-term review. The IESO should conduct ongoing assessments of whether conservation is effective and being delivered efficiently.

Mr. White asked a number of questions with respect to stakeholders and local communities being satisfied with the engagement process: Which stakeholders and communities does this refer to? Which ones might be missing? With whom are they engaging and how? What are the objectives? How is satisfaction measured? He said planning is region-specific, so doing a third-party survey is neither proactive nor effective outreach.

Mr. Butters emphasized that exports should not carry any of the costs of the work of the OPA. In the past, the rationale for charging exports was to give the appearance of a reduction of fees, but that would be problematic now.

Mr. Bentz invited stakeholders to submit written feedback on the business plan during the next week via email to Susan Harrison at stakeholder.engagement@ieso.ca.

#### **Agenda Item No. 4: Conservation First Framework – Status of LDC CDM Plans – Sorana Ionescu**

Ms. Ionescu provided an update on the CDM plans and a sense of where things are going as customers and conservation evolve.

All plans explaining how local distribution companies (LDCs) will meet targets and allocate budgets over the six-year framework had been submitted as of May 1, 2015. The IESO is vigorously reviewing these plans. The plans show that LDCs are leveraging the strong platform of the previous 2011-14 province-wide program. New ideas are being captured. All CDM plans are cost-effective with the exception of Five Nations.

At this time, two-thirds of LDCs are planning to meet allocated targets, and 24 LDCs plan to exceed them. Two LDCs have already proposed pay-for-performance programs. About half of LDCs are planning to launch the Conservation First Framework (CFF) programs in 2015, with the other half in 2016.

LDCs are leveraging opportunities in the business sector. Ms. Ionescu said 90% of planned energy savings are coming from programs in the business sector, which is

higher than what has been seen in the past. The business portfolio is more cost-effective than the residential portfolio.

The CDM plans contain 37 unique pilots and programs. Seventeen are residential and clustered in the themes of home solutions through audits, retrofits, financing options for innovative tools, and social benchmarking. On the business side, 20 ideas are focused on operational savings, including improved targeting, optimized facility performance, and high-opportunity sectors.

Forty-two LDCs have included an unassigned target in their CDM plans - where LDCs have designated a portion of their target that they do not know if they can meet (called the unassigned target) and set money aside for it. The mid-term review is an important milestone, but adjustments will not wait until then. With support of the IT group, a CDM-IS system will be implemented to enable even more timely validation of savings.

Currently, 29 CDM plans representing about 54 LDCs have been approved. This is about 80% of the total assigned targets. Plans will be adjusted over the next six years.

The IESO is supporting LDCs with centralized tools, such as worksheets on new measures, measurement and verification procedures, and technical infrastructure tools. The provincial energy manager is a cornerstone to capacity building. Collaboration is encouraged.

A peak in new program business cases in 2016-17 is expected in anticipation of the mid-term review.

### **Conservation Potential**

Conservation Achievable Potential Studies (APS) assess the attainability of savings by sector and are essential for target and goal setting, program planning, and long-term and integrated resource planning.

The last OPA study completed in 2014 informed the 30 terawatt-hours that must be achieved by 2032. The CFF LDC-aggregated target is seven terawatt-hours. The study also informed CFF allocation of targets to each individual LDC.

A new APS requirement from the March 31, 2014, Minister's Directive is that LDC-specific and provincial results are due in June 2016. [Note that June 2016 is a correction from April 2016 which was noted in the remarks.]

The new APS takes an evolved approach using three key dimensions: objectives, methods, and engagement. From an objective perspective, the intention is to assess potential for the 2015-20 period to verify LDC targets and budgets. The IESO is looking

at enhancing regional and local resolution of the conservation potentials, which will support the long-term conservation program planning and design. From a method perspective, the approach is bottom up. An extensive jurisdiction review is being done with input from experts, and the IESO is looking at the integration of codes and standards at the beginning of the analysis. The IESO is leveraging the strong stakeholder engagement process to ensure the transparency and collaborative principles of APS. People can check the website to see where the APS project stands.

### **APS Governance**

There is a 12-member working group that includes LDC representatives, the Ministry of Energy, the OEB, gas utilities, EDA, and ECO. An IESO project team coordinates IESO conservation and planning staff, and an expert panel consisting of three independent members supports the IESO project team. There is also coordination with gas, which is a highlight of the APS.

### **Key Timelines and Related Projects**

A vendor has been selected, and the project kickoff took place a few weeks ago. A large webinar has been set up where LDCs across the province can participate and learn. A key objective is to meet the June 2016 deadline. Other related projects include a behind-the-meter generation study is being conducted along with a product standards analysis is under way to estimate the savings from current and pending product standards. The American Council for an Energy-Efficient Economy is helping with a review of new and emerging technology.

