Physics meets politics: Building a more integrated system

The 23rd Annual Canadian Power Conference and Networking Centre ⁰⁷ 1010 0010 1010 0101

Metro Toronto Conve Conference: November 15 & 16, 2011 Conference: November 14 – 16, 2011 Power Networking Centre: November 14 – 16, 2011 0 1010

Featuring:



Hon. Chris Bentley Ontario Minister of Energy



Rosemarie Leclair **Ontario Energy Board**



Colin Andersen **Ontario Power** Authority



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Kim Warren Independent Electricity System Operator



Jaime Watt Navigator Ltd



Mark Ahlstrom WindLogics / NextEra

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Conference Progr

Physics and public policy set the ground rules for power system development. Their interaction is crucial and sometimes problematic. A key example of this challenge, renewables integration, has been a top priority for the power system both in Ontario and much of the world, yet it's producing new operability issues. Market participants need to ensure that policy and engineering requirements are more fully aligned in future. How to rebalance a system that's adding more variable generation when it's already long on energy? Can new contractual arrangements be negotiated to achieve better integration? What can be done to ensure more effective co-ordination between the people who build/run the system and the political masters who oversee it? The APPrO 2011 conference will once again address the key challenges facing the power sector.

	The APPrO 2011 e	vent will address the top issues of the	e day including:
• Re	newables Integration	generation procurement	Transmission expansion and upgradi
• Pu	blic policy development post-election	 System reliability initiatives 	 Alleviating approval challenges
• Wh	at's next for Ontario's Feed-in Tariff (FIT)	 Financing in the current environment 	 Gas market issues
pro	ogram and renewable energy procurement	 Nuclear industry perspectives 	 Options for achieving more meaningf

- program and more generally?
- · Considerations impacting the next round of
- Tuesday, November 15

8:00 a.m. **Daybreak Coffee**

Daybreak Coffee Hosted by Northland Power

8:25 a.m **Opening Remarks from the Conference Chair** Stephen Somerville, Competitive Power Ventures, Inc.

8:35 am	The Physics: Outlook for Electricity Demand and Supply
Keynote:	in Ontario Amir Shalaby, Ontario Power Authority

The Politics: What happened on October 6 8:45 am Keynote: Jaime Watt, Navigator Ltd.

A seasoned expert's analysis of what happened to energy policy during the election and what happens next

9:15 am The Developer's Panel: Defining achievable objectives and realistic steps

What will make the system more efficient and productive?

Linda Bertoldi, Borden Ladner Gervais LLP: Moderator

Jason Gray, SunEdison, Vice President & Country Manager, Canada Ian Kerr, Vice President, Canadian Project Development, Brookfield **Renewable Power**

William D. A. Bridge, Executive Vice President, Business Development, TransAlta

Major themes and questions:

- ◊ The challenges arising in building new projects how developers are planning to deal with them.
- ♦ The Market Road Map and the recommendations of the EMF / MDC.

Coffee break 10:15 am

Hosted by Macquarie Capital Markets

- · Aboriginal and community-based power project development
- ding
- gful price signals
- Distributed Generation

11:00 am The Leaders' Panel: What is driving change, and where is the system going?

Rosemarie Leclair, Chair, Ontario Energy Board Colin Andersen, CEO, Ontario Power Authority Kim Warren, COO, Independent Electricity System Operator George Vegh, McCarthy Tetrault LLP: Moderator

- Speakers are invited to address the following Major themes and questions:
- ◊ Renewables integration
- ◊ Price signals
- Market Road Map and EMF conclusions
- ◊ Development challenges: The problems arising in building new projects - how developers should plan to deal with them (partly in response to comments from previous segment)
- ♦ Institutional organization: What is the best way to organize the central agencies?
- ♦ The planning framework: LTEP and IPSP
- ◊ Directions for program development: The FIT review and future procurement
- ◊ Why is it taking so long to build out transmission and distribution?
- ◊ What is the role of the ECT going forward?
- Overall consistency: What can be done to ensure that market rule changes and commercial contract terms are developed in a more coordinated fashion?
- What central agencies can and should do to manage the impact of costs on ratepayers
- Managing the disparity between the physical requirements of consumers and the same consumers' willingness to accept the perceived impacts.

