

Ontario Smart Grid Forum

Ontario Smart Grid Forum Notes of Meeting

Date: **Monday, May 2nd, 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)
Wayne Smith	Hydro One
Don Tench	IESO
Jim Huntingdon	Niagara-on-the-Lake Hydro (by phone)
Dan McGillivray	Ontario Centres of Excellence
David McFadden	Ontario Centres of Excellence
Jon Norman	Ontario Ministry of Energy
Mario Chiarelli	Ontario Power Authority
Ivano Labricosa	Toronto Hydro
Jatin Nathwani	University of Waterloo
Michael Angemeer	Veridian (by phone)

Working Group Members Attending:

Raed Abdullah	Hydro Ottawa (by phone)
Edward Arlitt	IESO
David Barrett	IESO (by phone)

Observers in Attendance:

Martine Holmsen	IESO Corporate Relations
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Special Guests - University of Waterloo:

Professor Claudio Canizares
Professor Catherine Rosenberg
Professor Ian Rowlands

Corporate Partners Committee members attending:

Ron Dizy	Vice-Chair, Corporate Partners Committee
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See **Appendix A** for a cumulative list of open Forum action items.

09:15 – call to order

Agenda Item # 1: Previous SGF Minutes

FINAL March 8th, 2011 meetings of the Smart Grid Forum:

The minutes of the **March 8th, 2011** meeting were tabled as final and no further amendments were raised at the meeting, other than a correction to the date at the top of the minutes.

DRAFT Minutes of the April 5th, 2011 meeting of the Smart Grid Forum:

The draft minutes of the **April 5th, 2011** meeting were tabled with a comment deadline of May 6th, 2011.

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Agenda Item # 2: Roll-out of the Forum's Second Report

Martine Holmsen (IESO staff) discussed final preparations for the pending release of the Forum's second report, "*Modernizing Ontario's Electricity System: Next Steps*" – which was tentatively scheduled for release mid-day on Tuesday, May 3rd. Among the features of the release were:

- A two-dimensional bar code to allow for rapid download by mobile devices
- Release of the report on Twitter and Facebook
- An Apple 'iBooks' release of the report
- 1000 hardcopies to be produced for use by Forum members during various face-to-face meetings and presentations.
- The electronic version will feature the smart home roadmap as well.

Martine pointed out that the previous report had been downloaded approximately 50,000 times since its release two years ago.

During the ensuing discussion, various Forum members made the following comments and observations:

- The last recommendation will receive a lot of attention in particular.
- The report should be distributed to Canadian/provincial embassies/trade missions around the world.
- The OCE Discovery Conference is another great opportunity to promote the report.
- It's important to elevate the importance of the report with the Corporate Partners Committee as its members will be well-suited to promoting the report internationally.

Agenda Item # 3: Report back from the Corporate Partners Committee

Ron Dzy, Vice-Chair of the Corporate Partners Committee briefly outlined the work plan of the four sub-committees and their intended schedule for making their respective reports to the Forum:

- The Use Case Sub-Committee (which is currently delving into the Third Party smart meter data access issue) is expected to report back at the June meeting.
- The Long-term Technical Architecture Committee is currently scoping out its work effort and is expected to provide a progress report in July/August
- The Sandbox sub-committee is expected to provide a report at the August meeting.
- The Education sub-committee is currently forming-up – details to follow.

Ron also provided further conceptual ideas regarding the CPC Demo Day. At present, it is envisioned that Demo Day would encompass 6 to 8 members focused on consumers and in-home products and services. There was some ensuing discussion about potential timing (no date chosen yet) and a Forum member also raised the possibility of the CPC having a Legislature Day along the lines of what the EDA does on an annual basis.

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Agenda Item # 4: Report back from the Working Group

(see also, “Report back from the Working Group” Support Presentation)

Edward Arlitt (IESO Staff) presented the report back from the Working Group. The report was divided into two major parts as follows:

1. Design of a potential consumer engagement survey, as called for in the recommendations of the Forum’s second report.
2. Working Group activities stemming from the Forum’s second report - **deferred**

Due to time constraints on today’s meeting, the second item was deferred to a future meeting of the Forum.

The Working Group’s initial examination of the design of a potential Consumer Engagement survey (as outlined in the slide presentation) engendered a considerable degree of discussion amongst Forum members. Various comments and observations were as follows:

- Electric vehicle results should be segmented by urban, suburban and rural household types. However, it was cautioned that there shouldn’t be too many segments as this would go beyond a meaningful degree of granularity, given the relative infancy of consumer electric care awareness at this stage. It’s also important to dovetail this portion of the survey with those currently being carried out by the automotive industry – perhaps the CPC can help in that regard.
- A Forum member stated that while he agreed with the Working Group’s notion that the survey should be designed so as to avoid creating new concerns in the area of security and privacy –this did not necessarily mean that the survey should avoid the topic of security and privacy entirely. Specifically, gauging consumer awareness and perceptions of security and privacy will be particularly important over time.
- A Forum member directly questioned Jon Norman (Ministry of Energy) if there was an appetite for such a survey within the Ministry as per the recommendation of the Forum’s report, to which Jon expressed his opinion that indeed there was.
- It was suggested that perhaps the survey could piggy-back on the efforts of a national, omnibus survey that various polling firms carry out on a regular basis as a cost saving measure.