### Comments

Mr. Lupton asked how a client in multiple locations can take advantage of an LDC in a single jurisdiction that is approved for the pay-for-performance program. Ms. Ionescu replied that the IESO is looking at ways to open up pay-for-performance to everyone. A competitive rate is being established in this early stage, and comprehensive discussions with the two approved LDCs will take place.

Mr. Wilcox congratulated the IESO on improving collaboration. He said resources should be as close to the customer as possible. With respect to the Provincial Energy Manager Program, having the administration a step removed may not work; he asked how the program will be accountable and how it will deliver results. There appears to be no structure in place to capture emerging opportunities efficiently and bring them forward. With respect to the idea that 90% of planned energy savings will come from the business sector, Mr. Wilcox commented that much can be done in the residential sector, and he asked whether the plan contemplates increased funding for this. Ms. Ionescu replied that the framework is all about cost-effectiveness and finding the right ways to deliver conservation, and the APS will help with that. Mr. Wilcox said that although a

study may say something is achievable, customers will not act. Potential and reality are different things.

Ms. Girvan asked who is doing the APS. Ms. Ionescu replied that the IESO has contracted the vendor Nexant.

Ms. Girvan asked to what extent LDCs engage with gas utilities. Ms. Ionescu said CDM plans have a box for LDCs to comment on their collaboration with gas. The four working groups under the Conservation First Implementation Committee (CFIC) involved in province-wide projects are capturing the gas perspective, and more will be done during the next six years.

Mr. Lupton suggested looking at the Provincial Energy Manager Program as a key account management position if it is to be at the provincial level. The provincial energy manager could broker discussions between LDCs and major organizations to bring large client groups together for pilot program testing. This would provide value to the IESO.

Ms. Serafini said that with respect to transparency related to cost, a key metric used by the IESO is four cents per kilowatt-hour, and she would like to know where the programs fall out to evaluate the success of the framework. If this is the benchmark, what is the way to get programs to market, across sectors and LDC territories, to deliver conservation effectively. Province-wide coordinated delivery may not be the way to go, and there is a lack of transparency on where projects sit on this metric, in particular. With respect to the reality of the potential of the APS study, she supported Mr. Wilcox's comments that what is possible may not be real. The governance committee should also include well-qualified, seasoned delivery agents.

Mr. White said he is concerned that with the introduction of a price on carbon, the LDC program focus is not in the mandate. He asked how it would affect an LDC's target or balance if a customer were to invest or take action to reduce energy consumption on- or off-peak. A significant synergy is available in what makes economic sense for the customer, for the system, and from a carbon perspective, and the question is how to get that to work with the LDCs. Mr. White also said customers and third parties should be included in the governance structure, along with LDCs.

With respect to the CFIC, Mr. Bentz said the governance structure is working effectively with the IESO and Toronto Hydro as co-chairs. The business case for the new small-business lighting program has been endorsed. Contract management has been effective, and transparency in communication has improved. The expediency of the review and approval process could be improved as it relates to local programs. Balancing local innovation with provincial consistency could also be improved. It is important to allow local creativity to flourish. Mr. Bentz suggested taking both a top-down and a bottom-up

approach and seeing whether they converge. Mr. Young replied that changes to the approvals process are coming in the next few weeks.

Mr. Tom Adams, Tom Adams Energy, asked whether exporting at one to two cents per kilowatt-hour is factored into cost-effectiveness. Ms. Ionescu replied that the IESO is examining incremental costs and incentives.

Mr. Adams asked whether there have been any major changes during the 2011-14 period to a protocol for monitoring program results. Ms. Ionescu replied that the IESO is considering adding the real-time savings component to the evaluation aspect.

Mr. Adams asked how the IESO will track the integration of its programs with the governance programs within the Ministry of Energy and the Ministry of Municipal Affairs. Ms. Ionescu replied that the IESO would ensure that there is no duplication and that customer needs are met in a cost-effective way. Jurisdictional reviews are conducted when programs are designed.

Mr. Adams asked whether there is a place of consolidation for province-wide conservation programs. Ms. Ionescu replied that the Ministry of Energy website has a list.

Mr. Adams asked for a reconciliation between the \$2.6 billion budgeted by the OPA in December 2014 for the CFF and the \$2.2 billion. Ms. Ionescu replied that the \$2.2 billion refers to the seven terawatt-hours that will be met through the efforts of LDCs. The balance is attributable to demand response efforts, as outlined in the 2013 Long Term Energy Plan (LTEP). [Note that “demand response” is a correction from “direct-connected” customers which was noted in the remarks.

Mr. Adams asked whether the LDC budgets are consolidated anywhere. Ms. Ionescu said they are on the IESO website and consolidated results are published quarterly.

Mr. Adams asked whether the contribution of conservation programs to global adjustment programs over time is being tracked, and how conservation is contributing to the global adjustment price. Mr. Young replied that it is funded through the global adjustment, and accumulated costs are charged to that.

