

Ontario Smart Grid Forum

Ontario Smart Grid Forum Notes of Meeting

Date: **Tuesday, November 9, 2010**
Time: 09:00 to 13:30
Location: IESO Minto Plaza Office, Main Boardroom
655 Bay Street, Suite 410
Toronto, ON

Special Guest:

The Honourable Brad Duguid, MPP, Ontario Minister of Energy and Deputy House Leader

Forum Members Attending:

Paul Murphy	IESO (Chair)
Don Tench	IESO
Wayne Smith	Hydro One
Norm Fraser	Hydro Ottawa
David McFadden	Ontario Centres of Excellence
Dan McGillivray	Ontario Centres of Excellence
Brian Hewson	Ontario Energy Board
Jon Norman	Ontario Ministry of Energy
Mario Chiarelli	Ontario Power Authority
Andrew Pride	Ontario Power Authority
Craig Martin	TransCanada
Jatin Nathwani	University of Waterloo
Jim Huntingdon	Niagara-on-the-Lake Hydro (by telephone)
Michael Angemeer	Veridian Corporation (for Michael Angemeer)

Corporate Partners Committee members attending:

Shelley Lewis	Chair, Corporate Partners Committee
Ron Dizy	ENBALA Power Networks, Vice Chair, Corporate Partners Committee

Working Group Members Attending:

David Barret	IESO (For Edward Arlitt)
Usman Syed	Ontario Ministry of Energy (by telephone)
John Mulrooney	PowerStream
Joshua Wong	Toronto Hydro

Guests:

Honourable Brad Duguid, Minister of Energy – for first agenda item
Gale Horst EPRI Project Manager
Martine Holmsen IESO – for first agenda item

See **Appendix A** for a cumulative list of Open Forum Action Items.

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09:00 – call to order

Agenda Item # 1: Address by The Honourable Brad Duguid, Minister of Energy and Deputy House Leader.

The Chair opened the meeting by welcoming the Minister of Energy and meeting attendees introduced themselves. The Chair advised the Forum Members that after the Minister's address, there will be time for discussion with Forum members.

The Minister described the nature of his visit is to seek advice and ideas for continuing to move the Provinces Smart Grid strategy forward. The Minister acknowledged the continuing Cabinet support of the Smart Metering Initiative and the Smart Grid strategy for Ontario. The Minister acknowledged the important role the Forum plays in providing advice and direction for the Provinces Smart Grid strategy. The Minister also thanked Forum Members for their input to the Long Term Energy Plan scheduled for release by the end of 2010.

Specific areas of Forum input sought by the Minister:

- Strategies to develop Ontario electricity consumer understanding of Smart Grid, Smart Meters and Time of Use;
- Recommendations for introducing the concept of Smart Homes to Ontario residential electricity consumers;
- Strategies to manage the risk that residential and in-home Smart Home enabling technologies do not meet minimum standards of operability, utility and for consumer protection.

Forum members provided input following these themes:

Smart Meters

- Focus on Smart Meters as enablers to drive consumer behaviour, control and choice, and empowerment
- Need for early wins and evidence

Communications plan requirements:

- Link to environmental benefits
- Link to reliability benefits
- LDC's are key to successful communications plan delivery
- Keep it simple; Need a 'hook'
- Consistency with the austerity message

Residential Consumer Focus

- Convince consumers that Smart Grid is something that is done 'for you' and not 'to you'; overcome consumer perception as victims
- Consumers need a better understanding of 'What's in it for me?' (WIIFM)
- Consumer care about 'after the meter' impact to them; Consumers do not need to understand electricity industry 'before the meter' concepts

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Risks

- Consumers are stressed and confused. Established electricity consumption habits and behaviours are being broken
- Consumers are used to a passive relationship with energy use and are too busy to adapt to TOU
- Low income consumers will face the greatest challenges; resources required to enable adaptation (e.g.: on bill financing, OPA Tier 2 programs)

Leveraging New and Emerging Technologies

- Link to the role of new technologies and mobile computing
- Risk of vendors getting too far ahead of consumer and industry readiness
- Drive for standardization

Other considerations

- Link to existing programs and initiatives such as Premier's Innovation Agenda and Smart Grid Opportunity Fund
- HOEP and wholesale pricing is the only pricing available to media and consumers and is difficult to connect to TOU pricing
- Engage the private sector

The Minister was receptive to Forum input and advised he was looking forward to the Forum's next report in February 2011. The Chair thanked the Minister for his engagement with and recognition of the Forum's commitment to driving Smart Grid in Ontario.