12:00 pm Lunch in the Networking Centre Hosted by TransCanada

12:15 pm **APPrO Annual General Meeting** (Members only)

Conference Program

Program overview:

Day 1:

Opening keynotes on the Physics and the Politics The developer perspective on top issues of the day Direction-setting discussion with senior Regulatory, Planning and Management Executives

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Nuclear perspectives Project finance in the current environment Aboriginal perspectives Transmission and distribution

1:00 pm Improving certainty for major infrastructure

Lessons learned in other jurisdictions

Mark Ahlstrom, WindLogics, a NextEra Energy company

Based on experience in multiple studies and jurisdictions, what approaches are most effective for integrating wind, solar and other variable generation? Which methods are likely to maximize the use of existing infrastructure and minimize integration costs? How can system flexibility be encouraged and used to facilitate reliable and economic operation with higher levels of renewable energy?

Planning for the nuclear component of the system

Ala Alizadeh, Senior VP of Marketing & Business Development, Candu Energy Inc.

Preparations for major infrastructure - Community engagement

Jacquie Hoornweg, Vice President of Public Affairs, Ontario Power Generation

Simultaneous joint programming in coordination with the OSEA conference

1:00 pm Update on renewables procurement from the OPA: Are we looking at FIT 2.0 or something else? *Moderator:* Lisa DeMarco, Macleod Dixon LLP Shawn Cronkwright, Ontario Power Authority Jim MacDougall, Compass Renewable Energy Consulting Inc. Questions and discussion

1:45 pmPower project finance in the current environment

- **Jonathan Erling, KPMG:** International investors how they view Ontario's power sector
- Jake Sadikman, Osler, Hoskin & Harcourt LLP: How lenders are managing key project risks including REA, domestic content and curtailment.
- **Chris Ball, Corpfinance International Ltd.:** What are the expectations of the primary types of equity players in the Canadian marketplace?

OPA Update on renewables procurement Banquet with the Minister of Energy

Day 2: Market evolution in the post-election context Gas-fired power generation Renewable power project approvals Procurement prospects Political issues panel

3:00 pm Coffee Break

Hosted by Osler, Hoskin & Harcourt LLP

- 3:30 pm Options for improving on the system for grid expansion
- Keynote: Carmine Marcello, Executive Vice-President of Strategy & Planning, Hydro One Networks Inc.
- Moderator: Charles Keizer, Torys LLP

Elizabeth Moore, Director, Competitive Procurement, Alberta Electric System Operator

Jon Norman, Ontario Ministry of Energy: Policy drivers and next steps for T&D build-out in the province

Robert van Beers, Senior Director, Power Transmission, Enbridge Inc.

Jim Keech, Chair, EDA - Electricity Distributors Association: Distributors on DG opportunities and connection challenges

Cara Clairman, President and CEO, PlugnDrive Ontario: Grid planning with electric vehicles and the smart grid in mind

Simultaneous joint programming in coordination with the OSEA conference

3:30 pm Aboriginal perspectives on power: What developers and communities need to know

A discussion of what makes a consultation process satisfactory, and a review of consultation systems that have been worked out and recently tested in practice. Insight into lessons learned - from people directly involved in the development process.

Moderator: David Miller, McLeod Wood Associates

- Melanie Paradis, Director of Lands, Resources & Consultations, Métis Nation of Ontario
- Chief Shining Turtle, Tribal Chair, United Councils and Chiefs of Mnidoo Mnising (UCCMM): What makes for a successful partnership
- John Brace, Northland Power: The process of reaching a shared understanding on power project development
- Mike Lyle, Ontario Power Authority: Overview of Aboriginal programs and projects
- Brent Kopperson, Pukwis Energy Co-op: Lessons learned in developing an Aboriginal community energy co-op

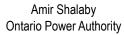
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Conference Program

Featured speakers:







Carmine Marcello Hydro One Networks

5:00 pm Reception in the Power Networking Centre Hosted by 2011 Power Networking Centre event sponsors, to be announced

