

Ontario Smart Grid Forum

Ontario Smart Grid Forum Notes of Meeting

Date: **Tuesday, April 5th, 2011**
Time: 09:00 to 12:30
Location: IESO Minto Plaza Office, Main Boardroom
655 Bay Street, Suite 410
Toronto, ON

Forum Members Attending:

Paul Murphy	IESO (Forum Chair)
Keith Major	Bentall Kennedy
David Collie	Electrical Safety Authority
Wayne Smith	Hydro One
Norm Fraser	Hydro Ottawa
Don Tench	IESO
Jim Huntingdon	Niagara-on-the-Lake Hydro
Dan McGillivray	Ontario Centres of Excellence
David McFadden	Ontario Centres of Excellence
Brian Hewson	Ontario Energy Board
Jon Norman	Ontario Ministry of Energy
Mario Chiarelli	Ontario Power Authority
Ivano Labricosa	Toronto Hydro
Jatin Nathwani	University of Waterloo

Working Group Members Attending:

David Curtis	Hydro One
Raed Abdullah	Hydro Ottawa (by phone)
Edward Arlitt	IESO
Usman Syed	Ontario Ministry of Energy
John Mulrooney	PowerStream
Richard Ford	Toronto Hydro

Special Guest:

David Lindsay	Deputy Minister, Ontario Ministry of Energy
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Corporate Partners Committee members attending:

Ron Dize	Vice-Chair, Corporate Partners Committee
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Observers in Attendance:

Barry Beale	Ontario Ministry of Energy
Tyler Hamilton	CBE Research and report writer engaged by the Forum
Martine Holmsen	IESO Corporate Relations

See **Appendix A** for a cumulative list of open Forum action items.

09:15 – call to order

Agenda Item # 1: Previous SGF Minutes

FINAL Minutes of the **January 17th** and **February 8th** meetings of the Smart Grid Forum:

Ontario Smart Grid Forum

The minutes of the **January 17th** and **February 8th** meeting were tabled as final and no further amendments were raised at the meeting.

DRAFT Minutes of the **March 8th** meeting of the **Smart Grid Forum**:

The draft minutes of the **March 8th, 2011** meeting were tabled with a comment deadline of April 19th, 2011.

Agenda Item # 2: David Lindsay, Deputy Minister, Ontario Ministry of Energy

Informal remarks from the Deputy Minister:

The Deputy Minister began by expressing his personal congratulations to the Forum for their work and accomplishments to date.

At the outset of his remarks, the Deputy Minister raised the question as to what extent the smart grid has been adequately embraced from the standpoint of public policy. Key elements of this effort have been addressed by the Forum and the Deputy Minister was appreciative of that.

A prominent interest of the Deputy Minister is economic development and more particularly, how to attract the broader smart grid supply chain to the province. In his view, it was not adequate to simply target near-term growth derived from final assembly, construction and implementation, but rather the longer-term contributions to economic output from upstream supply chain, research and innovation. The Deputy Minister also spoke of this topic in the context of the projected capital investment projections in the draft copy of the Forum's upcoming report ("*Modernizing Ontario's Electricity System: Next Steps*"). He noted that there is perhaps far greater job creation potential that could be derived from this type of investment – than simply the implementation of wind and solar installations.

The Deputy Minister also drew an analogy between the smart grid and reforms to the telecoms sector in the 1970s/80s. He noted the transformative impacts of these developments on companies such as Nokia and Ericson, and how those companies evolved to successful multinationals from their humble origins in unrelated sectors of the economy. These companies proved the potential of what can emerge from a comparatively small national economy when the power of innovation can be properly harnessed. To this end, the Deputy Minister opened the discussion with the Forum on how a similar economic cluster could be established in the province of Ontario.

In response to the Deputy Minister's open question to the Forum, various members provided the following comments:

- We've created the Corporate Partners Committee, but have not considered an undertaking on the scale being considered by the Deputy Minister.
- Capitalizing on the coming data deluge from the smart grid will be critical.
- Innovation clusters is a hot topic of conversation in the international arena, and the knowledge base of our universities is absolutely key to fostering their growth here in Ontario.
- We seem to have two choices here: i) pursue existing multinationals to locate their centres of innovation here in Ontario; or, ii) develop new, leading companies domestically.
- We need to look beyond the build-out of infrastructure. Ontario should be on the innovation end of development – not just implementing existing technologies. A major strength in that regard will likely come from smaller, entrepreneurial companies.

Ontario Smart Grid Forum

- We need to do a better job at marketing Ontario’s story.
- Canada is good at innovating, but often falls behind when it comes to retaining or capitalizing on resulting intellectual property.
- The big challenge is to foster commercialization in an industry dominated by large public utilities that don’t necessarily have a vested interest in such activities. It is important to give the right opportunities to the private sector while at the same time avoiding this incongruence of interests.

