

The magazine of the Canadian Solar Industries Association Fall/Winter 2010

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CanSIA

SOLAR VISION 2025

CANSIA DRAFTS CANADIAN SOLAR OBJECTIVES



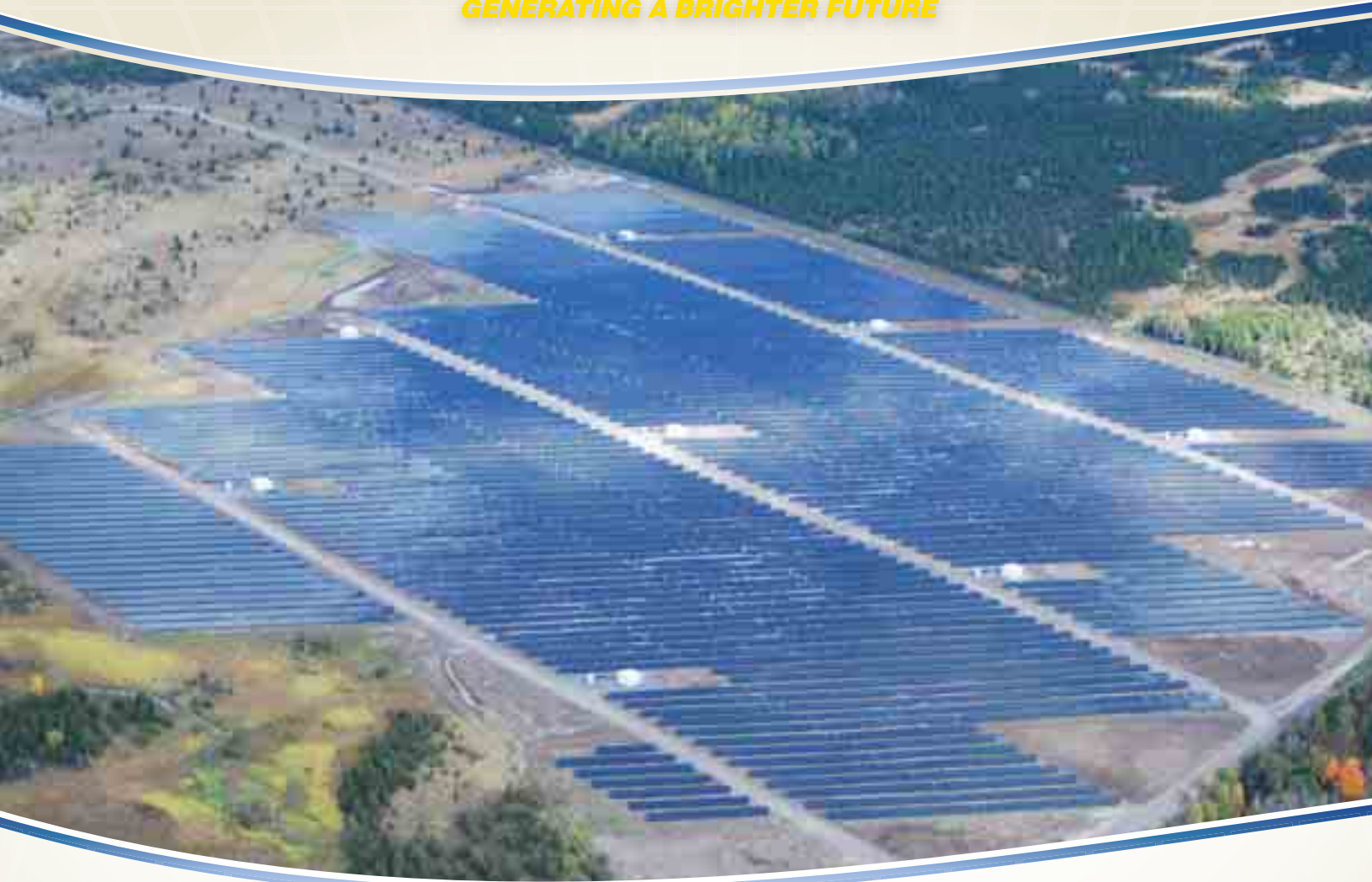
ENSURING CONTINUED GROWTH
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ABOUT CanSIA

CanSIA MISSION

CanSIA represents the interests of its members by working to increase the use of solar energy in Canada.

CanSIA's OBJECTIVES

- I. Develop and implement programs and activities directed at enhancing and accelerating the widespread use of solar energy in Canada.
- II. Develop and improve the solar energy industry and the individual members of the industry by facilitating the delivery of training and education.
- III. Ensure that governments in Canada have a good understanding of the contribution of a viable solar equipment industrial base can make to Canada's industrial and social development.
- IV. Coordinate and assist its members with regard to the development and revision of product standards and building codes for the solar equipment industry, with special emphasis of safety, performance and economic impact.
- V. Collect and disseminate statistics and other useful information on solar energy and the solar industry to various stakeholders and to carry out conferences and publications that advance the purposes of the association.
- VI. To carry on and assist in research on issues that impact the solar industry and its support from various stakeholders.

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2011: CHALLENGING, BUSY AND BRIGHT

This year has been extremely challenging for the Canadian solar industry. We began the year with a new board and a long menu of expectations from members. Our Solar Canada Conference and Tradeshow 2009 had burst the seams of the Westin Harbour Castle in Toronto and that was a harbinger of the very busy year ahead.

Ontario's FIT program was launched in October 2009 and companies worked hard to put in their applications to the Ontario Power Authority (OPA) to see what promises 2010 and beyond would bring. This has meant that the work of the Ontario PV Caucus chaired by Michelle Chislett needed to continue as the program moved from design to implementation. There have been challenges along the way, perhaps the greatest were with microFIT. This caused the government to "pause" the program for a month to review both the rate and the eligibility of those who could legitimately participate. The results that came out in August 2010 showed that work that CanSIA had done over the previous years has established the association as a trusted advisor to the Government of Ontario. There is no question that moving this program from the conceptual stage to being fully operational has not been easy, but we at CanSIA are reassured that we are listened to when we raise issues of concern. We share a common goal with the Ontario government – to ensure a successful well-run program that can serve the province for years to come.

In terms of solar thermal, the industry was faced with a shock when the ecoENERGY retrofit program for residential housing was shut down on April 1, 2010. This has had a major impact on the ST business across Canada. Given that other federal programs supporting both Solar Air and Solar Thermal will sunset in 2010, it became quite clear that the industry needed to make its voice heard to elected representatives across Canada and a strategy has been rolled out. In addition, CanSIA submitted a brief to the federal Standing Committee on Finance pre-budget consultations and we expect to be very active in this area over the fall months.

In late 2009 we did launch our new and improved website and the use analytics indicate that many people – Canadian consumers, government officials and international investors – see CanSIA's website as a valuable tool. We will be building on our respected presence on the Internet and are now offering advertising opportunities to those who are interested. Our annual conference (Solar Canada 2010 Conference and Tradeshow) has been moved to the Metro Toronto Convention Centre on December 6–7, and we expect more than 2,000 participants. We also will do another regional event in the Sheraton Vancouver Wall Centre on May 30–31, 2011, given the success of our Calgary show in May of 2010. Our summer solstice event in Toronto is also always a sold-out hit!

In 2010 we have undertaken serious investigation of our options with regard to installer certification both for PV and ST. This has become a very thorny and urgent issue which must be addressed soon.

Again, with the assistance of the federal Department of Foreign Affairs and International Trade, we continued our international program and CanSIA exhibited at both InterSolar (Germany) and Solar Power International (California, U.S.). We were also able to attend Intersolar North America and the European PV event in Valencia thanks to DFAIT. We may even use some of these funds to host a delegation of Australians to Solar Canada 2010.

Looking forward in 2011, it is clear that we will be more engaged with our federal government. We are also definitely moving beyond Ontario as we build on new relationships and new opportunities in BC, Alberta and, hopefully, Nova Scotia. With the growth of solar in Canada, we are also seeing major demand for a trained and certified workforce in both ST and PV. We expect to have a full-blown strategy in place in 2011. If there is one thing I have learned from my time in solar – it is never dull – and so I am confident that 2011 will be challenging, busy and bright.



