The magazine of the Canadian Solar Industries Association Spring/Summer 2012

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ON THE COVER: A high rise multi-residential SolarWall project. TCHC (Toronto Community Housing Corp.) Edwards Manor, completed last year (2011). Photo courtesy of TREC Renewable Energy Cooperative

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CanSIA'S NEW LEADERSHIP

ON MARCH 26, THE

Canadian Solar Industries Association welcomed John A. Gorman as its president.

Gorman comes to CanSIA from Sunlogics Inc., an innovative, global integrator of solar energy systems, where he served as Senior Vice President of External Affairs and Director (Canada). Prior to this he was a founding partner of PACE, a government and public affairs consulting firm focused on aligning the interests of the public and private sectors on matters pertaining to sustainable municipal infrastructure. He maintains his involvement in sustainable infrastructure issues in his continued capacity as Senior Advisor on PACE's Board of Advisors.

"We are pleased to have someone with the wealth of experience John brings to the table. His background in government relations and infrastructure are the right blend for the solar industry and the many small businesses that comprise CanSIA," said **Michelle Chislett, CanSIA Chair**. "Solar moves with rare speed and his drive and enthusiasm will help us guide members and work with the governments that are crucial to our success."

"I'm excited to have the opportunity to work on behalf of a membership whose work is close to my heart at this pivotal time in the development of the industry," said **John Gorman**.

"I have always admired the people who make up the solar industry – it still has that frontier feeling, an energy that people are willingly working together to create something in a field that is environmentally responsible and will have an impact on the future for generations to come."

By time of printing Gorman had only been with CanSIA a few weeks and noted his role had been primarily to listen and to learn about member priorities around both solar PV and solar thermal.

"As a national organization, CanSIA encompasses the entire country while presenting a face to the world," he said. "We must leverage the good work of the Ontario Government and nurture other provincial programs, such as those being developed in Alberta and Quebec, and taking those lessons learned across Canada. Equally key is keeping the industry front and centre on the international front."

Gorman's expertise in the energy sector began in 2000 with his appointment to the Board of Hydro Ottawa Holdings (2000–2003). More recently, he played a key role in the stakeholder engagement efforts associated with Ontario's Integrated Power Systems Plan (IPSP), and later the Feed-in-Tariff Program, through his work with the Ontario Power Authority (OPA). His corporate clients in the energy sector have included some of the most recognized and respected companies from Canada and abroad.

Throughout his career he has been actively involved in corporate and community organizations, including responsibilities as Director on the Board of Sunlogics Inc., World Trade Centres of Canada, Hydro Ottawa and the Ontario Sustainable Energy Association (OSEA).

He is the recipient of the "40 Under 40" business award for excellence in business practices. A strong advocate of sustainable policies and practices in all facets of community life, he completed The Climate Project training program led by Nobel Laureate Al Gore to spread the message about the challenges of and solutions to the climate crisis.

On March 26, CanSIA welcomed John A. Gorman, who comes to CanSIA from Sunlogics Inc.

He and his family and Ottawa-based home are proud participants in Ontario's microFIT program.

John Gorman welcomes comments from members as a way to further his education on the needs of CanSIA's diverse membership. He can be reached at the CanSIA office at (613) 736-9077, ext. 223, or by email at jgorman@cansia.ca.

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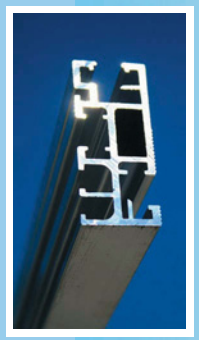

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WHO WE ARE

The Canadian Solar Industries Association (CanSIA) is a national trade association that represents approximately 650 solar energy companies throughout Canada. Since 1992, CanSIA has worked collaboratively with the Government of Canada, municipalities, provinces and territories to develop a strong, efficient, ethical and professional Canadian solar energy industry with capacity to provide innovative solar energy solutions and to play a major role in the global transition to a sustainable, clean-energy future.

WHAT WE SEE

By 2025, solar energy is widely deployed throughout Canada, having already achieved market competitiveness that removes the need for government incentives, and is recognized as an established component of Canada's energy mix. The solar industry will be supporting more than 35,000 jobs in the economy and displacing 15 to 31 million tonnes of greenhouse gas emissions per year, providing a safer, cleaner environment for generations to come.

