BIPV in Canada's Building Industry: Current Market, Policy Outlook and Growth Opportunities

CanSIA

May 29th, 2015

Canadian Solar Industries Association

www.cansia.ca

Canadian German Conference: Renewable Energies in Buildings

About CanSIA

- Who we are:
  - National trade association representing the solar energy industry throughout Canada
  - Since 1992, worked to develop markets and create opportunities for our Members
- Our 2020 vision:
  - Solar electricity will be a mainstream energy source and an integral part of Canada's diversified electricity-mix
  - Solar electricity industry will be sustainable, with no direct subsidies, and operating in a supportive and stable policy and regulatory environment that recognizes solar's value.
- About Patrick:
  - Responsible for market, policy and regulatory strategy, research and analysis.
  - Career includes over six years in renewables industry in Europe and Canada.
  - Background in policy development for on-site renewables and green-building design.

Canadian German Conference on Renewable Energies in Buildings

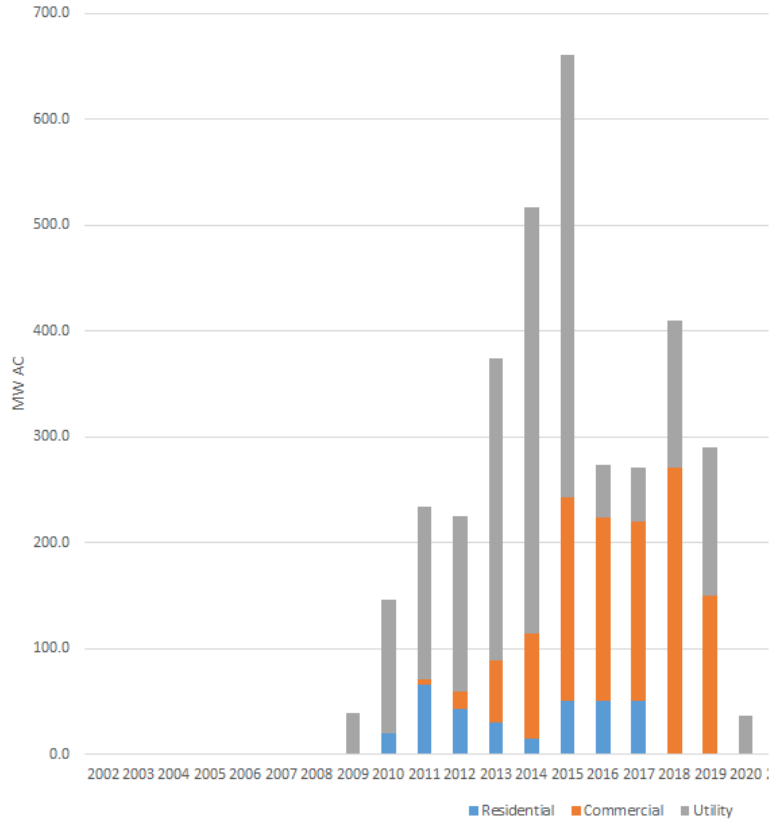
- BIPV in the Building Industry session on May 29, 2015 at the AllStream Place in Toronto moderated by Rob McMonagle, Senior Advisor – The Green Economy, City of Toronto with panelists:
  - Patrick Bateman, Director of Market Intelligence & Research, CanSIA
  - Bill Wong, Renewable Energy and Climate Change Program Manager, Leidos
  - Loghman Azar, Architect Partner, LINE Architect Inc.

- Guiding Questions:
  - What are the major advances being made with solar energy in Canada?
  - What is the current status of BIPV in Canada and what is the future market outlook?
  - What are the key barriers for BIPV in Canada today?
  - What are the future growth opportunities for BIPV?