Elizabeth A. McDonald
President

With the growth of solar in Canada, we are also seeing major demand for a trained and certified workforce in both ST and PV. We expect to have a full-blown strategy in place in 2011.

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SOLAR VISION 2025

CANSIA DRAFTS CANADIAN SOLAR OBJECTIVES

CANSIA HAS HIRED

Ernst & Young to help it determine credible objectives for the Canadian solar industry and chart a course to realize them. *Solar Vision 2025* will be unveiled December 6 in Toronto at CanSIA's annual conference.

CanSIA asked the professional advisory firm to help draw a roadmap to Canada's solar future out to 2025 with interim

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While Canada is a unique market, Porter believes the country can easily draw on lessons learned through 20 years of European renewable energy development experience.

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milestones. An important aspect of the company's role, in addition to the deployment of a team with considerable global experience in renewable energy development, is third-party objectivity.

After Ernst & Young presents *Solar Vision 2025* at the conference's opening session, the document will be publicly evaluated by a panel of prominent solar industry CEOs and distributed to delegates. Written with a broad audience in mind, it will also be available for download on CanSIA's website.

CanSIA President Elizabeth McDonald says the association's board of directors worked with Ernst & Young to develop the vision, and the Ottawa office was able to provide research material as well as connect Canadian industry experts with the firm's renewable energy consultants. One of the big questions CanSIA will address through *Solar Vision 2025*, she says, is what is the business case for solar development, and how do those principles apply to Canada.

"If governments are going to invest in this new energy form, what can they say to the voters and ratepayers about the benefits? That has to be part of what we as an industry help governments do, and we have to be honest with the numbers. There will be a reduction in greenhouse gases, yes,



but what about the economics? Does it mean people will get jobs? That's important, too."

Senior Associate Mark Porter is a member of the Ernst & Young renewable energy group, which has, among other things, consulted with the British government on renewable heat policy mechanisms. Now working on *Solar Vision 2025*, he says individual market dynamics and regional energy resource alternatives are critical factors in making a valid solar business case.

"I view the provinces as almost individual countries because they are so different," he says. "Also, there is a lot of political power at the provincial level. Energy is a provincial matter, so we have to consider what will work best in specific jurisdictions, and it will be completely different from one to the next."

While Canada is a unique market, Porter believes the country can easily draw on lessons learned through 20 years of European renewable energy development experience. "Our experience from the markets we've operated in, and having gained an understanding of how different mechanisms work, is directly applicable," he says.

Once public, McDonald believes *Solar Vision 2025* will help focus the solar thermal and photovoltaic industries on doable goals and provide CanSIA members with a "calling card" that outlines the framework for achieving the benefits of solar energy.

"I hope this gets policymakers to look at us more seriously and ask what their role is, and to see this is an opportunity they cannot walk away from." ●



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ENSURING CONTINUED GROWTH

CANSIA RECOMMENDS FEDERAL BUDGET MEASURES

CanSIA Pre-Budget Highlights

SOLAR THERMAL WATER HEATING INCENTIVES

- \$21 million per year over five years
- 33 per cent residential and 67 per cent commercial

SOLAR THERMAL AIR HEATING INCENTIVES

- \$9 million per year over five years
- 33 per cent residential and 67 per cent commercial

SOLAR THERMAL PUBLIC AWARENESS AND INDUSTRY CAPACITY DEVELOPMENT

- \$4 million per year over five years for water heating
- \$1 million per year over five years for air heating

SOLAR PHOTOVOLTAIC INDUSTRY DEVELOPMENT

- Establish a 30 per cent PV investment tax credit

FEDERAL GREEN ENERGY PROCUREMENT

- Strengthen procurement policy and strategy for the adoption of all solar technologies

CANSIA HAS DETERMINED HOW the federal government, through budget 2011, can continue building the Canadian solar industry, starting with the continuation of ecoENERGY incentives that were withdrawn in 2010 or are now scheduled to conclude early next year.

CanSIA's written pre-budget submission to the House of Commons Standing Committee on Finance, delivered in August, emphasizes the importance of funding stability, stressing annual solar spending should not be reduced. The association says it "understands the 2011 budget must be prudent given the government's fiscal situation." At the same time, it points out federal solar investments have contributed to "a Canadian success story," building significant capacity and momentum in the solar thermal side of the industry.

Since 2005, the combined workforce of Canada's photovoltaic and thermal industries has grown by over 50 per cent, approaching 3,800 full-time jobs in 2010, says CanSIA, and in the same period domestic and export revenues have grown at average annual rates of 30 to 50 per cent. This success, and government investment, however, is in jeopardy if federal support is removed too soon,

warns CanSIA. "Any progress made can be reversed to the detriment of the economy, individuals and communities," it says.

CanSIA is as concerned with the progress of photovoltaic technologies as solar thermal, and sees a "crossroad" ahead for the whole Canadian industry. The country's solar air-heating sector, for example, is an international leader and responsible for a majority of the world's most successful projects. This leadership is economically significant in the context of growing global demand for clean energy, but dependent on a domestic market, and federal incentives are a big piece of the domestic puzzle. Removing or reducing those incentives at this point, says CanSIA, will destabilize the Canadian market and mean the difference between staying on a well-marked road to further success or exiting down a narrowing pathway to who-knows-where.

The same is true for water heating. Federal ecoENERGY incentives have stimulated demand for solar water heating technologies since 2007. Thanks to these investments, over 100 new regionally based solar businesses have been created with a growing national labour force; exports to the U.S. and Europe are growing, and annual revenues are approaching \$40 million.

“We recently started a two-month layoff amounting to a 75 per cent reduction in our workforce as a direct result of the lack of business in Canada due to the cancellation of ecoENERGY.”

— Phil Whiting, president and CEO, EnerWorks

But CanSIA now sees “major uncertainty” in the industry due to volatile federal policy. Sales figures for 2010 are plummeting, it says, jobs are being lost and “investors have shied away as a result of market instability.”

Phil Whiting is president and CEO of the Ontario-based solar thermal systems manufacturer EnerWorks. He says NRCan’s April 2010 decision to shut down the ecoENERGY Retrofit Homes program, blocking access to new applicants, was a shock. The program provided \$1,250 rebates toward residential solar water heating retrofits, and its closure has had a “devastating impact” on the solar industry.

“We recently started a two-month layoff amounting to a 75 per cent reduction in our workforce as a direct result of the lack of business in Canada due to the cancellation of ecoENERGY,” says Whiting, who expects his company may be sold and relocated to the U.S.

At this point, though, as a key member of CanSIA’s solar thermal taskforce, Whiting is also concerned with uncertainty surrounding the remaining ecoENERGY for Renewable Heat (ERH) program, targeted at commercial installations and scheduled to conclude April 2011.

“If that happens, we can expect an impact similar to what occurred on the residential side. The loss of jobs across Canada will be substantial.”

Despite this uncertainty, Natural Resources Canada can barely keep up with the number of solar thermal air- and water-heating projects applying for ERH funding in 2010. In fact, the program’s annual budget has recently been doubled to accommodate qualified applicants. This, hopes CanSIA Policy and Research Analyst Patrick Bateman, is evidence of a sustained federal interest in solar thermal energy.

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“In the greater scheme of things, the solar industry needs a relatively small amount of government support to ensure continued growth, while the benefits of a vibrant industry are truly great.”
— CanSIA Policy and Research Analyst Patrick Bateman

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“In the greater scheme of things,” says Bateman, who co-authored the pre-budget submission, “the solar industry needs a relatively small amount of government support to ensure continued growth, while the benefits of a vibrant industry are truly great.”

CanSIA is recommending a slight increase in the ecoENERGY budget, \$35 million per year for five years, specifically for solar thermal energy technologies. This would allow continued water- and air-heating incentives in the commercial and

residential realms, and fund a redesign of the program to include a component for public awareness and industry capacity development, such as product standards and R&D.