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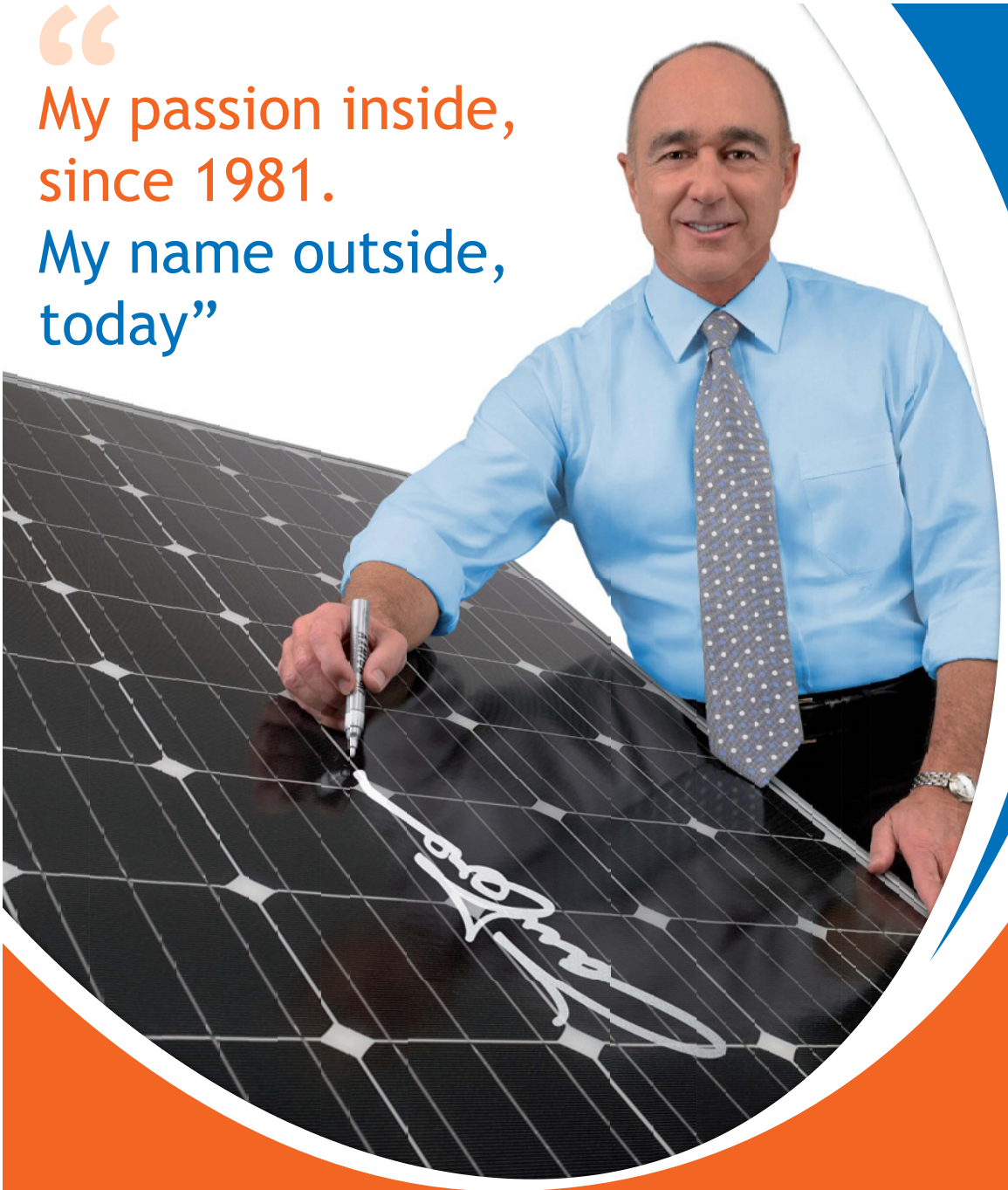

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REFLECTING RAPID CHANGE

ONTARIO'S FEED-IN TARIFF PROGRAM REVIEW

By Drew McKibben

THE TWO-YEAR REVIEW OF Ontario's renewable energy feed-in tariff program affirmed the province's solar electric supremacy, but microFIT and FIT's spring relaunch is accompanied by lower PV tariffs, new land-use restrictions and a more complex application process.

At time of printing the industry was still reacting to the Ministry of Energy's Ministerial Directive posted April 4 and the Ontario Power Authority Program draft Rules and Contracts posted April 5. CanSIA was consulting with its FIT Review working groups to gather comments to the OPA draft documents by the deadline April 27, 2012. Readers can find the final submission on CanSIA's website.

Changes to the overall program however were understood at a high level and members of the board took time to give their initial reactions.

"For North America, it's a relatively innovative program, and as a result there will always be tweaks and changes," says **CanSIA chair Michelle Chislett**, vice-president of solar development for International Power Canada. "While that poses uncertainty, for the most part those tweaks and changes should be welcomed as – hopefully, if done properly – improvements."

