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October 22, 2015

A Note from Thomas Timmins, Secretary, CanSIA Board of Directors



Good morning,

Years from now, Canada's solar energy industry will look back at the fourth quarter of 2015 as having been a highly critical time of formation and change.

The climate leadership shown by Premier Notley of Alberta, and Canada's newly elected Prime Minister, Prime Minister Trudeau, should quickly lay the groundwork for a balanced national solar energy market in the run-up to COP 21 in Paris and beyond.

As the market share of the solar industry continues to increase, it is essential that CanSIA has the capacity to participate in the detailed policy and market development as well as utility and regulatory discussions as they arise on

Parliament Hill, in the Legislative Assembly of Alberta and elsewhere across Canada.

We cannot be an effective advocate if we are absent from the table or weak on the details at energy sector negotiations. Solar integration and broader distributed energy system deployment are evolving to the stage where the decisions that Canadian governments take now will impact Canadians for years to come. Furthermore, if we do not get the details of public policy right, solar will grow to its full potential in Canada more slowly than it should. If we do get them right, we have the ability to lower energy costs and reduce green house gas emissions across the country.

Effective public policy needs public confidence and support from concept through to implementation. The solar industry is unique in the energy sector because its fuel resource is both ubiquitous and free and because its technology is highly scalable and rapidly declining in cost. Individuals, households, businesses, utilities and communities across Canada are rapidly adopting multiple forms of solar technology to serve local energy needs. Whether a residential installer discussing an install with a home-owner or an equipment manufacturer looking to penetrate new world markets, we are all ambassadors for our industry.

Having just returned from the Caribbean Renewable Energy Forum, where numerous Canadian companies were in attendance along with excellent teams from both the Department of Foreign Affairs, Trade and Development and EDC, I note that the countries and territories of the Caribbean region are all grappling with virtually all of the same technical and policy challenges that we face here in Canada.

Leadership from each and every one of us in the Canadian solar industry will be absolutely critical throughout the remainder of 2015 and in coming years as we work together with all energy sector stakeholders toward sustainable and cost-effective energy policies. If the federal and provincial governments of Canada make the right leadership choices in energy now, Canadian entrepreneurs will have the ability to drive down electricity costs and reduce climate change impacts around the world for decades to come.

Please read on for some other policy, regulatory and market updates from the CanSIA Executive Team:

Policy & Market Development:

1. [Renewable Energy Sector Welcomes Canada's 42nd Prime Minister Justin Trudeau](#)
2. [Is Alberta going to integrate a significant amount of renewables into their electricity system?](#)
3. [OSCCI Update and Engagement with the Clean Economy Alliance](#)

Utilities & Regulatory Affairs:

1. [Is there a technical limit to the penetration of grid-tied solar PV in Canada?](#)
2. [Evolving Wholesale Electricity Markets to Integrate Variable Solar Generation](#)
3. [Alberta has substantial need for new generation in next decade - no major concerns for integration of solar](#)
4. [CanSIA Participates in OEB Energy Leaders Sector Forum 2015](#)
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Kindest regards,

Thomas Timmins
Secretary, CanSIA Board of Directors

Renewable Energy Sector Welcomes Canada's 42nd Prime Minister Justin Trudeau

Renewable electricity presents key economic growth and climate action opportunity



CANADIAN COUNCIL ON
RENEWABLE ELECTRICITY

CONSEIL CANADIEN SUR
L'ÉLECTRICITÉ RENOUVELABLE

The Canadian Council on Renewable Electricity congratulates Prime Minister-designate Justin Trudeau on his election win. While Canada is a recognized global leader in renewable electricity production, abundant opportunities remain to clean up our remaining fossil-fuel dependent grids, and to further electrify and decarbonize our economy. We look forward to the Liberal government's efforts to capitalize on the economic opportunity and environmental benefit presented by renewable electricity.

Liberal campaign promises on climate change and renewable energy included:

- Development of a new pan-Canadian framework to address climate change,
- A \$2 billion Low Carbon Economy Trust to fund projects that reduce carbon pollution,
- Collaboration with the provinces to implement a Canadian Energy Strategy, including the use of more clean, renewable electricity generation,
- Investment of an additional \$100 million per year in clean tech growth and development and efforts with the private sector to unlock venture capital,
- Shifting subsidies from fossil fuels to new and clean technology,
- Green bonds for community-based renewable energy projects,
- Clean technology procurement within government, electric vehicle charging stations, electrification of the federal vehicle fleet, energy efficiency initiatives, and exploration of opportunities for clean technology exports.

[Read more, including key facts from the renewable energy sector, as well as quotes from CanCORE's co-founders.](#)

Is Alberta going to integrate a significant amount of renewables into their electricity system?