For the PV industry, CanSIA says federal support “has been weak,” and the rate of PV deployment is considerably lower in Canada than among its industrial trading partners, despite Canada’s significant energy demands and excellent solar resource. The country’s largest direct competitor

for investment in the PV supply chain, as well as for projects, is the U.S., where qualified tax-paying owners receive a federal 30 per cent investment tax credit (ITC) for commercial projects. Current provisions applicable to the PV industry in Canadian tax regulation – the Accelerated Capital Cost Allowance and Canadian Renewable Conservation Expenses – offer “very limited incentives to solar energy project developers,” says CanSIA.

In order to level the playing field between conventional and renewable energy sources in Canada and to ensure the country remains competitive in North American and international PV markets, CanSIA is recommending the federal government establish a 30 per cent ITC for PV, matching the U.S.

Lastly, CanSIA is asking the federal government to promote solar energy through a strengthened federal green procurement strategy, with established targets to support the uptake of solar technologies. “Currently, there are few active measures in place to ensure that the policy on green procurement has a significant effect on the federal government’s uptake of innovative, environmentally preferable and emerging renewable energy technologies,” says CanSIA.

Bateman says CanSIA members have been reinforcing the association’s federal message during the summer. In a concerted effort and aided by the Ottawa office, they succeeded in sitting down with more than 20 members of Parliament to explain how downsizing or concluding ecoENERGY will affect their individual businesses and the national solar industry. The meetings have been “extremely positive,” he says. Across party boundaries, MPs have indicated an interest in the continued growth of solar energy or, in some cases, an intention to speak with NRCan Minister Christian Paradis about the benefits of federal solar funding.

CanSIA also made a face-to-face presentation to the Standing Committee on Finance, and has delivered its pre-budget submission to opposition energy critics.

Federal budgets are usually released in February or March, before the start of the fiscal year. ●

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FRONIUS' FUTURE

SOLAR INVERTER FACTORY COMING TO ONTARIO IN 2011

“The market for renewable energy will grow rapidly in the coming years. Ontario is one of the most important markets of the future for Fronius.”
— Romuald Goure,
managing director of
Fronius Canada

FRONIUS IS ESTABLISHING A production site for solar inverters in Mississauga, Ontario. The factory should be brought on line at the end of the first quarter of 2011, which will create about 100 long-term green jobs in the region. In 2011, the company will produce inverters with a total capacity of up to 50 megawatts.

With outstanding solar irradiance and an ambitious incentive program in the world for solar power, Ontario is a strong growth market for the photovoltaic industry. Fronius International GmbH has been represented in Mississauga with a sales and service subsidiary since 2007 and is now building a production site for solar inverters with a provisional annual capacity of 50 megawatts.

“The market for renewable energy will grow rapidly in the coming years. Ontario is one of the most important markets of the future for Fronius,” explains Romuald Goure, managing director of Fronius Canada.

In August, Fronius Canada started the search for employees in sales and in technical support. Later employees were



PHOTO COURTESY FRONIUS INTERNATIONAL GMBH

recruited for production. In the Toronto area, the company will create up to 40 jobs in the medium term and up to 100 jobs in the long term in the future-oriented photovoltaic industry.

The international experts in solar electronics will initially establish an assembly line for grid-connected Fronius IG Plus inverters. These inverters are optimally suited for private systems up to 10 kW (microFIT) and small commercial roof systems up to 250 kW. Fronius does not rule out a production expansion in the coming years. “We are confident that other provinces will launch similar incentive programs in the future. Ontario is certainly a strong role model in this respect,” Goure said in conclusion. ●

FRONIUS INTERNATIONAL GMBH

Fronius International is an Austrian company with headquarters in Pettenbach and additional locations in Wels, Thalheim and Sattledt, as well as production sites in the Czech Republic and Ukraine. Fronius is active in the fields of battery charging systems, welding technology and solar electronics. The company employs about 3,000 employees worldwide.

Exports, which make up 93 per cent of sales, are achieved with 12 sales subsidiaries and 130 international sales partners.

LIMITED SUPPLY

SOLAR INDUSTRY IN ONTARIO IS SUBDUED

THE ONTARIO FEED-IN-TARIFF (FIT) program, which was launched in October 2009, has effectively stimulated the emergence of a solar market in the province. However, the market in 2011 will be restrained by a supply shortage of Ontario-made solar modules according to a report released by ClearSky Advisors, an independent industry research firm. In spite of the supply constraints, the Ontario market is set to reach 694 MW in 2011 including 186 MW of projects stemming from the RESOP program. ClearSky Advisors predicts this will push Ontario into a top-10 spot among the world's solar markets.

Based on extensive primary research including over 75 interviews with key stakeholders, the Ontario Market Forecast report by ClearSky Advisors is a comprehensive study covering the Ontario PV market.

Shortage of Domestic, Bankable Content Predicted

The immediate market development is affected by FIT rules which require each solar installation to have a minimum percentage of Ontario-made equipment ("domestic content") in order to qualify for the program. Starting in January 2011, the domestic content requirements will increase from 40 per cent for microFIT and 50 per cent for FIT projects respectively to 60 per cent – an increase that effectively will trigger the demand for Ontario-made solar modules.

ClearSky Advisors' research shows that although developers are eager to

build projects in 2011, many will be unable to move their projects forward. Even if the necessary permits and approvals are issued on schedule, a lack of bankable Ontario-made supply will cause delays in their plans. Investors and lenders require equipment to be "bankable," meaning that panels and inverters must be backed by a performance track-record and a financially solid warranty – criteria that will be a challenge to meet for some of the new manufacturers entering the Ontario market.

"The Ontario FIT program certainly has kick-started development activities and is driving significant growth in the solar market," says Jon E. Worren, co-founder of ClearSky Advisors, "but right now the market is in limbo due to the forthcoming change in domestic content requirements with some manufacturers waiting for greater market visibility before building up their production capacity, which in turn is limiting supply of solar panels."

Ontario Equipment Comes at a Cost

Project developers that are able to secure supply should expect to pay premium prices, which would be a boon to local manufacturers but may jeopardize the financial viability of certain projects. As a consequence, many developers



“The bottom line is that manufacturers need to see a stable market for a five-year period in order to justify significant investments in the province.”

— Tim Wohlgemut, co-founder, ClearSky Advisors

reported to ClearSky Advisors that they are waiting to place their 2011 equipment orders until permitting, supply and prices are more certain.

However, long-term concerns about the market viability is leading many manufacturers to build less than half of their announced manufacturing capacity initially and then wait for greater market visibility before investing in further capacity. For manufacturers, the excess demand means that those

who do set up manufacturing in the province will be able to charge higher prices for their equipment, probably through 2013.

Tim Wohlgemut, co-founder of ClearSky Advisors, sums up the case: “We spoke with a large number of manufacturers – both those who intend to set up manufacturing in Ontario and those that decided not to do so. The bottom line is that manufacturers need to see a stable market for a five-year period in order to justify significant investments in the province.”

Lack of Transmission and Political Uncertainty Clouding Long-Term Market

The solar market is hampered by Ontario’s aging grid infrastructure which in its current state has only limited capacity to deal with renewable energy. As a result, ClearSky

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INDUSTRY CHALLENGES

In order to maintain political support, the challenges for the solar industry as a whole are clear:

- To clearly communicate the contributions the solar industry is generating for Ontario and the ratepayers. As industry insiders, we know that the benefits we provide go far beyond the immediate jobs and economic activity that tend to dominate media headlines, but for outsiders the benefits of peaking power, distributed generation, private ownership, industry diversification, etc., will be less clear.
- To demonstrate clear cost reductions that will allow future FIT rates to be lowered in a way that make it obvious to ratepayers that the benefits of the FIT program outweigh the cost. As the developments in Germany have shown, a FIT program is a social-economic contract between the industry and ratepayers/regulators that gives both parties responsibilities and privileges. The premium rates paid to solar power now is based on the premise that the technology cost will decrease over time. As an industry we must collaborate and compete in equal measure to keep up our end of the bargain.