Agenda Item #2 – EPRI Presentation – Metrics and Benefits Reporting Plan Process – Cost of the Smart Grid Concept Preview

Presenter: Gale Horst, EPRI Project Manager. Gale is responsible for the upcoming U.S. Department of Energy report "Framework for Estimating the Cost of Smart Grid".

The presentation included an overview of:

- the EPRI Smart Grid cost/benefit analysis framework. EPRI Project 1020342 (January 2010) includes a comprehensive framework for estimating the benefits and costs of Smart Grid projects and a step-by-step approach for making these estimates.
- progress towards implementing Metrics & Benefits Reporting Plan Templates. The templates will be included in the Guidebook for Cost/Benefit Analysis of Smart Grid Demonstration Projects (EPRI Project 1021423), currently in progress. The Guidebook will be designed to act as step-by-step user manual for research design through data collection and analysis.
- the EPRI "Cost of the Smart Grid" Study Preview. The study is approximately 50% complete. Gale provided an overview of the study objectives, methodology and approaches, and preliminary findings.

The presentation was well received by the Forum. Since the presentation is not a public document, EPRI Project Manager to look into availability of slide deck to distribute to the Forum. EPRI Project Manager recommended the following publically available resources:

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- Methodological Approach for Estimating the Benefits and Costs of Smart Grid Demonstration Projects (EPRI Project 1020342)
http://my.epri.com/portal/server.pt?Abstract_id=000000000001020342
- Smart Grid Application - A Virtual Power Plant
<http://www.youtube.com/watch?v=uBdO7N88o98>
- Concepts to Enable Advancement of Distributed Energy Resources (EPRI Project 1020432)
http://my.epri.com/portal/server.pt?Abstract_id=000000000001020432
- Smart Grid Demonstration Two-Year Update (EPRI Project 1021497)
http://my.epri.com/portal/server.pt?Abstract_id=000000000001021497

Agenda Item # 3 – Minutes of previous meeting and Discussion of Agenda Item

In the interest of ensuring the Forum adequately responds to the Minister of Energy's requests and in the interest of time for other agenda items, the Chair requested Members to advise of edits to the minutes of the October 12, 2010 meeting of the Smart Grid Forum by Friday November 12, 2010.

The Chair led a discussion of the Minister's remarks, including establishing a consensus view of how address the request.

Summary

Forum desires to be responsive to Minister's requests but recognizes there are risks to focusing on Smart Home at this stage in Smart Grid given minimal focus on this aspect of Smart Grid since formation of the Forum.

ACTION ITEM: IESO Staff to draft SGF response to Minister of Energy requests at the November 9, 2010 SGF Meeting. Draft to be circulated to Forum members in November for discussion at the December Forum meeting. Will also consider engaging the Working Group for input.

Forum input and discussion:

- Forum should take care to appropriately frame any advice given to the Minister on Smart Home due to the minimal focus on this aspect of Smart Grid by Forum to date;
- Discussed relative value and risks of expressing a definition, vision, or conceptual overview of the Smart Home concept as it may apply in Ontario. The Forum decided it is not appropriate to define Smart Home at this time;
- Lack of AMI communications and data access standards is a limiting factor to Smart Home technology adoption in Ontario
- Bring focus to Smart Grid as something that is 'for' consumers and not something done 'to' consumers; Consumers are looking for direction and feel loss of control

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- Express Smart Grid as an evolutionary story-line
- Smart Grid will not succeed if its benefits cannot be expressed in a manner that is relevant to consumers
- Consumers need to be able to understand how wholesale prices and TOU rates are linked
- Consider looking to GO Transit's recently announced 'Passenger Charter' as a model for Smart Grid outreach to consumers
- Recalled "A day in the Life of Smart Grid" video that was viewed by Members in the early days of the Smart Grid Forum. The video effectively encapsulated the benefits and impact of Smart Grid and could be a good model for communications strategy
- Industry needs to better understand what consumer knowledge of Smart Grid. A formal consumer study or survey is required to discover what consumers think of Smart Grid, what they understand, what is relevant to consumers, and to measure public attitudes towards Smart Grid. Consider using early studies to baseline consumer understanding and use annual studies to benchmark consumer progression/trends towards understanding Smart Grid and perception of Smart Grid; suggested 10 year timeline.

Agenda Item #4: Report back from Forum Members: State of the world synopsis from all member organizations of the Forum.

In the interest of time for Agenda items #5 and #6, this item was deferred to the December 2010 Forum meeting.

Agenda Item #5 will follow Item #6.