Chislett hesitates to call the new FIT an improvement for good reason. There are many changes, and some will take a while to be fully understood. While most FIT participants agree it's good to be on this side of the review and back in business, there is a lot of head scratching going on.

"From the association's point of view, I'm glad all the questions haven't been worked out," says Chislett. "It's frustrating, but it also means we have an opportunity for further consultation, to give further input and ask questions, rather than it all being tied up with a bow on top. We'll have insight as to how very important practical details get implemented."

At the top of everyone's list of important practical details is how to get a contract. First of all, if you've reached commercial operation through an executed FIT contract nothing has changed. If you've executed your contract with construction ongoing, the contract terms and tariffs still apply but construction completion may be subject to new land-use rules, which will likely turn head scratching into hair pulling. Finally, all applications not yet contracted are being returned along with security fees; you can resubmit under the new rules and tariffs, and the new application will bear a timestamp priority.

The new application process, indeed the FIT program, however, has been significantly altered by the government's decision to encourage participation by Ontario communities and First Nations. For example, of remaining FIT capacity – estimated at 1.2 GW of the 10.7-GW-by-2015 goal – 10 per cent has been set aside for projects having at least 50 per cent community or aboriginal participation. Additionally: if projects have at least 15 per cent community or aboriginal participation; if they are hosted or partially owned by a public education or health care institution; if they have a resolution of support from a municipal or First Nations council, they will be awarded points under a new application prioritization system.

With or without a FIT-1 timestamp, all applications will be ranked and given priority not only by time of submission, but also by points. Three points will be achieved through the aforementioned community or First Nations equity involvement; institutional involvement wins two points, as does a resolution of support. Project readiness will get you one point, and this is the minimum you need to get a contract at all.

"There's quite a bit of apprehension about this right now," says **CanSIA board member Bob Waddell**, who is the Sponsoring Board Director of the association's Ontario PV caucus and is general manager of Centrosolar Canada. He says the new tariff rates, on the whole, are workable; how to get a contract and get connected, on the other hand, is harder to calculate.

"There is certainty around pricing now, so we can work on financial models. We can carry on now and try to make the numbers work, but with this point system we don't know when or if we're going to be able to proceed."

> "From the association's point of view, I'm glad all the questions haven't been worked out. It's frustrating, but it also means we have an opportunity for further consultation, to give further input and ask questions, rather than it all being tied up with a bow on top. We'll have insight as to how very important practical details get implemented." — CanSIA chair Michelle Chislett

The point system is a way for the province to deal with mounting pressure from Ontario municipalities, which want more say over development. The 2009 Planning Act amendments that essentially eliminated municipal rights to determine if and where renewable energy projects will be built, remain in place. But the renewable energy approvals process will be revised to facilitate greater municipal input, says the Two-Year Review Report. A "contract launch meeting" with the developer, municipality, utility and provincial government is now mandatory.

The changes are a step in the right direction, says **Gary McNamara, president of the Association of Municipalities of Ontario**, and should "have the effect of gravitating green energy projects toward communities that support them."

Sarah Simmons, CanSIA's Ontario PV caucus chair, and senior associate of Sussex Strategy Group, also thinks the reorientation of FIT to accommodate municipalities, communities and First Nations is a good thing, saying there will be less opposition to projects in the post-contract phase of development.

"This program is trying to fulfill multiple objectives," says Simmons. "Obviously, the objective of bringing on renewables and modernizing the grid, but it's also an economic program, and they want to do this in a way that does not create opposition from municipalities and communities. In my view, this is how they're attempting to balance all these different objectives."

The review points to the need for "municipalities to play a greater role," and the government will therefore "clarify and strengthen project siting rules to ensure responsible project development." The potential result is a prohibition of all solar

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* Photo courtesy of Guelph Hydro. ** Photo courtesy of Sky Power Limited.

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ground-mount in or adjacent to residential areas, and projects will only be permitted in commercial and industrial areas if power production is a secondary use. To "enhance protection of agricultural lands," ground-mount solar over 10 kW is proposed to be prohibited on agricultural lands with class 1, 2 and 3 soils without exception. And "protection," says the document, will also be extended to organic and mixed soils.

"We've heard very clearly from members that they don't agree with this change of policy," says Simmons.

Simmons, like Chislett, is focused on the iterative and collaborative nature of the FIT program. How much room there will be to negotiate revisions to the new agricultural land-use rules, though, remains to be seen. No matter the outcome, both women agree, in an industry evolving as rapidly as grid-connected PV generation, companies must be ready to adapt and work with government.

One thing no one seems to believe will change, though, is the declining cost of PV generation, which is reflected in the new FIT rates. An important message for all of Canada in the review, says Chislett, is PV is becoming more affordable.