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Advisors expect the solar market stay within 500–700 MW range on an annual basis through 2015 – a number that includes projects FIT, RESOP and the Ontario-Samsung agreement. A steady annual market in a 500MW+ range will mean that Ontario will surpass three gigawatts of solar power by the end of 2015.

The lack of transmission capacity means that the rate of new utility scale solar systems will be kept at a low rate, essentially keeping up with any upgrades and expansions to the grid as they are completed. Over time, this bottleneck will lead to a solar market dominated by commercial rooftop installations, which are smaller in size and connects to the distribution side of the grid.

Political Support Remains Essential

The most obvious threat to the five-year scenario created by ClearSky Advisors is deteriorating political/ratepayer support beyond the 2011 provincial elections. At 3GW installed capacity of solar, the perceived cost of the FIT program to the ratepayer may be hitting levels that many politicians are uncomfortable with and thus bring the future of the program into question. ●

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SETTING NEW STANDARDS

OYA SOLAR ANNOUNCES LARGEST ROOFTOP PROJECT IN NORTH AMERICA



PHOTO COURTESY, J.H. PHOTOGRAPHY

Manish Nayar, managing director at OYA Solar, announces the Atlas 3.5 MW project September 24, 2010, at the firm's press conference in Harrow, Ontario

AT THE END OF September, OYA Solar Inc. (OYA), an Ontario-based developer of solar PV systems, announced its newest project with Atlas Tube (Atlas). OYA in conjunction with Atlas, North America's largest independent manufacturer of hollow structural steel sections, will develop North America's largest rooftop PV project.

The 3.5 MW solar project, which will cover nearly 650,000 square feet of rooftop space (12 football fields), will be located at the Atlas facility, a division of the John Maneely Company located in Harrow, Ontario. The project is the largest of both current and planned rooftop solar installations

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POLAR RACKING SELECTED

Polar Racking, an Ontario-based solar racking manufacturer, based in Windsor, Ontario, was selected by OYA Solar in the development of North America's largest rooftop solar photovoltaic system.

The 3.5 MW project will span 12 football fields and provide enough power for 300 homes. Polar's unique racking system was selected for the project based on its rapid installation time, minimal overall weight and low total cost per kWh.

"This landmark project is yet another opportunity for Polar to continue to maintain its market leadership in Ontario" said Vishal Lala, managing director of Polar Racking. "It will continue to spur economic development in Ontario through the creation of 20 new jobs." Polar introduced its Polar One racking solution in December 2009 in response to an unmet demand for ballasted rooftop racking systems that address the unique needs of the Ontario market.

The Polar One system was designed to optimize system output while minimizing the need for additional ballast weight. Its efficient design, which utilizes only three components and one fastener, provides the lowest total cost per kWh in the industry.



PHOTO COURTESY JIH PHOTOGRAPHY

Polar Racking unveils the PolarTwo rooftop ballasted racking system that incorporates Atlas Tube's structural steel

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in North America, which currently includes a 2.5 MW system at the FedEx distribution center in New Jersey and a 2.6 MW project in Salt Lake City, Utah. Supplying enough electricity to power 300 homes, the project will provide 30 per cent of Atlas' annual energy consumption. Along with its strategic development partners such as Polar Racking (Polar), Conergy Canada and Tremco Weatherproofing Technologies, OYA expects the first 500 kW of the project to be commissioned by next spring. The total investment is expected to be \$ 20 million.

"We set a new standard for North American rooftop solar projects. It is truly a testament to Ontario's green energy leadership. OYA Solar takes pride in our ability to engineer and deploy large-scale solar solutions for our clients. We foresee the market for rooftop solar growing significantly and have positioned ourselves well to meet our clients' demanding requirements," said Manish Nayar, managing partner of OYA.

In addition to the announcement, Polar, one of OYA's sister companies, unveiled its strategic alliance with Atlas. Polar, which designs, manufactures and assembles racking in Windsor, ON, will work with Atlas to manufacture its second generation of rooftop racking systems. Quickly becoming a market

leader in Ontario for racking solutions, Polar currently works with the majority of Ontario's solar developers. The new generation of Polar's racking system will build on existing designs and will utilize components manufactured by Atlas.

Incorporating Atlas' steel tube provides Polar with competitive cost, greater strength and structural rigidity over the use of aluminum as well as other benefits in solar applications. "Atlas has been a leader in this field," said David Seeger, president of John Maneely Company

America. It is expected to surpass New Jersey and unseat incumbent California in the near future. OYA will continue to play a significant role in spurring Ontario's solar PV growth and is actively looking for new projects to add to its 30 MW portfolio. "Our unique value proposition is appealing to commercial and industrial customers," said Anil Hingwe, COO of OYA Solar. "These clients see the benefit of partnering with OYA to develop large and complex solutions that are sustainable for the province's energy needs."

"This announcement continues to position the region as a leader in solar technology and manufacturing. We welcome and congratulate OYA Solar and Atlas Tube on this outstanding announcement," said Ron Gaudet, CEO of WindsorEssex Economic Development Corporation.

The Honourable Minister Sandra Pupatello, Minister of Economic Development and Trade, and Bruce Crozier, MPP for Essex, were on hand to congratulate the local companies showcasing the region as the leader in solar renewable energy by building North America's largest rooftop renewable energy project in Ontario.

"Congratulations to OYA Solar Inc. and Atlas Tube – your partnership means new investment and jobs in our community," said Sandra Pupatello, MPP Windsor West and Minister of Economic Development and

We set a new standard for North American rooftop solar projects. It is truly a testament to Ontario's green energy leadership."

— Manish Nayar, managing partner, OYA

(parent of Atlas Tube), "We have seen significant growth in the demand for our steel tube used in solar racking systems throughout North America. We feel that our manufacturing capacity, value-added services and reputation in the marketplace creates a unique combination of attributes that compliments the growing needs of our solar industry customers."

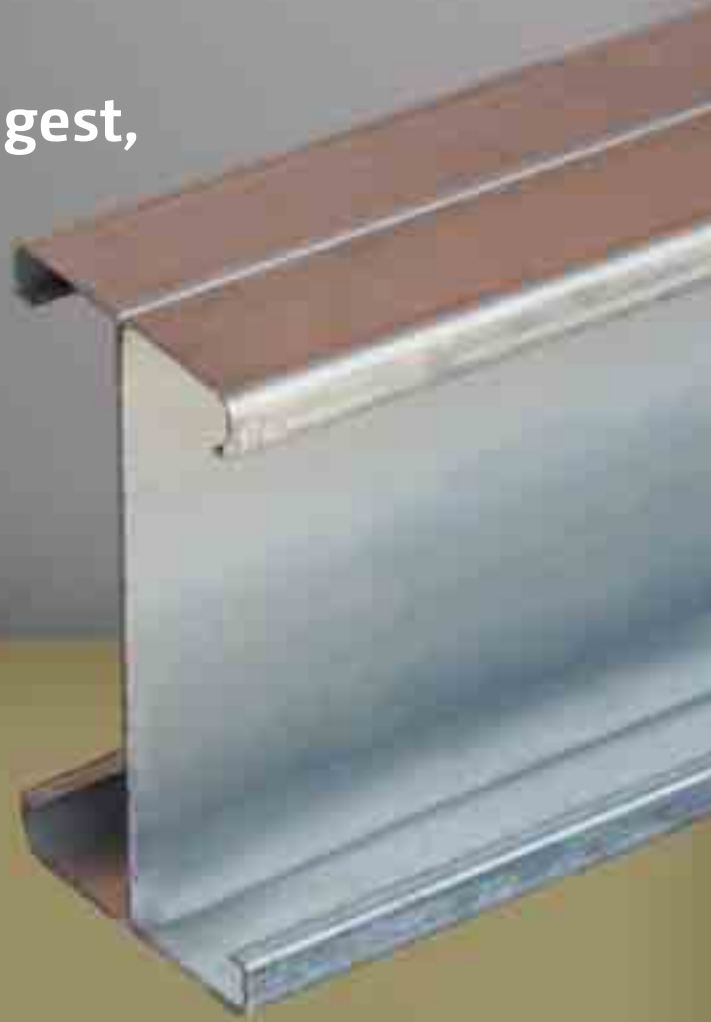
In 2009 Ontario was the third-largest market for solar PV installations in North

Trade. "This announcement highlights the manufacturing expertise and capabilities of the Windsor-Essex region, and is representative of how Ontario continues to lead the way in green energy projects."