Agenda Item # 6: Report Back From the Corporate Partners Committee

Shelley Lewis, Chair of the OEA Corporate Partners Committee (CPC) provided a follow-up to the October presentation to the Forum "*Smart Meter Data Access*". The presentation largely centred on an action item assigned to the CPC during the August 10, 2010 meeting of the Forum – specifically that, "*The Corporate Partners Committee should examine the issue of open AMI standards with a specific view to recommending any Ontario-specific actions and report back to the SGF.*" (see minutes of the August 10, 2010 SGF meeting).

OEA CPC Action Item from August 10, 2010 Forum meeting: "*The Corporate Partners Committee should investigate what metrics should be targeted to become a selling point for Ontario smart grid expertise and products and how we can leverage those metrics accordingly. In addition this analysis should examine which of those metrics could be put in place sooner rather than later.*"

The OEA CPC Chair advised that four (4) subgroups have been formed to examine what to measure, to include short-term, medium-term, and long-term measures, and to recommend who the lead organization 'likely' is. At this time, the subgroups have 40 measures, but many overlap; the subgroups

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are expected to reduce measures to 15-20. How to measure to be determined once recommended measures are ratified.

ACTION ITEM: CPC Chair to present examples of suggested smart grid metrics developed by the OEA CPC subgroups to the December SGF meeting.

Update on OEA CPC Recommendations on access to smart metering data (refer to October, 2010 OEA CPC presentation, "*Smart Meter Data Access*" and minutes to the October 12, 2010 SGF meeting):

The OEA CPC Chair advised that the next steps to advancing activity towards meeting the recommendations on access to smart metering data include:

- Directly engaging the Information and Privacy Commissioner of Ontario
- Brian Hewson, Ontario Energy Board to provide advice at an OEA CPC meeting

Update on OEA CPC Recommendation 3. "Form an independent technical evaluation team to determine whether existing installed meters can be accessed by in home equipment and publish the standards for each existing vendor."

The OEA CPC Chair advised that a subgroup was formed to explore:

- What in home equipment technology exists
- How to use the data in a manner that is relevant to consumers
- Who is most appropriate to lead this project

During this part of the discussion:

- There was agreement that the OEA CPC would engage SGF members to recommend meter service providers to provide input to the CPC to the subgroup
- There was agreement that the problem of whether existing installed meters can be accessed by in home equipment is both a technical and a policy problem
- In response to a member question, the OEA CPC Chair advised that Sensus has representation on the CPC
- Meter vendors are reticent to discuss facilitating consumer access to their data since the technical functionality was not a condition of the original meter procurement process

Update on OEA CPC Recommendation 7. "Establish a certification and test environment for Ontario's smart grid to allow testing of products and demonstrations to ensure compatibility with LDC infrastructure (meters, etc.)"

The CPC Chair and Vice Chair advised that further CPC discussions on this recommendation included:

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- Where to locate the certification and test environment?
- Possible funding sources of a certification and test environment. A potential source may include the Smart Grid Opportunity Fund. Estimated \$2-3 Million may be needed.

This agenda item was closed with the OEA CPC advising that Ron Dize will take on the Chair role effective at the next OEA CPC meeting. The outgoing chair thanked the members for the opportunity to contribute to the Forum.

Agenda Item # 5: Report Back From the Working Group

(See SGF Support Presentation)

Don Tench (IESO) presented the report back from the Working Group (WG) containing a summary of the deliberations at the November 1, 2010 meeting covering:

1. Smart Grid Costs and Benefits
2. Smart Meter Data Access

Don reported that the WG has completed its work on Smart Grid costs and provided an update on Action Items assigned to the WG (slide 5):

Action Item: *“Re-examine the capital cost estimates in the context of comparative deployment rates amongst the smaller LDCs to ensure the model accounts for such differences.”*

Still seeking EDA involvement and input but will recommend that the current estimates stand

Action Item: *“OPA conservation and demand management costs need to be included in the estimates, but still reported as a separate number.”*

Estimates received and now included.

Completed Action Items: *“Isolate all capital expenditure estimates related to distributed generation.”*

This action item is complete.

Slide 6 and 7: Detailed all-in annual capital costs estimated at \$390.72M.

Discussion of these slides included:

- Noting that the estimated costs represent only public sector investment
- Highlighting rationale for change to the “Innovation and the Economy” component being inclusion of the Smart Grid Opportunity Fund.

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- A Forum member asked if the “Innovation and the Economy” component was still too light. Another forum member noted that since these costs intentionally do not include research and development costs incurred by universities, the OCE, or the private sector, the actual costs will be greater. A Forum member also noted that the Smart Grid Opportunity Fund requires private sector matching.
- Further discussion led to Forum recommendation to position each component of the estimated Smart Grid capital costs between those that are add-on costs to consumers and those that will be paid out of the tax base.