"The fact that solar is continuing to move toward grid parity is a positive message," she says. "As other jurisdictions look at ways to procure renewables, specifically solar, they're seeing the price is going down. That's good news. The caveat is, as an industry association, we need to analyze this to make sure these prices won't stall project development, but I don't think they will."

The only FIT-rate changes that really raised eyebrows are microFIT tariffs. Through the Ontario Power Authority (OPA), microFIT acquires supply from renewable systems no larger than 10 kW, and 99 per cent of applications are photovoltaic. MicroFIT rooftop PV earned 80.2¢ /kWh before the review but now gets 54.9¢, and ground-mount PV was reduced to 44.5¢ from 64.2¢. For both, this is about a 31 per cent reduction. Essentially, the review says these cuts reflect the lower costs to participants.

"Ontario has successfully created a domestic renewable energy sector of sufficient size to drive economies of scale and lower prices," says the report.

Waddell believes reduced microFIT rates may actually represent a fundamental shift in the program. In spring 2007, Premier Dalton McGuinty took aim at homeowners with a $150-million collection of programs to increase energy efficiency and adopt renewable technologies; solar energy was an important part of this plan. Building on this initiative, microFIT has been very successful.

On the plus side, though, both microFIT and FIT should benefit from a more efficient, streamlined regulatory process. The province is creating a special renewable energy committee to help ministries reduce the duplication of regulatory requirements and improve

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service, "shortening the application process by up to 25 per cent," promises the review.

MicroFIT, however, has technical interconnection problems that cannot be resolved through regulatory processing. More or less, these problems reside on the rural electricity distribution system owned and operated by Hydro One Networks. The company, a subsidiary of Crown-owned Hydro One Inc., has the largest distribution system in Ontario and contends it cannot accommodate all the microFIT-related interconnection applications coming through its door, or at least not in a timely way. The backlog of hopeful applicants and contract holders is in the thousands.

"As a priority," says the review, the OPA is expected to work with Hydro One to implement an offer to relocate constrained microFIT contracts to where they can be connected. Ultimately, though, CanSIA is looking for a real solution, one that will assist thousands of Ontarians waiting to simply install PV modules.

"We're still going to work with Hydro One to understand its connection requirements," says Simmons. "Another thing that's interesting in the two-year review report is there is a nod to implementing smart-grid infrastructure to enable connections, so I'm hoping those aspects of the review are taken very seriously by Hydro One and others. We need to continue to work on ways to improve infrastructure, implement smarter technologies and increase the ability to connect renewables."

FIT PV prices, of course, have also been reduced. In fact, looking at a table of all the new FIT rates, one could say the review of tariffs was really all about cutting solar prices. The wind energy tariff was cut by just less than 15 per cent, and the various rates for five other renewable technology categories are unchanged. In addition to

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microFIT PV cuts, though, seven other rooftop and ground-mount PV rates were reduced by an average of 18 per cent.

While these reductions were not terribly unaligned with industry expectations, it seems certain the new rates and rules will narrow the breadth of the Ontario solar industry.

"I'd say the FIT review is a milestone, and I'm fairly certain it will work," says Waddell. "I think what we'll see is players, within the business in Ontario now, leave, everything from module manufacturers and equipment suppliers to installers. For better or worse, it's part of a process, the evolution of an industry. A lot of people jumped into this. It was a very aggressive feed-in-tariff to start with. It has been trimmed down, and as people's efficiencies start going up and margins come down, that will force some people out of the business. I think we're going to see some of that now."

This, by the way, is the last FIT two-year review of FIT prices, since it will now be an annual event. The next price review is already scheduled to begin this fall. Revised prices will be published in late 2012, coming into effect January 1, 2013.

"I think it's good they'll be looking at the price on an annual basis, because the market will change very quickly," says Chislett, adding this means rates at the time of application may be higher than at the time of contract.

Simmons says two years was too long to leave PV tariffs unadjusted and that the 2013 cuts should be less dramatic. The freeze in renewable energy procurement concurrent to the review is another thing the Ontario PV caucus hopes to change. "One thing CanSIA will be saying to the government, and I think the government understands, is you cannot stall the program while doing a price review.

"It's an evolving program," she says. "If things aren't working out in this iteration, I get the sense that the government remains committed to this initiative and wants to see it work. If it's not working, we go back."

> "One thing CanSIA will be saying to the government, and I think the government understands, is you cannot stall the program while doing a price review. It's an evolving program." — Sarah Simmons, CanSIA's Ontario PV caucus chair

Feature

PLANTING SEEDS for SOLAR

ALBERTA OFFERS SOLAR PV INCENTIVE PROGRAM TO FARMERS

By Nick Gustav

FARMERS IN ALBERTA HAVE long been top producers of beef, barley, wheat, canola and corn, and in the coming years, a growing number hope to add another product to that list – electricity.