Is Alberta going to integrate a significant amount of renewables into the electricity system to meet its climate change objectives? According to John Gorman, CanSIA President & CEO the answer is yes! John's address to attendees of Solar West 2015 describes why that is the case and what CanSIA's position on the most suitable public policy to deliver this would be in Alberta ([audio](#), [slides](#)). The media is beginning to engage with thought-leaders on this topic with the Edmonton Journal featuring an op-ed from CanSIA's John Gorman and CanWEA's Robert Hornung: "[Opinion: Cost of wind and solar energy dropping](#)". (Also see recent published op-eds from [Capital Power](#), [CAPP](#) and [the Canada West Foundation](#), and [the Centre for Natural Resources Policy](#)). [Have something to say? Why not write your own editor?](#)

What will all this mean for Alberta's policy, market and business future? Listen to this [entertaining and informative session moderated by Mike Crawley, Executive Vice-President Development with Northland Power and Chair of CanSIA's Campaign to Open Canadian Markets from Solar West 2015](#) to find out.

OSCCI Update and Engagement with the Clean Economy Alliance

CanSIA's Ontario Solar Climate Change Initiative (OSCCI) has been active since our inaugural meeting earlier this fall. In anticipation of the Ontario Government's forthcoming release of the Climate Action Plan and Strategy and Cap and Trade Mechanism, the OSCCI has initiated research and baseline analytics into the current state of Ontario's power system and progress towards targets laid out in the 2013 Long Term Energy Plan (LTEP). This analysis will also include an energy demand forecast as well as identify future generation opportunities based on the current and expected supply mix, and risks to that supply mix. A Levelized Cost of Energy (LCOE) forecast will also be conducted for all relevant generation technologies. This research will position CanSIA's OSCCI well to be able to put forward a thoughtful and substantiated response to the government's proposed Climate Action Plan.

The OSCCI also continues to be engaged with the activities of the [Clean Economy Alliance](#) (CEA), a group of more than 80 companies and organizations focused on meaningful climate action in Ontario. Contributions have already been made to the [CEA's recommendations on the structure of the Cap and Trade mechanism](#). Over the next couple of weeks the OSCCI will also be contributing to policy recommendation memos and government briefings to the Ministry of Energy and the Ministry of Economic Development, Employment and Infrastructure on how these ministries can utilize emissions free solar generation to meet their climate targets.

Utility & Regulatory Affairs

Is there a technical limit to the penetration of grid-tied solar PV in Canada?

CanSIA is pleased to welcome up to twenty global experts on distribution and transmission network implications of high penetrations of solar generation representing the International Energy Agency's PVPS Task 14. In addition to attending the conference as delegates, a selection of these experts will be participating in four breakout conference sessions which will examine several aspects of technical transformation in the electricity sector including distribution grid impacts, solar variability, forecasting and system operation, smart inverters and system benefits and smart grid integration. Confirmed and invited speakers include: Markus Kraiczky of the Fraunhofer Institute for Wind Energy and Energy System Technology (Germany), Christof Bucher of Basler and Hofmann (Switzerland), Jan Remund of Meteotest (Switzerland), Kazuhiko Ogimoto of the University of Tokyo (Japan), Roland Bruendlinger, Austrian Institute of Technology, Tom Key, Electric Power Research Institute (USA), Gerd Heilscher, Ulm University of Applied Sciences (Germany) and Thomas Reindl, Solar Energy Research Institute of Singapore (SERIS).

Further information on the [Solar Canada 2015 conference program](#) are available online as are recent publications on the [Task 14 website](#). Please contact pbateman@cansia.ca if you are interested in further information on CanSIA's involvement in this initiative. Please share this information with your network in utilities, system operators and government so they do not miss this extraordinary opportunity.

Evolving Wholesale Electricity Markets to Integrate Variable Solar Generation

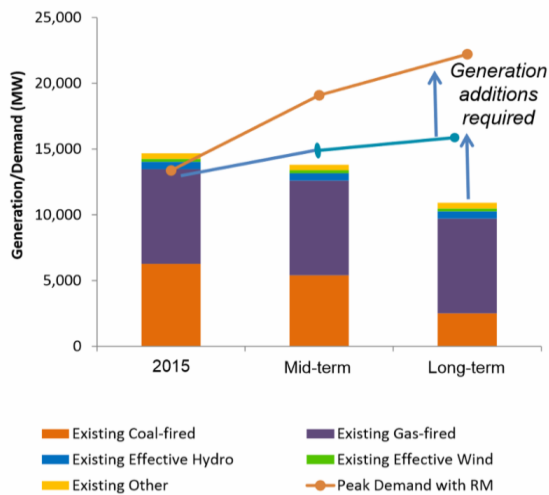
Wholesale electricity markets are highly complex combining the physics of electricity with the principles of economics. The ongoing renewable energy policy development discussions in Alberta have brought into focus a discussion around the economic impact of large amounts of variable generation competing in free wholesale electricity markets with conventional thermal technologies. Free-market principles would dictate that investment in generation capacity should be driven by market signals to maximize



competition, efficiency and fairness. Significant penetrations of solar generation begins to reshape net-load thus reducing wholesale pricing during the day when pricing is typically highest. As a result, the necessary market signals for existing or new balancing generation capacity needed to ensure supply adequacy could potentially be eroded.