"This announcement is great news for Windsor and Essex County," said Bruce Crozier, MPP for Essex. "This innovative partnership will create good jobs in a growing industry and strengthens our local economy today and into the future." ●

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ONE OF THE LARGEST IN NORTH AMERICA

CANADIAN SOLAR INC. SELECTS GUELPH TO HOST ITS MANUFACTURING FACILITY

CANADIAN SOLAR INC., ONE

of the world's largest solar companies, announced the location and the next steps to establishing a new solar module manufacturing facility in Ontario, Canada. The facility, located at 545 Speedvale Avenue, West, in Guelph, Ontario, Canada, is expected to be ready to commence production early next year, and will be one of the largest solar panel module manufacturing plants in North America. The facility is being developed by Canadian Solar Solutions Inc. – a wholly owned subsidiary of Canadian Solar Inc.

“The McGuinty government’s Green Energy Act is helping to create jobs and build manufacturing facilities across the province,” said Ontario Minister of Energy and Infrastructure Brad Duguid. “Right here in Guelph, almost 500 Ontarians will help build solar panel modules to support the growing renewables industry in our province and throughout North America.”

The new facility will be Canadian Solar Inc.’s first feed-in-tariff domestic content compliant solar manufacturing facility in Ontario, and will be located between Imperial Road and Speedvale Avenue. The new facility will be capable of manufacturing 200 MW of solar modules a year while employing approximately 500 people in the process.

Dr. Shawn Qu, chairman and CEO, Canadian Solar Inc. said, “We salute the Province of Ontario and its leaders for their exemplary commitment to renewable energy. The issue of climate change is



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The Family Fountain, St. George’s Square, downtown Guelph, created by Canadian artist William McElcheran

arguably one of the most important challenges we are facing today; therefore, it’s inspiring to see such a wide range of groups – government, business, investors and citizens – come together to build a mutually beneficial solution. Through innovation, creativity and hard work, we are able to mitigate climate change and create needed employment.”

“Canadian Solar Inc. is proud to play a part in the success of the Green Energy Act,” added Milfred Hammerbacher, president, Canadian Solar Solutions Inc. “As a result of the forward thinking actions of the liberal government and the city of Guelph, we are able to bring hundreds of jobs and more environmental sustainability

in a very exciting time for renewable energy in Ontario.”

The new facility is Canadian Solar Inc.’s first solar module manufacturing facility in Canada. The site selection for the new manufacturing facility spread all across Ontario, but in the end Guelph was chosen over several major cities. The city was selected as a result of its commitment to making sustainability the hallmark of its community through the Community Energy Initiative.

“The community, as a whole, illustrates in many ways their commitment to sustainability,” said City of Guelph’s Mayor, Karen Farbridge. “One great example is Guelph Hydro. In keeping with their desire to help build a sustainable community, they will be installing a 100 kW Canadian Solar Solution Inc.’s turnkey system on their facility’s rooftop. The system will be operational next year.” ●

The new facility will be capable of manufacturing 200 MW of solar modules a year while employing approximately 500 people in the process.

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CREATING SIZZLE AND GREEN JOBS

ROLL FORMING MANUFACTURER AND TURNKEY FABRICATOR ENTERS ONTARIO SOLAR MARKET

Spanning over 40 years of metal bending know-how, an Ontario roll forming machinery maker has recently added solar fabricator to its resume with its newly formed division, Samco Solar. Joe Repovs, CEO and founder of Samco Machinery Ltd., decided in mid 2009 to provide sub-contract manufacturing services to the solar industry, similar to what was done for Magna in the automotive space from 2003 to 2007. Samco also entered into the solar business thanks in part to a 30-year relationship with American Roll Form, an Ohio-based company.

The company underwent refurbishment and retooled its facility to take in its first solar racking customer, Unirac. Samco invested nearly a million dollars to outfit the shop which included a new 24-pass roll forming line complete with pre-punch presses, cut-off presses and in-line automated assembly/handling equipment.

Samco's ability to comply with all of the domestic content requirements of the FIT program has been a key driver to its growing success.

David Pichard, Samco Solar's VP of business development, has been meeting with customers globally, namely in Canada, U.S. and Europe, to convince large players in the solar industry to partner with Samco in these markets as well as India. Samco's ability to comply with all of the domestic content requirements of the FIT program has been a key driver to its growing success. Pichard has been targeting international customers who have strong interests in looking to expand their solar business outside of their home countries where tariffs and incentives are fading.

They look at the Canadian, U.S. or Indian markets as somewhat-immature yet large markets and see the great potential for their products and advanced technology. Established partnerships and adept knowledge of the steel fabricating business coupled with strategic alliances like those in aluminum with Sapa Extrusions, Samco is strategically well positioned as a turnkey fabricator with facilities in Cleveland (ARF), Southwest U.S. (TBA), Toronto and New Delhi.

To date, Samco Solar has gained the business of five top players as a fabricator for PV ground and roof mount racking as well as thermal plants' components. One of its most recent customers is SunEdison. Pichard is hoping to gain another three to four customers over the next quarter, which he says will sustain the company for the next five to 10 years.

"We've been very pleased with the manufacturing expertise in the province as demonstrated by Samco," says Jason Gray, VP, Canada for SunEdison. "Production of the racking is extremely cost competitive here in Ontario, enabling us to produce product for U.S. export."

Overall, timing is good for Samco. With the recent decline in the automotive and construction markets and overall economy, things are looking up for the manufacturing and fabricating division. Samco's endeavour to tap into entirely new markets and unearth new opportunities proves as a testament of how Canadian manufacturers are looking into ways of diversifying their business and to bolster sustainability. The hiring of new project management, purchasing and production staff has helped to stimulate growth in the company and helped to create green jobs boosting the job market and reviving the manufacturing industry.

"In order to be sustainable we need to also look at opportunities outside of Ontario, i.e., in US, India and Europe, markets where we have footprint, expertise and relationships. We want our customers and potential clients to know that we deliver innovative fabricating solutions that are well aligned with their design/build requirements and cost objectives in all these markets, as this industry is truly global. Additionally, we like to categorize ourselves as a 'bankable' service provider – focused on execution excellence and adhering to strict ISO quality standards." concluded Pichard. ●





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FOREFRONT OF ENVIRONMENTAL LEADERSHIP