Early in the year, the provincial government launched its *Growing Forward Solar PV Pilot Program*, which provides financial support to farmers who install grid-connected, photovoltaic solar electricity systems of at least 2.2 kilowatts.

The Alberta Department of Agriculture and Rural Development will collect data through the program to determine whether small solar PV systems are wise investments for local farmers. The data will be used to create educational materials showing farmers how much electricity they can expect to produce for a given investment as well as any operational and maintenance costs.

"We're trying to get this information for our farm clients so we can advise them whether solar makes sense for their operations, whether or not there are incentives available," said **Kelly Lund, a research engineer** who runs the program for **Alberta's agriculture department**. "We want to gain that knowledge in house so we can give that advice as opposed to always referring clients to outside research.

"Solar provides some environmental benefit by potentially reducing greenhouse gas emissions, and it might go as far as providing cost savings for producers on their farms. We would like to get some hard numbers surrounding that. We know in general that solar technology works. The technology continues to

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improve, but we want to see some numbers with it operating on farms in our area."

The financial support available to farmers is based on the size of their proposed solar systems. The funding formula provides for $2.50 per watt from 2,200 to 3,000 watts, plus $2 per watt from 3,001 to 6,000 watts, plus $1.50 per watt beyond 6,000, with a maximum grant of $19,500. That maximum corresponds to a 10-kilowatt system, which, at $5 per watt, might cost $50,000 to install.

Farmers who install the minimum qualifying unit, 2.2 kilowatts, will get $5,500.

Brent Harris, the **chief technology officer** at Calgary-based **Sustainable Energy Technologies**, said the program will help provide a local market for his company's SUNERGY low-voltage PV inverters.

"We think it's a great program," Harris said. "It's a good place to start. Farmers are often early adopters of solar because they take a long-term view of their operations and their finances. They can now invest in reducing and stabilizing their energy costs. It's a pilot program at present, and we expect it to grow into a real, continuous program, and we expect a high take-up rate by farmers."

The program is open to farmers who produce at least $10,000 worth of agricultural products each year. They first must fill out a form seeking a site assessment from the agriculture department,

10kW system installed at an irrigation pivot and grain drying facility near Picture Butte, AB. Photo courtesy Sustainable Energy Technologies.

> "Farmers are often early adopters of solar because they take a long-term view of their operations and their finances."
>
> *— Brent Harris, chief technology officer, Sustainable Energy Technologies*

which ensures that the proposed site gets adequate sunlight. Applicants also must provide copies of their electricity bills for the past 12 months.

"Our assumption is that the majority of people will have at least some area on their property that will be fine for solar, so we're expecting that very few people won't make it through the assessment portion," Lund said.

After the site is approved, farmers can apply for a solar PV grant. Applicants must provide the specifications of their proposed solar installations, and once approved, they'll typically get a cheque within several weeks, Lund said. Participants then have six months to complete the project or risk having the grant money taken back.

Alberta's farmers have quickly embraced the program. After launching it Jan. 30, the agriculture department announced Feb. 9 that it had already allocated all the money set aside for site assessments in the fiscal year that ended March 31. The department kept a waiting list open for several weeks before closing it Feb. 27. Another application period was scheduled to begin at the start of the current fiscal year April 2.

Lund said her department was scheduled to do 20 assessments from the first pool of applicants. There are about a dozen names on the waiting list, and they were to get first consideration when the program reopened April 2. All told, Lund said she expected the available funds to be applied to 10-15 projects for the fiscal year that ended March 31, 2012 and 20-22 projects for the 2012-2013 fiscal year.

"We weren't quite sure what to expect in terms of the level of response, but we had huge, huge interest," Lund said.

The Growing Forward agricultural program is a $1.3 billion, five-year partnership between the Canadian and provincial governments aimed at making Canada's agricultural industry more profitable, innovative and environmentally conscious. The program ends March 31, 2013, so the future of Alberta's solar PV pilot program is uncertain.

Harris said it's important for his company that some form of permanent incentive program be put in place.

"To be a manufacturer here in Alberta and to have a home market makes a big difference for us," he said. "It makes it a lot easier to talk to people in the community and our investors about what we're doing when they can see it happening locally."