Slide 15: Next Steps - Smart Grid Benefits

The WG will discuss the objective to “include specific points and arguments with a direct link to current activity in Ontario and the high-level smart grid principles” at the next WG meeting and include areas identified by the EPRI as in Agenda Item #2.

Slide 18: WG Discussion on Smart Meter Data Access

Don noted that discussion was driven by OEA CPC Recommendation 1: “Clarify to the (greater) market who is responsible for controlling access to consumption data.” WG discussion observations were:

- Recommended addressing in three sub-components:
 1. Real-time access to data at the smart meter data
 2. Access to billing-quality hourly and TOU data
 3. Access to aggregated smart meter data
- Proposed approach to include use cases
- Any action on this recommendation must include caution to avoid ‘data overload’

During the discussion of this item, it was resolved that the OEB has jurisdiction to provide direction over Smart Meter data.

Slide 19: WG Discussion on Smart Meter Data Access

Regarding the following OEA CPC Recommendations, Don advised that the WG recognized that any actions to resolve them will blend, and the WG recommended:

- The OEB to establish an administrative process for customer and agen access to smart grid data (OEA CPC Recommendation 2: “Establish an administrative process for customers and their agents to access their data...both at the meter and at the LDC/MDM/R and with appropriate granularity and frequency)
- The CPC to form an independent technical evaluation team to address OEA CPC Recommendation 3. “Form an independent technical evaluation team to determine whether existing installed meters can be accessed by in home equipment and publish the standards for each existing vendor.”

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Slide 22: WG Discussion on Smart Meter Data Access

Don reported that the WG discussions on permitting access to billing quality data is likely a far less complicated problem than facilitated real-time data access, and that the WG recommended that a subgroup be formed to broaden the interests looking at the issue.

During the discussion of this item, Forum members and CPC members to identify appropriate people to participate in the subgroup.

Next Meeting:

Tuesday, December 7, 2010, 9am to 5pm.

Forum members were advised that future meetings will move to an all-day (9am to-5pm) format. Details to follow.

13:30 – Adjournment.

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APPENDIX 'A'

S.G.F. **OPEN** Action Items as of October 12, 2010

Action Item	Date Assigned	Assigned To	Target Completion	Status
At the November 9th meeting, each member organization of the Forum shall provide a state of the world synopsis of their smart grid activities in regards to the Forum's previous smart grid recommendations (brief verbal report should be sufficient).	October 12, 2010	All Forum Members	November 9, 2010	OPEN
Forum members should consider the present discourse regarding smart metering and time of use rates and provide any suggestions for key public messages.	October 12, 2010	All Forum Members	November 9, 2010	OPEN
Forum members should review the draft structure of the 2010 Annual Report distributed with the materials for the October 12th 2010 and provide any final comments to IESO staff (Don Tench and/or Edward Arlitt) in advance of the November 9th meeting.	October 12, 2010	All Forum Members	November 9, 2010	OPEN
Jim Huntingdon to engage the EDA on the possibility of reviewing the revised capital cost estimates once developed by the Working Group.	Sept. 7, 2010	Jim Huntingdon	Oct. 12, 2010	OPEN
The Corporate Partners Committee should investigate what metrics should be targeted to become a selling point for Ontario smart grid expertise and products and how we can leverage those metrics accordingly. In addition this analysis should examine which of those metrics could be put in place sooner rather than later.	Aug. 10, 2010	Corp. Partners Committee	Sept. 7 th 2010	OPEN (update provided on Sept. 7 th , presentation to Forum on October 12 th and follow-up on Nov 9, 2010)
Report back to the Forum as to when other materials pertaining to advice to government since Fall, 2009 might be suitable for publication.	May 17 th	Jon Norman	TBD	OPEN (update provided on June 8 th)
Examine the <i>IESO Market Rules</i> form the standpoint of whether or not they present any barriers to participation of load aggregators, and scheduling service providers in the wholesale market or otherwise conflict with the smart grid interoperability framework.	Feb. 9, 2010	IESO Staff	TBD	OPEN
Draft SGF response to Minister of Energy requests at the November 9, 2010 SGF Meeting. Draft to be circulated to Forum members in November for discussion at the December Forum meeting. Will also consider engaging the Working Group for input.	November 9, 2010	IESO Staff	December 7, 2010	OPEN
CPC Chair to present examples of suggested smart grid metrics developed by the OEA CPC subgroups to the December SGF meeting.	November 9, 2010	Corp. Partners Committee	December 7, 2010	OPEN

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CLOSED Action Items:

As of October 12th, 2010 closed action items are no longer listed in the minutes as per the agreement reached at the September 7, 2010 Forum meeting. The removal of an open action item constitutes the completion of that item.