6:00 pm Banquet dinner Hosted by Borden Ladner Gervais LLP

7:00 pm Keynote speech: Hon. Chris Bentley, Minister of Energy

The Probyn Prize

8:30 pm **Power Mixer at the Steam Whistle Brewery** Hosted by Blakes *Location: Steam Whistle Brewery, 255 Bremner Blvd.*

Wednesday, November 16

8:00 a.m. Daybreak Coffee Hosted by Torys LLP

- 8:30 am Keynote: Tim Hudak, Leader of the Opposition
- 9:00 am Market Evolution in the context of the EMF and the postelection environment

What issues are likely to drive the next phase of market evolution? What changes in focus are the leading thinkers recommending? Moderator: AJ Goulding, London Economics International LLC Bruce Campbell, Independent Electricity System Operator Adam White, Association of Major Power Consumers in Ontario Craig Martin, TransCanada Energy Cliff Hamal, Navigant Economics Jason Chee-Aloy, Power Advisory LLC

10:00 am **Coffee break** Hosted by Veresen Inc.



Jim Keech Electricity Distributors J Association





Jason Chee-Aloy Power Advisory LLP



0:30 am The approval process for renewables – How is the system evolving?

A range of experts provide updates on the status of the province's approval system from their various perspectives. This will be an opportunity to consider issues that have become apparent during the two years of experience with the province's system of Renewable Energy Approvals, and to hear expert advice on building public support.

Moderator: Colin Edwards, Pattern Energy Doris Dumais, Ontario Ministry of the Environment Adam Chamberlain, Borden Ladner Gervais LLP Rod Northey, Fogler Rubinoff: Five lessons that project applicants can learn from the Suncor decision Gordon McGuinty, McGuinty Leadership Group: Social Aspects of Project Approvals Other speakers to be announced

10:30 am Gas market issues Moderator: Ian Mondrow, Gowlings

Current regulatory issues in the gas sector of concern to generators

- ◊ Ratemaking for Union and Enbridge
- ◊ TransCanada Mainline Tolls
- ◊ Other regulatory proceedings

John Wolnik, GSA Energy Company Inc.

Progress report on CESOP and CHP Procurement

Darryl Yahoda, Ontario Power Authority

<u>The impacts of renewables integration, EDAC and payment changes</u> on gas-fired generators in Ontario Rhonda Wright Hilbig, Independent Electricity System Operator (IESO)

<u>How shale gas and other developments are changing the Canadian gas</u> <u>market: What generators need to know</u> Michael Feodorov, Statoil Natural Gas

Conference Program

12 noon Lunch in the Networking Centre Hosted by APPrO 2011 Sponsors

1:00 pm Future generation procurement – opportunities, principles and proposals

Experts covering a range of perspectives speak on the need and timing of future generation procurement, results of current procurement programs, considerations bearing on further revisions, how future procurement programs should be designed, and what else is needed to create the right conditions for new generation investment.

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Jim Harbell, Stikeman Elliott: Moderator

Stephen Somerville, Competitive Power Ventures: Analysis of the rated criteria used for project assessment in procurement

Kevin Dick, Ontario Power Authority: OPA current and future clean energy procurement, including CHP

Caton Fenz, EDP Renewables

Daryl Wilson, Hydrogenics: Integration of market based services including storage products and grid stabilization

Other speakers to be announced

2:00 pm Coffee break Hosted by APPrO 2011 Sponsors

2:30 pm The APPrO political issues panel

- What are the most important choices that the next government will have to face?
- Thoughts on how to manage the polarization of public opinion on broad supply choice issues like shale gas, wind energy, oil sands, and nuclear power
- How to ensure that future public policy takes full account of the physical characteristics of the power system
- $\diamond~$ What will it take to make the next 5 years a success in energy terms?

Moderator: Sean Conway, Queens University David Coletto, Abacus Data Rob Silver, Crestview Strategy Will Stewart, Navigator Limited John Spears, Toronto Star

4:30 pm "Networking Connector" Closing Reception Hosted by Stikeman Elliott LLP



The Probyn Prize

Seeking to improve the environmental performance of the energy system and to do so through innovation in technology and business have always been central to the mandate of APPrO. Nowhere have these principles been better expressed than through the example of Stephen Probyn, one of the pre-eminent proponents of environmentally responsible power development, and a powerful example to many in the industry today. In 2009 APPrO established the Stephen Probyn Prize for Innovation in Energy.