Review of Final Draft of the Forum’s Second Report:

{10: 20} The Chair discussed final editorial changes made to the report. Changes were all agreed to and the report accepted for publication.

{10:25 to 10:35 – break}

Agenda Item # 6 - Theme discussion - Research & Development: Presentations from the University of Waterloo on select research topics, disruptive technologies and their linkages to the evolution of the smart grid.

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{see also, two University of Waterloo presentations distributed with meeting materials.}

The Chair began by welcoming professors Catherine Rosenberg, Ian Rowlands and Claudio Canizares of the University of Waterloo and thanking Professor Jatin Nathwani for helping to arrange today's presentations. Professor Nathwani then formally introduced each of the three guest speakers.

First presentation by Professor Catherine Rosenberg, University of Waterloo, Information Systems and Science for Energy ('ISS4E'). **Topic:** ISS4E's work regarding, *"ISS4E or how can the Internet help smarten the grid?"*

Professor Rosenberg walked the group through her presentation which covers ISS4E's various areas of research including applying concepts and solution models commonly used in the Internet in various smart grid contexts. The presentation also covered real-world experimentation with these concepts as part of an ongoing smart homes demonstration project in collaboration with the Waterloo Institute for Sustainable Energy (WISE). In addition to the Smart Homes project, other ISS4E projects include:

1. Modeling and control of grid energy storage and DG
2. Demand Response: a revisit based on
3. EV Integration
4. Impact of context
5. Prototype systems & measurements

(see presentation for further details)

Following Professor Rosenberg's presentation, there was a question and answer period. Some of the questions/discussion was as follows:

Q: *How can customers help achieve the various efficiency goals outlined in the presentation?*

On this question Professor Rosenberg expressed her hypothesis that customers do not necessarily have to be financially rewarded for all of their optimizing behaviour, so long as their personal comfort is not diminished by virtue of participating in the various demand response programs discussed.

Q: *How can utilities make intelligent use of the new data streams that will become available, while at the same time protecting consumer privacy?* **A.** A key principle here is to ensure that the customer has the same degree of opportunity to see their own data as the utility does.

Q: *Not all information on the internet is 'open' – so how does TCP map to the smart grid?* **A.** TCP will likely be at the transport layer of all in-home appliances in the near future. TCP in fact protects the network in the same way in protects the internet through the application of various reactions and rules.

Q: *Who are your commercial partners?* **A.** Hydro One, Microsoft and NSERC to name a few. Other partnerships are being pursued.

Second presentation by Professor Ian Rowlands and Professor Claudio Canizares, University of Waterloo. **Topic:** "Energy Hub Management System Project"

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Professor Ian Rowlands and Professor Claudio Canizares provided an overview to their Energy Hub Management System Project which leverages both technological artefacts and customer behaviour to achieve locally-optimized energy use, storage and production within the home and at a distribution feeder level.

(see presentation for further details)

Following Professor Rosenberg's presentation, there was a question and answer period. Some of the questions/discussion was as follows:

Q: *Did you study electric hot water heaters?* **A.** Yes, and they pose one of the biggest savings potential in the home.

Q: *Did you use smart meters in conjunction with this study?* **A.** No – they were not used in this particular instance.

In addition, all three professors were presented with the general question as to what advice they might give to the Smart Grid Forum:

Professor Claudio Canizares: Academia needs better assistance from the utilities sector to develop these technologies and test them in real-world conditions.

Professor Catherine Rosenberg: Three points of advice:

- i) Involve more universities in the Forum's work.
- ii) Data is crucial and cannot be fully exploited without open access rules.
- iii) Don't rely too much upon dynamic pricing. Using the internet's development history it is evident that such schemes don't have a great track record in achieving the desired end state.

Professor Ian Rowlands: Expand the Forum's thinking to consider more than just the delivery of electricity. For example, think about how the smart grid affects lifestyles and the interactions between the smart grid and other systems. Also, home gateways are key to a number of these interacting systems, and should not necessarily be centred solely on the electricity value chain. In this regard, new entrants will help solve a lot of the associated technical problems.

The Chair then thanked the three guest speakers on behalf of the Forum.

Next Meeting:

Tuesday, June 21st, 2011

12:35 – Adjournment.

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APPENDIX 'A'

S.G.F. **OPEN** Action Items as of May 2nd, 2011

Action Item	Date Assigned	Assigned To	Target Completion	Status
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
Arrangement of the Corporate Partners Committee 'Demo Day.'	March 8, 2011	CPC	June 21, 2011	OPEN
Deferred portion of the Working Group's May 2 nd report back to the Forum.	May 2, 2011	Working Group	June 21, 2011	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.