The Deputy Minister posed the question whether or not the 2015 Pan American Games could be used as an opportunity to showcase Ontario smart grid technologies. He also asked whether or not Ontario needs an innovation agency. On this point, the following comments were made:

- This requires a long-term outlook, but industry concerns are often on a much shorter timescale.
- Getting the first customer is the big hurdle for most start-up companies. This needs to be assisted regardless if that assistance comes from a dedicated agency or not.
- Ontario has a good lead in this area, but what are the next steps beyond smart metering? Future innovation should capitalize on what we’ve already done.
- Our regulatory construct is a barrier – particularly the existing focus on cost and reliability at the expense of all other possible objectives. There should be more leeway for research and innovation activities. Another member however, countered this point and stated his belief that these activities can indeed be done under the existing framework, but there needs to be more impetus to do so.
- Forum members were reminded that the group’s existing *Terms of Reference* includes a mandate to encourage economic growth and Forum members were asked if the upcoming report gave sufficient prominence to this topic.

On behalf of the Forum, Paul Murphy thanked David Lindsay for his remarks and taking the time to meet with them today.

Agenda Item # 3: Forum Report – update and next steps

(see also, “Modernizing Ontario’s Electricity System: Next Steps”, Draft 4, dated March 25, 2011; and, the support presentation for today’s meeting)

Edward Arlitt and Don Tench brought the members up-to-date on the latest structural changes to draft 4 of the Forum’s upcoming report. Following this overview, the Forum immediately commenced an extensive review and discussion of the existing recommendations contained in draft 4 of the report, ultimately culminating in the following outcomes:

Comments Regarding the Forum Report Recommendations (as they stood at draft 4, March 25th):

- **OUTCOME:** Generally, all recommendations beginning with the phrase, “*Industry, in collaboration with the Forum, and its Corporate Partners Committee..*” should be reworked, to identify the action to be carried out upfront, followed (where possible) by identifying the parties that should carry it out and the Forum’s contribution of facilitating the discussion.

Ontario Smart Grid Forum

Slide 11 – Third Party Access (first recommendation):

- OUTCOME: re-work the recommendation as per above.

Slide 12 – Third Party Access (second recommendation – testing facility):

- OUTCOME: Drop the first reference to “AMI” but keep the second one.

Slide 13 – Consumer Engagement (second recommendation – interactions between LDCs and 3rd party service providers):

- OUTCOME: change “...barriers to competition...” to, “...barriers to adoption...”

Slide 16 – Storage Integration recommendation:

- OUTCOME: change “...deployment...” to, “...integration...”

Slide 17 – Standards recommendation:

- OUTCOME: change “...paying particular attention to...” to, “...taking advantage of...”

NEW Recommendation regarding innovation and economic development:

- The recommendation should advocate the establishment of a new task Force devoted to fostering the innovation, commercialization and economic development capitalising on the province’s public infrastructure investment in the smart grid. The task force would be facilitated by the Forum but not necessarily restricted to its membership – drawing from public and private sector organizations who are in a position to help Ontario realize the broader economic development potential of the smart grid over the longer term.
- This new recommendation might be best placed in the Smart Grid Investments and Benefits section (3) of the report

Comments to Section 3 – “Smart Grid Investment and Benefits”

- Somewhere in the front of this section it should prominently say that these estimated incremental costs have already been factored into the projected price increases within the province’s Long-Term Energy Plan (i.e. they’re not ‘incremental’ to the LTEP itself – this point was confirmed by Ministry of Energy representatives Jon Norman and Usman Syed during today’s meeting).
- It was suggested that the report should not separate out distributed generation costs in paragraph 4

Other:

Ontario Smart Grid Forum

- In the body of the report, there are certain smart grid principles that should be emphasized as they formally capture recommended actions of the Forum within the new policy framework (e.g. the “Access” principle was cited as an example). Brian will speak directly to Tyler about this with further suggestions.

Comments Regarding Smart Homes Roadmap illustration:

- The temperature setting of 24 degrees in the 2012 home should be more clearly associated with Air Conditioning (as opposed to heating)
- The positioning of the “Geothermal” label in the 2012 house (second row) should be moved slightly, as it currently looks like the yellow pipe is an arrow on the diagram. Also possibly change the term “geothermal” to “ground source heat pump” – as this is more closely associated with currently-available in-home technology
- Move up some of the conservation and demand response programs to 2012
- In later stages of the diagram, it would be nice to depict the recycling of E.V. batteries for local energy storage (this could possibly be depicted at the distribution substation in the top right-hand corner of the diagram)
- Get rid of some (but not all) of the chimneys
- The house in the 2030 neighbourhood with the “solar thermal energy storage” loop needs a thermal solar panel on the roof
- Generally, the diagram depicts a lot wireless equipment signals which may raise alarm over EMF radiation. Is it possible to tone these down?