Alberta's market was not designed to deliver a de-carbonized or diversified electricity-mix (or any policy objectives for that matter). Changes to the market structure will be required to continue to operate efficiently while incorporating more variable renewable generation. This was the backdrop for a session at Solar West 2015 featuring Derek Olmstead , the Senior Economist and Retail Market Coordinator at Alberta's Market Surveillance Administrator ([audio](#), [slides](#)). For further background on this subject, a recent study from MIT explores "[Integration of Solar Generation in Wholesale Electricity Markets](#)".

Alberta has substantial need for new generation in next decade - no major concerns for integration of solar



Alberta has a substantial need for new generation additions to meet load growth and retirements while maintaining reliability and supply adequacy in the next decade: 1,500 MW to 5,000 MW of load growth, 1,000 MW of retirements and 2,500 to 6,000 MW of additions with reserve margin. As the AESO works to renew its Long Term Outlook for release in 2016, they are navigating some of the "known unknowns" including "how much, how fast and how far" new policy will accelerate renewable energy in the province. However, preliminary indicators are promising for solar from an integration perspective as the province does not

appear to have any key barriers or challenges for solar in the locations that it is likely to be developed due to the transmission infrastructure in place and due to the lessons learned on variability on fluctuations in supply and the technical requirements developed for renewable variable generation from their experience with wind. Hear from Nicole LeBlanc Director of Analytics & Forecasting, AESO at Solar West 2015 how the AESO views new policy guiding the evolution of the industry, the generation mix shifting to lower emission sources, a generation build required with upcoming coal retirements and long-term economic growth and sustained demand for power expected ([audio](#), [slides](#)).

CanSIA Participates in OEB Energy Leaders Sector Forum 2015

On October 15, 2015 CanSIA was invited to participate in the Ontario Energy Board's Energy Leaders Sector Forum for 2015. The first session of its kind held by the OEB, the forum brought together top executives from the OEB, Ministry of Energy, Local Distribution Companies (LDCs), consumer groups and energy sector associations to discuss changes envisioned to occur in how

consumers engage with energy. The session also focused identifying where innovation can promote meaningful change within the Ontario energy system to deliver benefits to consumers.

Presentations were delivered by individuals, companies, and utilities on new products entering the market place that were causing "disruptive change" to the traditional utility business model and discussion focused on how best to drive innovation within the Ontario energy sector to best position regulators and regulated entities to deal with those changes. At the conclusion of the event participants voted on those challenges thought to be the most pressing for the OEB to consider in any regulatory changes brought in to meet those challenges. The top 4 identified by participants in order were, allowing customer choice, the cost of energy/increasing prices, alternatives that disrupt the system, and ensuring regulatory adaptation to meet the future.

Feedback to the Ministry of Energy's Net Metering/Self Consumption Advisory Working Group

CanSIA is in the process of finalizing our feedback to the Ministry of Energy's Net Metering/Self-Consumption Advisory Working Group, which is due Friday October 23, 2015. This feedback focuses on the [policy proposal](#) released by the Ministry in September for a successor net metering program that would take the place of the microFIT Program in late 2017/early 2018.

CanSIA's feedback will focus on revisions to the existing net metering regulation to better enable solar generation in Ontario including: Accessing Time of Use (TOU) rates for consumed and exported energy, continuing to allow excess generation credits to "roll over" from billing cycle to billing cycle, and to implement a Locational Adder rather than a Value of Solar Tariff (VOST) during the transitional phase out of the standard offer procurement framework created by the microFIT Program.

This feedback will be available to all members on CanSIA's website once finalized.

Stories We Are Following

- [U.S. and China to Announce New Measures to Combat Climate Change](#)
 - [Can Alberta go coal-free by 2025?](#)
 - [Pope Heads to Climate Talks as Rare Word -- Optimism -- Surfaces](#)
 - [Walmart, Fortune 500 companies take 100% renewable energy pledge](#)
 - [Vancouver mayor launches climate pledge program: 10 local businesses sign on](#)
 - [Notley May Stray From Federal NDP On Cap-And-Trade](#)
 - [Alberta Should Raise Carbon Price To \\$50, Suggests Unreleased Report](#)
 - [The 5 Countries That Produce the Most Solar Energy](#)
 - [Majority of Albertans want stronger climate change policies: survey](#)
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Contact Lisa Hatina (lhatina@cansia.ca), Business Development and Member Relations Manager to learn more about the significant opportunities and benefits that CanSIA members receive, can participate in and support in our three core service areas:

- Policy and Advocacy;
- Industry Capacity Development; and,
- Profile Building and Networking.



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