SUNEDISON TO DEVELOP ROOFTOP SOLAR PV PROJECTS FOR GE CAPITAL REAL ESTATE

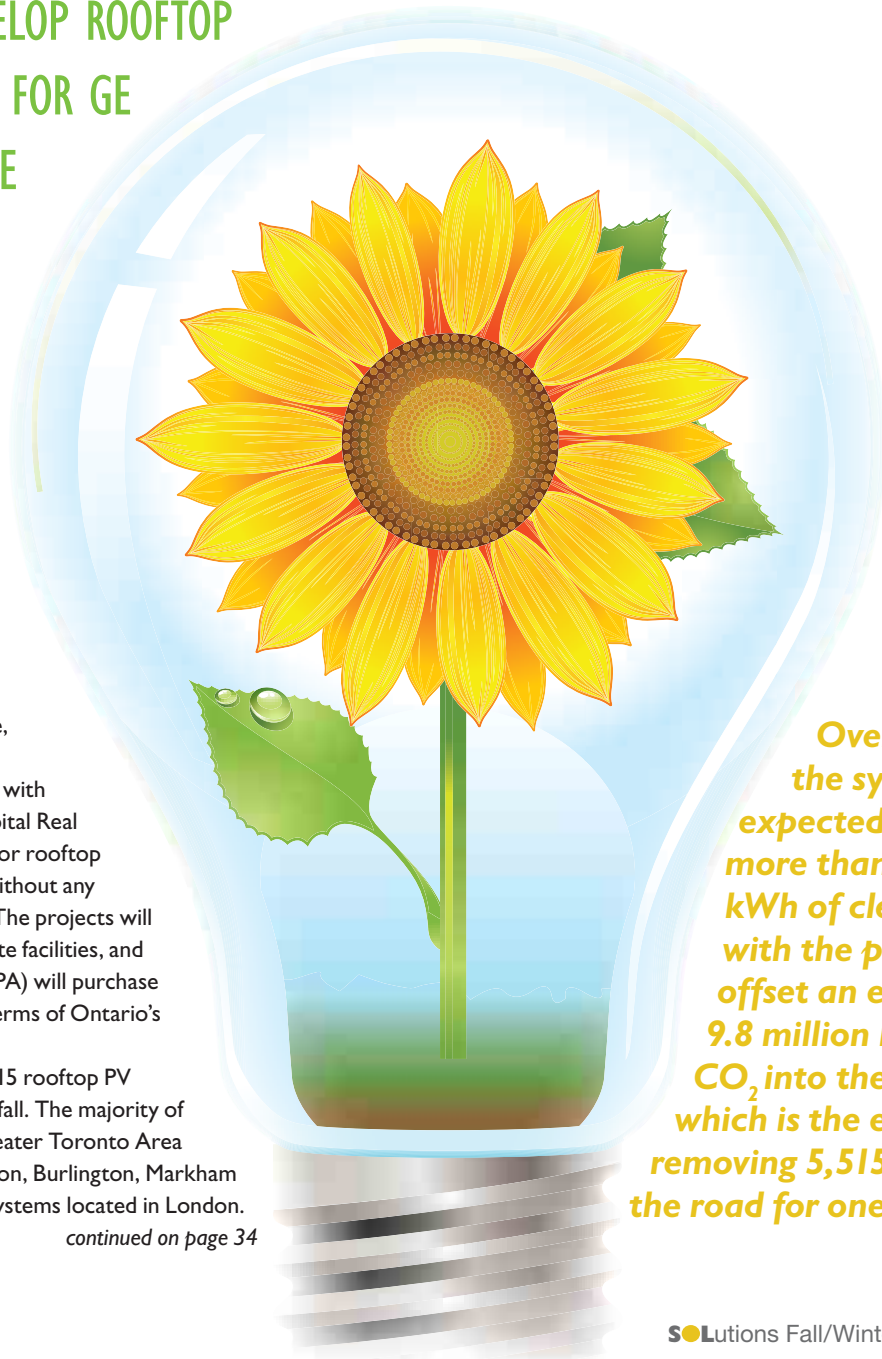
SUNEDISON ANNOUNCED IN SEPTEMBER

that it has executed an agreement to develop 15 industrial rooftop solar PV projects for GE Capital Real Estate, a global real estate investment company.

Under the terms of the agreement, SunEdison will finance, build, own, operate, monitor and maintain PV solar energy systems with capacity totaling 2.2 MW. GE Capital Real Estate will receive lease revenue for rooftop space allocated to the projects, without any upfront capital equipment costs. The projects will be hosted at GE Capital Real Estate facilities, and the Ontario Power Authority (OPA) will purchase the energy produced under the terms of Ontario's Feed-in-Tariff Program (FIT).

Construction on three of the 15 rooftop PV systems is expected to begin this fall. The majority of projects will be located in the Greater Toronto Area (GTA) including Vaughan, Brampton, Burlington, Markham and Mississauga, with additional systems located in London.

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Over 20 years, the systems are expected to generate more than 47 million kWh of clean energy with the potential to offset an estimated 9.8 million kilograms of CO₂ into the atmosphere, which is the equivalent of removing 5,515 of cars from the road for one year.

FEED-IN-TARIFF PROGRAM (FIT)

Ontario's Feed-In-Tariff (FIT) program for renewable energy generation is a cornerstone of the province's Green Energy Act. Under the program, participants are paid a fixed-price for the electricity they generate over a 20-year contract period. For more information, visit <http://fit.powerauthority.on.ca>.

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Over 20 years, the systems are expected to generate more than 47 million kWh of clean energy with the potential to offset an estimated 9.8 million kilograms of CO₂ into the atmosphere, which is the equivalent of removing 5,515 of cars from the road for one year.

"GE Capital Real Estate is focused on being at the forefront of environmental leadership in commercial real estate," said Kathy Lee, managing director at GE Capital Real Estate Canada. "Our partnership with SunEdison and the installation of rooftop solar arrays is an important step in meeting our sustainability goals."


"As the largest North American solar energy provider, SunEdison has a solid background in bringing solar projects to fruition," said Jason Gray, Canada country manager for SunEdison. "Working with GE Capital Real Estate and the Ontario government, our goal is to help build a greener tomorrow for Canada." ●



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SHINES

BEYOND ONTARIO, CANADIAN PROVINCES

have not yet capitalized on the potential of distributed rooftop photovoltaic generation to help with their green power and energy conservation objectives.

Patrick Bateman, CanSIA policy and research analyst, says the solar industry is faced with lack of knowledge when it comes to the value of smaller-scale – usually rooftop – PV generation, which can be connected directly to the electricity distribution system. A true appraisal of PV, he explains, needs to encompass the benefits of a power source that locates production at the point of consumption. This means new PV can both bump up the quotient of green power in a province's generation mix and, because it also reduces a building's electricity demand, offer the benefits of conservation.

"If it's looked at as just a generation technology, and you're comparing levelized production costs, it's more expensive than existing assets. But when you take into account the benefits from energy conservation, the reduced requirements for transmission and generation infrastructure, improved reliability in the local grid as well as job creation – when that occurs, provincial governments will be able to evaluate the true benefits PV has to offer."

This, in part, is the reasoning behind CanSIA's response to new green energy plans being worked out in Nova Scotia and British Columbia.

BC passed its Clean Energy Act during the spring 2010 session of the legislature. The legislation requires the province to reach electricity self-sufficiency by 2016 and go 3,000 GWh beyond that mark by 2020, by which time Crown-owned BC Hydro must meet 66

per cent of new power demand through energy efficiency and conservation. In addition, it requires 93 per cent of the province's electricity come from clean or renewable sources.

BC Hydro is also expected to secure long-term export sales and contract with renewable energy producers for supply. A government news release says the utility will "leverage new opportunities for growth in clean power technologies such as wind, solar and run-of-river across BC." At this point, though, it appears the province is more interested in PV as an example of clean power than it is in connecting it to the grid.

In August, the Ministry of Energy, Mines and Petroleum Resources issued a *Feed-In-Tariff Regulation Consultation Paper*. A significant highlight of the proposed FIT is an annual spending ceiling of \$25 million above the cost of acquiring the same amount of power through BC Hydro's Standing Offer Program (SOP), which contracts clean generation projects between 50 kW and 10 MW with regionally adjusted prices topping out at a little more than 8¢/kWh. It is also important to understand BC is suggesting a 5 MW installation cap and a maximum five-year FIT contract term. At the end of a contract, a participant can opt to sign a power purchase agreement at SOP rates.

The consultation paper clarifies that this approach is not intended to simply support power projects, nor

function as a power procurement tool – a role fulfilled by BC Hydro's ongoing competitive calls. Rather, it will advance a marketplace "employing technologies in the later phases of technology development and demonstration," while still "early in the product commercialization and market development phases." All this adds up to a formula that deems PV is not far enough along the economic growth curve. "The ministry does not intend to include solar electricity generation as an eligible emerging technology under a FIT," says the paper.

"They're working with old data and don't realize how quickly the industry is evolving," says CanSIA board member Dave Egles, a principal of BC-based Home Energy Solutions. "There are a number of things that guarantee PV is a viable option," he says, such as a 20-year track record of annual five per cent price reductions.

"The industry, globally, is growing at a rate of about 50 per cent per year, so manufacturing is getting cheaper while the products are getting better. That is not going to end."