Discussion of the Roll-out Plan for the Forum’s Report:

Martine Holmsen (IESO staff) then walked Forum members through the draft roll-out plan for the report (see also, slides 20 – 22 of the support presentation). In addition to the plan set out in the support presentation, Martine drew the attention of the members to the following additional points:

- A pre-release conference call will be facilitated amongst member organizations of the Forum
- A web version of the smart home roadmap will be deployed in conjunction with the report itself. It will possible for member organizations to embed this as an object within their own websites as well, though all updates to it would be done through the IESO – much the same way the ongoing maintenance of “10 Smart Meter Lane” is conducted today.
- EDA communications Council will be involved.
- Jatin Nathwani offered to assist in regards to coordinating a network of interested universities as well.

Agenda Item # 4: Report back from the Corporate Partners Committee regarding smart grid success measurement criteria.

Ron Dazy, Vice-Chair of the Corporate Partners Committee conveyed regrets on behalf of Shelley Lewis for being unable to attend, and delivered today’s report on behalf of the Committee.

Ron reported that the Committee was still seeking to arrange a meeting with Trilliant, one of the last remaining Advanced Metering Infrastructure (AMI) vendors the Committee was hoping to meet with as part of its investigation into third party access to real-time smart meter data.

Ontario Smart Grid Forum

As reported at the previous Forum meeting, the Committee is still working to arrange a demonstration day to showcase various products and services available from Committee members. Details about this event will be forthcoming in the near future.

Ron indicated that there are now four sub-committees of the Corporate Partners Committee now being established or actively working in each of the following areas:

- a) A sub-group looking into establishing a province of Ontario AMI test bed facility (“the sandbox committee”);
- b) Future technical architecture of the smart grid;
- c) Use cases for the smart home (particularly, use cases centred around the issue of third party access to real-time smart meter data); and,
- d) Consumer education.

In addition to the above, a special session was being arranged with Aird & Berlis LLP to discuss the detailed aspects of privacy and the smart grid at the CPC’s upcoming meeting in June.

Agenda Item 5b: SmartGrid Canada

{Deferred from March 8th - see also, support presentation}

RECALL: ACTION ITEM from the Feb. 8th Forum meeting: Forum members were asked to consider two questions regarding the Forum’s prospective involvement in [SmartGrid Canada](#): i) do Forum members see value in this? and, ii) would our potential involvement dilute the Forum’s work here in Ontario?

The Forum was lead through a discussion of three possible options for the Forum’s ongoing involvement with SmartGrid Canada as follows:

- Option 1: Ontario Smart Grid Forum joins SmartGrid Canada as a single entity
- Option 2: Ontario Smart Grid Forum doesn’t join, but encourages its members to join individually
- Option 3: Ontario Smart Grid Forum doesn’t join, but liaises with SmartGrid Canada on an as-needed basis. {recommended – see also, support presentation}

A Forum member commented that the value of joining SmartGrid Canada was unclear at this time. This was followed by a discussion of the way in which the Building Owners and Managers Association (BOMA) of Canada organizes its activities around local associations associated with specific cities.

Another member indicated that perhaps there is still a benefit to joining if it helps put Ontario on the map in various international forums that SmartGrid Canada participates in.

OUTCOME: It was decided that the Forum will proceed with the recommended Option 3 and approach SmartGrid Canada to see how we can remain in contact on an informal basis. It was further agreed that the Forum would re-visit this decision from time to time as the need arose.

{end of formal agenda items}

Ontario Smart Grid Forum

Other Business: video presentation

Following the conduct of the regular business of today's meeting a small number of Forum members were able to remain and watch a brief video entitled, "*Low Carbon London*" commissioned by [UK Power Networks](#) – a major distribution utility leading a consortium of private and public sector organizations involved in helping the City of London meet its Greenhouse Gas reduction targets for 2025. The video outlines the consortium's smart grid plans for integrating smart metering, electric vehicles, distributed generation, centralized wind and nuclear generation into an overall [carbon reduction program for the City of London](#). The program is aimed at meeting the Mayor's target for a 60% cut in CO₂ emissions in the UK's capital region by 2025

Next Meeting:

Monday, May 2nd, 2011

13:00 – Adjournment.

Ontario Smart Grid Forum

APPENDIX 'A'

S.G.F. **OPEN** Action Items as of April 5th, 2011

Action Item	Date Assigned	Assigned To	Target Completion	Status
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
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 2010	Jon Norman	TBD	OPEN (update provided on June 8 th)
Examine the <i>IESO Market Rules</i> from 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

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.