The award is presented periodically to a deserving individual or organization identified to APPrO's Selection Committee by public nomination for "significant advances and achievements in financial markets, public policy or science and technology which promote action on climate change and sustainable development."

APPrO's award of the 2011 Probyn Prize will consist of:A \$10,000 donation to the registered charity chosen by the Prize recipient.

• Public presentation of the original work of art commissioned from leading Canadian sculptor Colin Gibson, to symbolize the principles represented by Stephen Probyn and the Prize in his name.

This year the Prize announcement and award will take place as part of the APPrO 2011 banquet dinner.

Student Subsidy Program

Ontario post-secondary students interested in a career in the energy sector are being offered an extraordinary chance to learn about the exciting opportunities in the energy field, and to meet a range of people active in the electricity industry. APPrO, working with Ontario Power Generation Inc., is making a special offer to a limited number of students, with particular focus on aboriginal students, from Ontario colleges and universities, providing access to APPrO 2011.

For more information, go to http://conference.appro.org or contact carole.kielly@appro.org.

Schedule for simultaneous programming in the 2011 Power Networking Centre

Presentations are located in the Power Networking Innovation Centre - Hall G - and are scheduled for 10 minutes each, unless otherwise noted

Monday, November 14 (Part of the OSEA Community Power Conference): Afternoon: Opening plenary: Roadmap to Green Energy Ontario 2.0 1:00 pm: Financing and insuring your project 3:30 pm: **CEPP** application process Morning Sessions: Green Energy Ontario 2.0: A community perspective Joint Sessions with APPrO and OSEA: Green Energy Ontario 2.0: A manufacturer's perspective Green Energy Ontario 2.0: A private sector perspective 1:00 pm Update on renewables procurement from the OPA: Are we looking at FIT 2.0 or something else? See the main APPrO program for details on this session. Afternoon Sessions: Community Power 101: Things to know whether going it alone or Aboriginal perspectives on power: What developers working together 3:30 pm Joint ventures: Commercial and communities creating win/win need to know Roadmap to Community Power: An applied workshop See the main APPrO program for details on this session. Tuesday, November 15 (Part of the OSEA Community Power (These two sessions will likely be held outside the PNC to accommodate Conference): speaker needs and the potential number of delegates) Morning: **OSEA/York University SEI Joint Session: Innovative Approaches to** Wednesday, November 16 **Renewable Energy**

Education with a special focus on developments in Community Power

Yes, Please register me

Exhibitor presentations Details to be announced

Register online at conference.appro.org

or send by mail, fax or email: 25 Adelaide Street East, Suite 1602 Toronto, ON, M5C 3A1 fax: 416-481-5785 email: Soraya.Rivera@appro.org

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APPrO 2011 — 23rd Annual

2011 Power Networking Centre

Presented by APPrO and OSEA Metro Toronto Convention Centre, South Building November 14, 15 & 16, 2011

The leading Trade Show for Canada's powergen sector!

The 2011 Power Networking Centre will offer opportunities for contact with representatives from the full spectrum of power generation in Ontario. Renewable and non-renewable technology, Canadian and international, large-scale and small-scale, it's all here.

- More than a simple trade show a hub for key players to meet, connect, and build ties
- Don't miss out on three days of prime networking opportunities
- More than 90 leading-edge exhibits and over 1,500 engaged industry attendees
- Book your location now and get ahead of the curve
- One of your best business opportunities this year!

For full details please visit the APPrO or OSEA websites at http://conference.appro.org, or http://www.cpconference.ca



"The 2010 Power Networking Centre brought in many relevant potential business partners for us. The diversity of the floor was great – APPrO brought in the established players, many of whom hadn't heard of us before."

— Emma Hemmingsen, Morgan Solar, (inaugural winner of the Canadian Innovation Award 2010)

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