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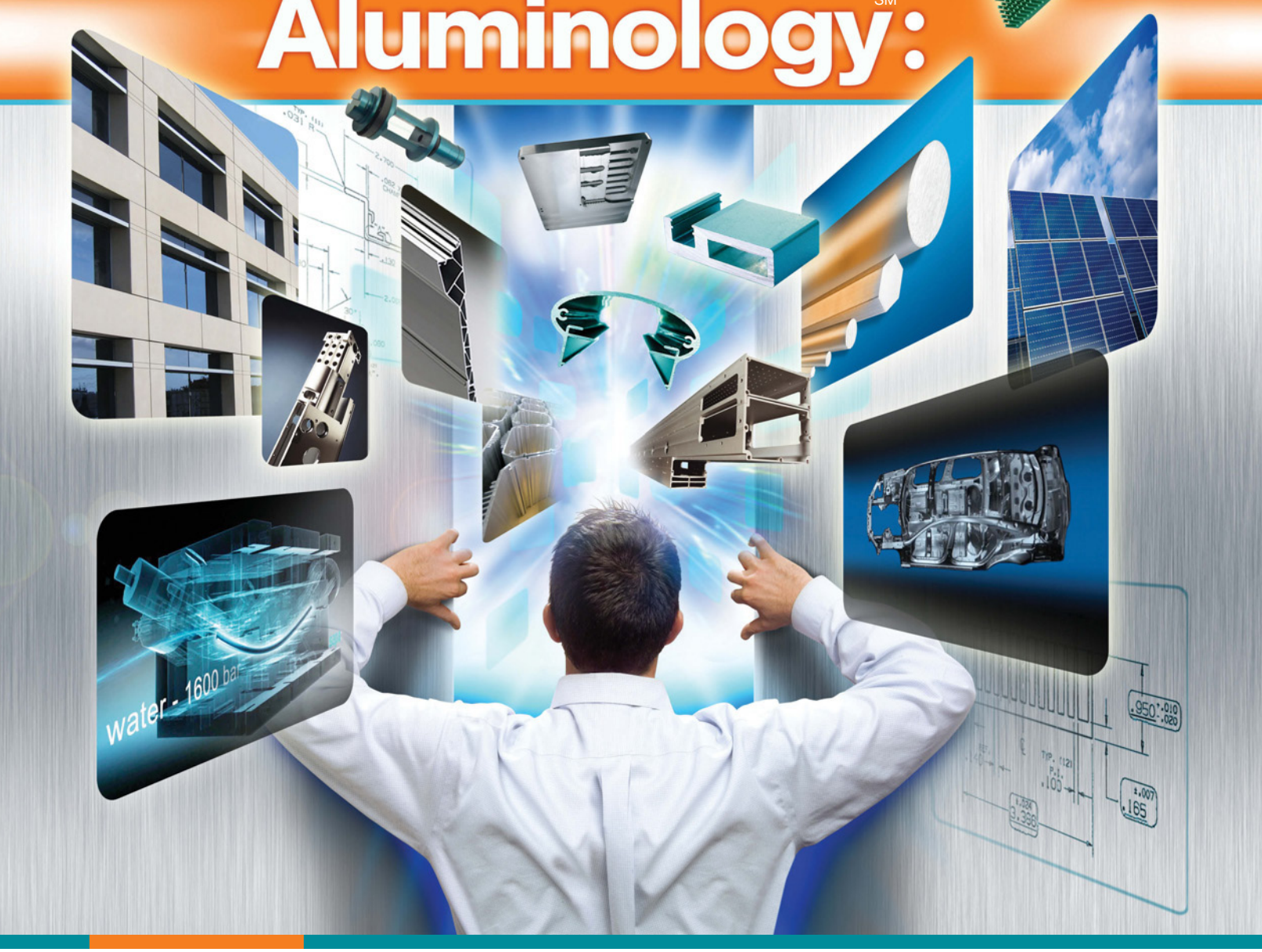

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ONTARIO MINISTRY OF LABOUR RELEASES *ENFORCEMENT POSITION*

IN MARCH THE ONTARIO Ministry of Labour (MOL) released its *Enforcement Position* regarding the installation of solar photovoltaic modules. There was little fanfare, but to the solar industry it marked a major step in ensuring the safety of installers and the health of the industry.

CanSIA played a key role in addressing the concerns of the membership regarding the *Enforcement Position* and the impact changes would have on the industry. Meetings were held with the Assistant Deputy Minister and senior staff at MOL, senior staff from the Training Colleges and Universities (MTCU), the Electrical Safety Authority (ESA), and the Ontario Colleges of Trades (COT). Participants representing CanSIA included **Bob Waddell as Sponsoring Board Member to the Ontario PV Caucus)**, and several CanSIA members: **Steve Eng, P.Eng**. (Enviro-Energy Technologies), **Blair Beesley** (Solsmart), **Mike Vance** (AGT) and **JP Pawliw, P.Eng**. (Generation Solar) as well as

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Wes Johnston, CanSIA Director of Policy and Research.