CanSIA's written response to the BC consultation paper, says Egles, does not propose a FIT price for PV, although he believes Ontario's model of acquiring renewable generation at a price attempting to offer producers an 11 per cent return on investment is a good starting point. "We're saying,

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"The industry, globally, is growing at a rate of about 50 per cent per year, so manufacturing is getting cheaper while the products are getting better. That is not going to end."

— CanSIA Board Member Dave Egles

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look, there are all these benefits to using solar as part of the energy mix, and it should realistically be 10 per cent of incremental energy. We're asking, what is the rationale for coming up with a technology-specific FIT that diversifies your portfolio and recognizes the different costs for different technologies and excludes us?"

CanSIA is also pointing out BC could accomplish 10 per cent of its ambitious conservation goals at the same time as adding new carbon-free generation with distribution-connected rooftop PV. "The industry is ready with good quality products, 25-year warranties, solid proven technologies and rapid deployment," says Egles.

Meanwhile, in Ontario, one year following the fall 2009 introduction of the province's PV FIT, and four years after the launch of the Standard Offer Program, now replaced by the FIT, 5 MW of PV were operational in the under 10 kW microFIT category, and 49.3

Like BC, Nova Scotia... announced 40 per cent of the province's electricity supply will come from renewable sources by 2020, an allocation nearly four times that of 2009.

MW were in-service under the Standard Offer, which allowed projects up to 10 MW. And hundreds of megawatts will be installed in the next year from both the large- and small-project streams. At this point, Ontario does not have a PV goal, but the microFIT program has almost 20,000 applications representing over 180 MW of renewable capacity, and the vast majority of those are distributed PV projects.

Like BC, Nova Scotia introduced a renewable energy plan in the spring, when Premier Darrell Dexter announced 40 per cent of the province's electricity supply will come from renewable sources by 2020, an allocation nearly four times that of 2009. Also like BC, it is now consulting on a FIT that excludes PV. The Nova Scotia

plan relegates solar generation to a net metering program allowing projects up to 1 MW to export excess power to the utility at retail rates. Bateman says enhanced metering is a small step not likely to translate into real market activity and CanSIA has submitted a response to inform on the benefits of distributed PV generation. Still, he adds, "Even incentive programs with a small budget will go a long way to get the ball rolling."

"There are doors opening in provinces other than Ontario, but we need to continue to work to open them further. That's the key point. We're going to broaden this market outside of Ontario." ●

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First Solar, Inc., have achieved commercial operation of the 80 MW Sarnia Solar Project, making it the largest operating photovoltaic facility in the world.

The project complements Enbridge's significant and growing portfolio of green energy assets that includes interests in seven wind farms, a geothermal project, four waste heat recovery facilities and

a commercial application of integrated energy recovery and fuel cell technology.

"Our investments in green energy are an increasingly important part of Enbridge's business," said Al Monaco, executive vice president, Major Projects and Green Energy, Enbridge, Inc. "Over the last year, we added four new projects totaling \$1.5 billion, increasing our total

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SARNIA SOLAR ENERGY AT A GLANCE

- CAPACITY PEAK: About 80 MW of emissions-free power
- POWER PURCHASER: Ontario Power Authority
- FACILITY SIZE: Located on 950 acres
- PANEL SURFACE AREA: About 966,000 square metres, which is about 1.3 million thin film panels (First Solar)
- ANNUAL YIELD: About 120,000 MWh
- CO₂ SAVING: Over 39,000 tonnes per year
- JOB'S CREATED: About 800 jobs created at construction peak, as well as indirect benefits to dozens of businesses in the Sarnia area, including engineering and design firms, construction subcontractors, suppliers and service providers

continued from page 41

green energy investment to \$2 billion and establishing a solid platform for attractive and sustainable long-term growth with a risk-return profile consistent with our Liquids Pipelines and natural gas businesses.”

“At the same time, our green energy assets deliver strong environmental benefits,” added Monaco. “Enbridge intends to stabilize our environmental footprint at 2009 levels under a program that includes a commitment to generate a kilowatt of renewable energy for every kilowatt of power our operations consume. We will achieve this goal through projects like the Sarnia Solar Project.”

The total generating capacity (in operation and under construction) of the green energy projects in which Enbridge has invested is almost 850 MW, which is enough energy to meet the needs of about 292,000 homes.

First Solar, a leading manufacturer of PV solar panels and provider of solar solutions, will operate and maintain the Sarnia Solar Project for Enbridge

under a long-term contract. First Solar developed, engineered and constructed the facility, using its advanced thin film solar panels.

“Completing the world’s largest PV power plant demonstrates the migration of solar PV toward utility scale,” said Frank De Rosa, First Solar’s senior vice president of North American project development. “With this project, we expect to install 145 MW this year in North America.”

In addition to generating about 120,000 MWh per year of emissions-free power, the Sarnia Solar Project produces no waste and uses PV technology that was designed to create the smallest carbon footprint of any PV technology available. Enbridge expects the facility to generate enough power to meet the needs of about 12,800 homes.

Enbridge will sell the power output of the facility to the Ontario Power Authority pursuant to 20-year Power Purchase Agreements under the terms of the Ontario

government’s Renewable Energy Standard Offer Program.

Development of the Sarnia Solar Project aligns not only with Enbridge’s and First Solar’s objectives, but with those of the Government of Ontario.

“The Sarnia Solar Project is an example of the kinds of renewable energy projects that have been developed under the Government of Ontario’s Green Energy Act,” said the Honourable Brad Duguid, Ontario Minister of Energy. “Ontario can now boast the largest solar farm in North America – it is projects like this one that are making us a leader in renewable energy and helping us all move towards a cleaner energy future.”

“This is a significant project that not only helps power local homes and businesses with clean, renewable energy, but improves our air quality at the same time,” said Maria Van Bommel, MPP for Lambton-Kent-Middlesex. “I’m proud that a McGuinty government policy is helping Sarnia-Lambton take the lead on solar power.”



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First Solar manufactures solar modules with an advanced semiconductor technology and provides comprehensive PV system solutions. By continually driving down manufacturing costs, First Solar is delivering

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POINT OF LEADERSHIP

MUNICIPAL PILOT PROMOTES PV IN ALBERTA

THE CITY OF EDMONTON has launched a pilot program to help residential and commercial building owners install solar photovoltaic systems, and to evaluate the potential of a longer-term program.

"This is about the sustainability of our cities," says Mark Brostrom, director of Edmonton's office of environment. "We're not going to have measurably cleaner air because we put in 20 or 30 systems, but I think setting the stage for making that transition from fossil fuel energy to renewable energy is what we're looking at. That's important."

The program's \$200,000 budget will be evenly divided between residential and commercial applicants. At a rate of \$3 per watt, Edmonton will rebate up to \$9,000 of the cost of a residential PV system, and up to \$18,000 for a business. Brostrom expects to see the pilot fully subscribed and installations complete by early 2011. By spring, he says, the municipality as well as the company operating the city's distribution network, Epcor, will be analyzing results.

"This will likely double the amount of grid connected systems in the city in a fairly short time. We gave Epcor a heads-up, and

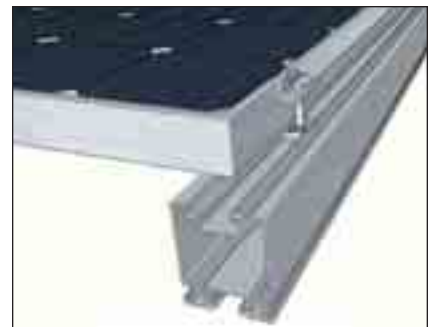
they didn't seem to think there were any major issues, but that's probably what we will both learn from this."

CanSIA member Gordon Howell of Edmonton's Howell-Mayhew Engineering consulted on the formation of the pilot and says it is "a fabulous point of leadership." He also believes the program is significant because of its location: Edmonton is the capital of Alberta.

"We need these kinds of programs so we can get the momentum out there, and get the awareness, so politicians will sit up and notice," says Howell.

Meanwhile, Enmax, a utility company owned by the city of Calgary, has stated its intention to launch an Alberta-wide program in 2011 that will put solar electric systems "in the homes of its customers at a significantly reduced cost." The program's goal is to install 8,300 PV modules across the province by 2016.