Current Status and Major Advances in Solar in Canada

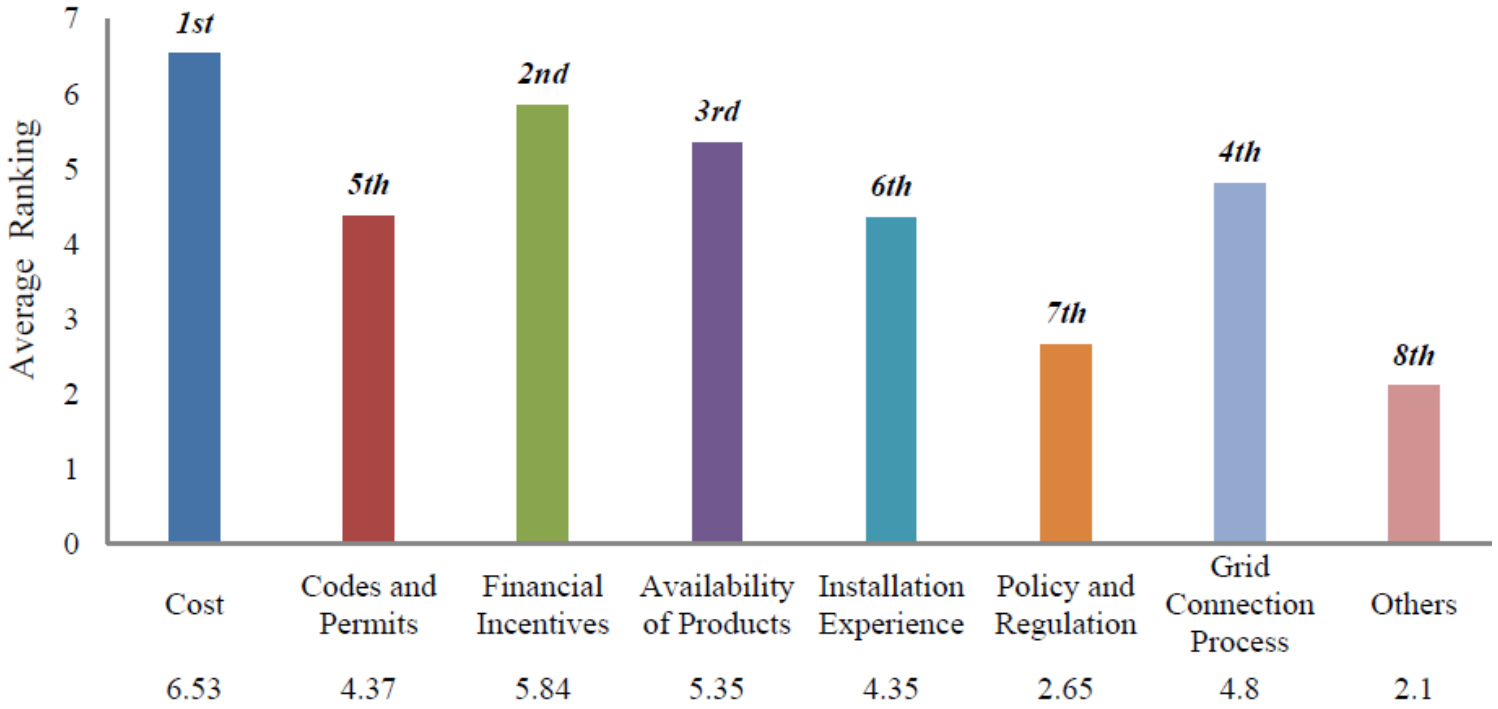
- Solar has advanced rapidly in Canada in the past decade.
  - Canada joined “1 GW club” in 2013 (included only 19 other nations at end of 2014).
- Ontario was second to only California in North America for grid-tied PV in 2014.
  - More than 99% of Canada’s installed capacity is in the province of Ontario:
  - Capital costs reduced by >50% in all sectors.
- Growing number of successful BIPV projects across Canada – but represent minority.
- Fundamental shift in electricity sector is afoot:
  - Consumers seeking new products and services that have not been possible traditionally which are coming online **faster than can be imagined**.

Graph: Solar PV Installations in Ontario



What are the Key Perceived Barriers to BIPV in Canada?

- Architects and Building Designers are most important decision-makers for BIPV.
  - Essential practical knowledge of BIPV in building industry needs to increase.
  - Growing deployment experience and visibility is among factors improving situation.



Ref: Ranking given by Canadian Architects to barriers to BIPV, Ola Mousa (2014)

Does BIPV belong in Ontario's microFIT and FIT Programs?

- Ontario's microFIT and FIT programs developed for greater use of renewable energy. BIPV technology eligible to participate, but no significant uptake to date.
- Ongoing enhancements have improved opportunities for BIPV in microFIT & FIT, but several differences in nature of project development mean a more tailored approach may be more suitable:
  - BIPV is optimal for new-build - program design has favoured retrofits.
  - Timing for BIPV is driven by construction - batch-contracting in FIT not aligned.
  - Specific design needs - Domestic Content limited product options.
  - Small (≤ 10 kW) IC&I projects can be ideal – microFIT restricts business ownership.
- The microFIT and FIT programs are expected to "sunset" before 2020:
  - The "open procurement" approach that follows could be more suitable for BIPV.
  - Conservation programs better suited to BIPV (as opposed to generation)?

What are the next growth opportunities in Canada for BIPV?

- The need for distributed generation, smart-communities and –buildings and sustainability in the built environment combined with increasingly favourable cost structures are creating a perfect storm for BIPV. Successful collaboration between solar and building industry is the critical success factor.
- Other factors creating growth opportunities include:
  - Government programs for energy and climate change policy objectives.
  - Modernization of Building Codes and Standards:
    - Energy performance standards and potential for solar ordinances or other instruments.
  - New business models and finance innovations:
    - Potential for Energy Service Company or Third Party Ownership models.
  - Advent of storage technology:
    - About to experience cost declines in similar way that solar has in recent years.
    - Combination of BIPV and storage technologies creates new opportunities.

Thank you

- For further information or to discuss any of the information presented in this slide deck, or to attend a conference, trade show or networking reception hosted by CanSIA please contact: Patrick Bateman, Director of Market Intelligence and Research (pbateman@cansia.ca).

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