After much discussion between CanSIA and various Government Ministries, the association is very pleased with the MOL's *Enforcement Position* that addresses both safety and industry implications. The *Enforcement Position* sets out the guidelines and qualifications needed to install solar PV modules in Ontario for both electricians and non-electricians.

CanSIA highlighted the following to the industry when it issued an update following MOL's publication of its position: *non-electricians are still able to perform module layout and the module-to-module 'touch-safe' and 'factoring installed' connections PROVIDED they demonstrate the work is performed and supervised by a 'competent person' and all workers must be able to demonstrate that they have been trained and are aware of the hazards associated with the work*.

As defined by the Ontario "Occupational Health and Safety Act and Regulations" for construction project, a "competent person" means a person who:
(a) Is qualified because of knowledge, training and experience to organize the work and its performance;
(b) Is familiar with this Act and the regulations that apply to the work; and
(c) Has knowledge of any potential or actual danger to health or safety in the workplace.

To meet the regulations all non-electricians must be able to prove they have taken and understand the safety training courses as outlined in the *MOL* letter. All solar PV module installers must know and understand ALL of the related 'safe working procedures' outlined. Installers will need to demonstrate they understand the PV module technology and the safe installation of that equipment. Specific solar PV training and experience is considered a strong asset, but the demonstration of knowledge is the essential point.

As in the past MOL and ESA inspectors will investigate installation sites questioning workers on site to determine if they understand all the safe working procedures and all the elements of installing a solar PV module system. The MOL letter, however, brings a heightened awareness of the health and safety requirements for solar PV installers and a better understanding on behalf of the industry that these requirements will be strictly enforced.

Work continues on the part of CanSIA with various Ministries to ensure safe work procedures for all workers involved in solar PV installation, construction, maintenance, etc. At the end of the day it is all about safety and ensuring everyone makes it home safe.

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Photovoltaic Modules

With respect to work involving solar panels covered by O. Reg 213/91 (construction projects), it is the interim position of the Construction Health and Safety Program that:

1. Work shall not be undertaken on solar photovoltaic systems (solar panels) unless specific training has been provided to a worker or a person in authority over that worker on any hazard in the work involving solar panels. Employers have a duty to ensure that a worker has received training that is adequate to protect a worker's health and safety while undertaking the work (sections 25(2)(a) and 25(2)(d) of the OHSA). Training is available from multiple providers, and is being comprehensively reviewed by MTCU and MOL.
2. MOL inspectors will ensure that workplace parties comply with the Occupational Health and Safety Act and regulations and will make certain that workers received adequate training in the hazards of the individual project and situation at the time of their field visit. Depending on the specific hazards, this training may include some or all of the following elements:
   - Fundamentals of electrical hazards;
   - Fall protection requirements in the use of fall protection equipment;
   - The safe handling, use and transport of materials;
   - The safe use of ladders;
   - Hazards and controls while working on slope roofing;
   - Hazards and controls while working at the edge of the roof;
   - Hazards and controls while working around covered skylights;
   - Pre-installation checks and emergency plan and first aid.
   - As well, the work must be adequately supervised to protect the health and safety of the worker. When appointing a supervisor, employers have a duty to appoint a competent person (section 25(2)(c) of the OHSA).
3. Where Ontario regulations require specific trade certification (i.e. electrician) the Ministry of Labour will be enforcing these requirements on construction projects.

The MOL will continue to work with stakeholders to ensure workers' health and safety is protected.

Note: The MTCU supports MOL's interim policy, March 1, 2012.

Ontario Labour Hearing rules in Solar's favour

CanSIA played a key role providing an industry focused submission to the Ontario Labour Relations Board regarding the appeal by the International Brotherhood of Electrical Workers and the Ministry of Labour that would have required all module-to-module 'touch safe' connections be installed by electricians. The impact would have hit hard in Ontario and set a precedent that could have spread across the country. The OLRB noted that CanSIA's submission helped illustrate the far reaching impact of the matter, and dismissed the Union's appeal.

The outcome is very favourable maintaining that non-electricians are still able to perform the PV module-to-module 'touch safe' connections provided they have proper technical, health and safety training.

The OLRB was charged with deciding whether a convenience receptacle of an "MC4 Plug In Connector" is actually a 'convenience receptacle' within the Ontario Construction Project regulations. If not, the argument by IBEW was that only certified electricians or apprentice electricians could connect an MC4 connector.