Mr. White commented that conservation program cash flows have never been separately reported and are not on an equal billing basis. He said it would be useful to have a pro forma report on a quarterly basis to determine what the expectations are so that this can be worked into models and budgets.

Mr. Bentz invited further comments to be submitted by email to Susan Harrison at [stakeholder.engagement@ieso.ca](mailto:stakeholder.engagement@ieso.ca).

## **Agenda Item No. 5: IESO Planning Update and Discussion – Andrew Pietrewicz**

Mr. Pietrewicz reviewed the details in his presentation on the “Preliminary Long-Term Outlook for Ontario Supply and Demand and Context for Planning”. He said that there has been a net increase in total supply during the past decade, but demand has remained unchanged. Projected demand growth will continue to be flat, due in large part to conservation. But additional investments will eventually be required, especially with the retirement of 3,000 megawatts at Pickering.

Currently there are 10,000 megawatts of natural gas-fired generation installed, producing 15 to 20 terawatt-hours per year, which is relatively low utilization. Ontario is more constrained by capacity, particularly in summer when the capability of the delivery system is reduced. There is a need for all-year flexibility.

He proposed that in the next 10 to 15 years a significant transition will occur that will exceed the past transition from coal in terms of rate and magnitude, and this will introduce risk.

An updated, integrated, long-term planning assessment is under way. Uncertainties and new trends are coming. Technology issues that do not show up in the supply and demand tally will have an impact, for example. “We don’t know what we don’t know,” he said.

### **Comments**

Mr. Bentz said it bears thinking about and asked what the planning horizon is.

Mr. Pietrewicz replied that the horizon is 20 years, but the next 10 to 15 years are the most practical to look at.

Ms. Serafini said that with respect to long-term demand growth remaining moderate, there was an indication that demand response was not incorporated (slide 7 in the handout). She asked what the implications of demand response are on long-term planning. Mr. Pietrewicz clarified that demand response is built into the supply stack illustrated on slide 7 of the presentation.

Mr. White said theory and intuition suggest that demand could continue to shrink. It would be useful to engage the SAC in looking at scenarios. Mr. Pietrewicz replied that he sees scenarios potentially being studied following exploration of the issues and examination of the research. Scenario analysis and planning exposes biases and assumptions and illuminates what is not known and noted that perhaps it is best to start with an exploration of the issues.

Mr. Burkom said distributed generation and variable generation at end-loads are the key themes being seen in Ontario and throughout North America. He asked what the

province and IESO are doing about declining loads and permanently reduced industrial loads. Ongoing investments in the future appear to be in technologies from yesterday. He suggested providing a scenario analysis earlier and giving the market an opportunity to compete. It is hard to get good transmission information in the province, he said.

Mr. Donald asked how upcoming decisions on nuclear refurbishments will impact decisions. He supported Mr. White's point that there are many scenarios, such as the electrification of vehicles, grid defection, and solar. Mr. Pietrewicz replied that an ambitious nuclear refurbishment program exists. He suggested making an attempt to understand the world well enough to know when things are moving in one direction or another, and using this knowledge to take advantage of new opportunities without getting locked in. For example, he asked what indicators suggest that the load is going down, and what would the solar cost have to be. Signposts are needed to guide decisions about what needs to be done and when. He said life is conditional and signposts are required to do proper scenario analyses. Complementary solutions do exist.

Ms. Helbronner suggested putting long-term planning on the agenda of the next SAC meeting, to understand what the IESO proposes.

Mr. Bentz suggested exploring such things as signposts, the price elasticity of demand, and consumer response. The gap should be discussed, he said.

Mr. Butters suggested making sure current investments are maximized before leaping into new ones. He questioned whether there would be cost-benefit analyses around the scenarios. For example, there are at least two gas-fired plants in Ontario that could be adjusted for modest capital costs before going into an importation deal with Quebec or Newfoundland. Mr. Pietrewicz replied that existing assets can be a good thing, and the goal is to look at the implications of different choices, including from the perspective of cost.

Mr. Butters commented that there is much built-in flexibility to take advantage of.

Mr. Baker said electric demand could increase with cap and trade, and this should be discussed. It is great to have flexibility in lead time and asset investment, but assets are not put into the ground for five years; they are put in for 50. Security is required to make investments, and investors want to know how reliability, affordability, and sustainability come together. There has not been enough transparency in the past.

Stu Laurie, T4G, commented that a problem with studies is that they represent a slice in time. The IESO has a lot of good data. He suggested including a data model in the APS to include a real-time analytics framework.

**Agenda Item No. 6: Other Business**

Mr. Young said a new monthly market summary was posted on the IESO website on August 13. The revised report includes increased transparency around the components within the global adjustment cost, including information on conservation as well.

**Agenda Item No. 7: Adjourn**

Mr. Bentz thanked the IESO staff for their quality presentations and the Board for its continued commitment, as well as all who participated in the meeting. The next meeting will take place October 1, 2015.