"We anticipate that the customer's cost of renting the equipment will be partially offset by the savings of not purchasing one hundred per cent of their power from the grid," says Enmax president and CEO Gary Holden. "It's a made in Alberta solution to deliver solar power to Albertans." ●

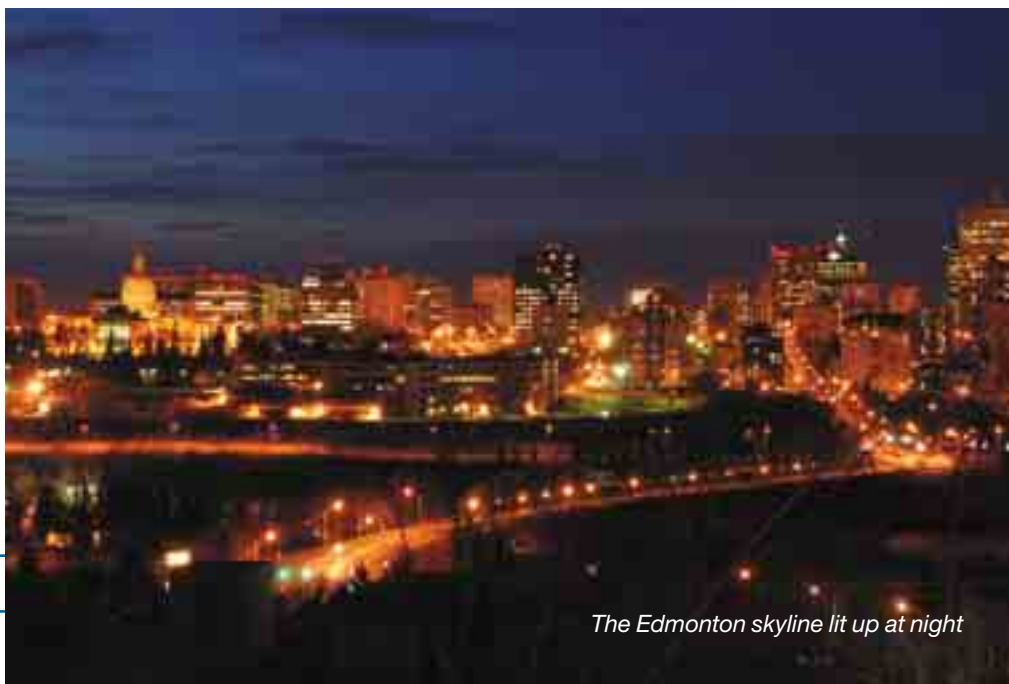


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The utility is taking advantage of Ontario's new Green Energy and Green Economy Act by earning revenue...

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- CanSIA maintains close contact with Environment Canada, Industry Canada, Natural Resources Canada, CMHC, the various provincial energy ministries and many municipal governments.
- CanSIA represents the industry during meetings with various agencies on standards, codes and regulations that affect the solar industry.
- CanSIA is actively involved in the monitoring and improvement of Ontario's Feed-In-Tariff Program.
- Various member committees are actively involved in dealing with current solar issues pertaining to many facets of the Canadian solar industry.
- CanSIA continues to work in cooperation with Natural Resources Canada and other stakeholders to monitor and improve the ecoENERGY for Renewable Heat program.
- CanSIA works in a network with Canadian Hydropower Association, the Canadian Wind Energy Association and the Canadian Geo-Exchange Coalition to jointly pursue and improve renewable energy policies in Canada.

“Future” Customer Support and Public Awareness

- Corporate and Supporter member listing in the *Canadian Solar Industry Directory* (available both as a searchable online directory with a link to your website and as a print version published annually while being widely distributed).
- The hundreds of public inquiries we receive each month about solar technologies and installations are referred to our industry directory.
- Through our publications and our website, we educate the public about the possibilities for solar energy.
- CanSIA has also been a key contact for the media as the main voice for the solar energy industry.
- A code of ethics for all corporate members and monitoring of business practices of our members increases consumers' confidence about our members.

Education and Training

- CanSIA is currently analyzing and exploring options with solar industry members and various stakeholders to improve solar installer certification programs in Canada.
- CanSIA developed the PV Technician program now being offered by Seneca College.
- CanSIA developed the “PV and the Electrical Code” manual and workshop.
- CanSIA introduced the Canadian Solar Hot Water System Installer Certification Program.
- CanSIA is working to update and expand current training programs in partnership with other solar industry members and various stakeholders.
- CanSIA offers annual workshops for plumbing inspectors on solar hot water issues.
- CanSIA offers solar training workshops throughout the year in different cities.
- Webpage dedicated to solar employment opportunities.

Marketing

- Through CanSIA, each and every member has the means to communicate directly to potential customers and other stakeholders via:
 - SOLutions newsletter
 - Solar brochures and fact sheets
 - Announcements on CanSIA's website
 - CanSIA's highly successful annual conference and trade show
 - *Canadian Solar Industry Directory* distributed at trade shows, etc.
 - Participation in CanSIA's externally funded projects

Additional Benefits

- Access to members' side of website including information on:
 - Industry news and issue updates
 - CanSIA internal operations and advocacy campaigns
 - CanSIA member committees and provincial caucuses
 - Solar industry opportunity notices
 - Members Only Forum
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Supporter III: Large non-profit organizations and educational institutions	\$400
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March 8–10, 2011

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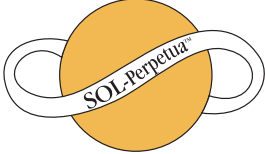
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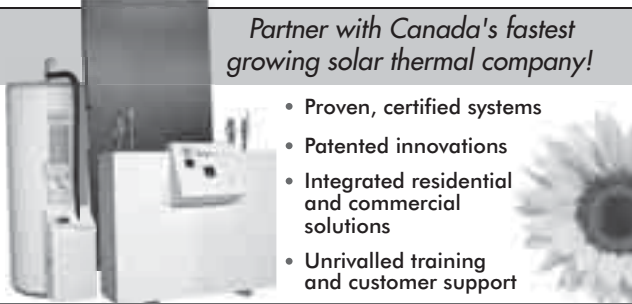
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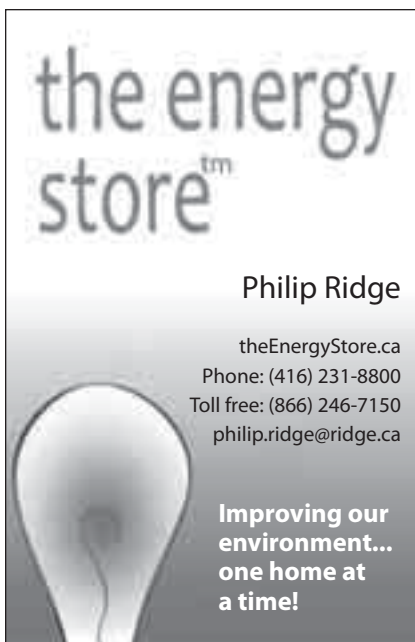
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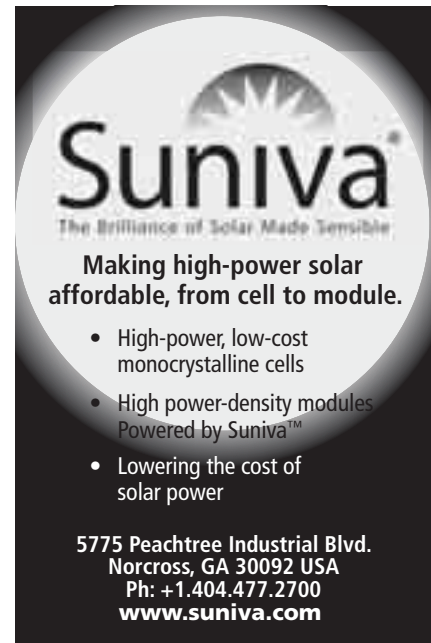
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