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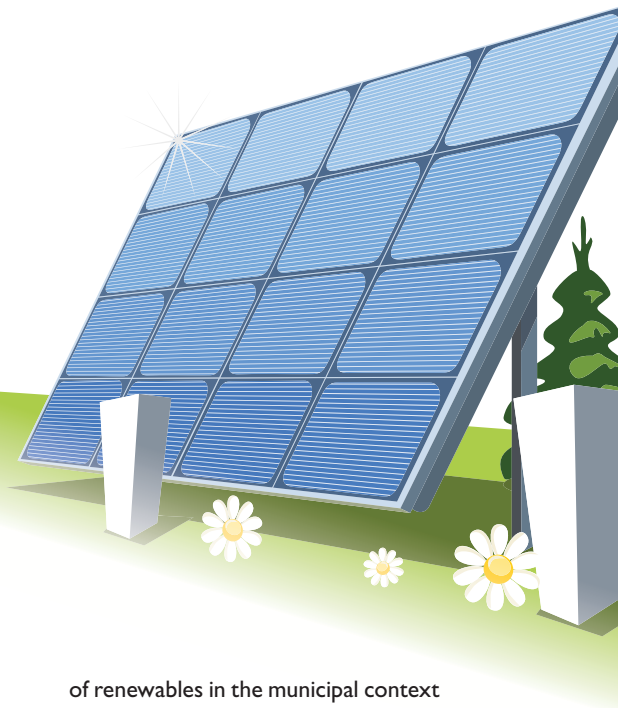

By Drew McKibben

CANADIAN MUNICIPALITIES HAVE A dawning awareness of their significance in the deployment of solar technologies, and municipal leaders are proving how vital the role of local government is to the success of the photovoltaic and solar thermal industries.

"Municipalities are driving initiatives that are not just focused on their own building stock," says **CanSIA board member Heather MacAulay**, president of Nova Scotia-based My Generation Inc. "They're looking at improving sustainability and reducing energy consumption within their communities at large."

By initiating a dialogue with municipalities, says MacAulay, CanSIA may increase the focus of solar energy within new municipal programs, "and hopefully get more solar installed in every community."

MacAulay and fellow **board member Ron Mantay**, vice president, Engineering and Construction, Powerstream Solar along with **CanSIA Policy and Research Advisor, Patrick Bateman**, represented CanSIA at a Federation of Canadian Municipalities (FCM) webinar, where online delegates logged in to engage with renewable energy experts. Billed as a discussion "on the realization of renewables in the municipal context as well as the potential challenges in their application," the 90-minute event also had representatives from the bioenergy and geoexchange industry associations.

Half of the 82 webinar participants were staffers from Canadian municipalities, and nearly 15 per cent of the total were elected officials. Another 15 per cent were from private sector companies, and the remaining 20 per cent was equally divided between federal public sector and

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non-profit organizations. Geographically, the only province not represented was Newfoundland and Labrador.

No one from FCM was available for an interview, but an email response said "Discussions and questions related to the performance of various technologies against technical specifications, and in real-world applications, and how these energy sources can be further mainstreamed as part of the public energy mix."

The city of Colwood is a good example of this. Representing a population of about 15,000 people living in 6,000 households near Victoria on Vancouver Island, Colwood city council amended its community plan to include a greenhouse gas reduction target of 33 per cent below 2007 levels by 2020, and a reduction of energy use by 14 per cent in the same period. This is a voluntary plan to move the whole community toward energy efficiency and carbon neutrality, as well as a host of other sustainable practices, while the population is steadily growing. As you might expect—but surprising too because the plan will only cost Colwood taxpayers a total of $5 each in the next three years—it was a contentious issue in the 2011 municipal election.

"Yes of course, it was stressful," says re-elected **council member Judith Cullington**, a champion of the multi-faceted environmental community plan now known as Solar Colwood. She believes the community understands "why we're doing this and what the benefits are."

Cullington had a solar hot water system installed on her home recently and told local reporters she would use the energy cost savings to pay for the system, which also increases the value of her home. "This is part of my retirement plan. I'm buying hot water for the future," she quipped in the *Goldstream Gazette*. Council chamber discussions, though, had more gravity.

"The question came," Cullington told *SOLutions,* "how on earth do we do this?"

It was "serendipity," she explains. Council "noticed" the Federal Government's Clean Energy Fund had issued a call for proposals. Natural Resources Canada wanted to invest in large-scale carbon capture and storage and smaller-scale demonstration projects of renewable and alternative energy. With a successful proposal and $3.9 million in

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federal funding, Solar Colwood came to life, attracting further investment from the provincial government and Crown electric utility, BC Hydro.

"What we're trying to do is start homeowners off on getting an energy assessment on their homes, and find out the whole package of stuff they should be doing just because it makes good economic sense," says Cullington. "There are things that have a shorter payback, but we're using solar hot water as a hook to encourage people to do a whole bunch of stuff."

One of Solar Colwood's hard targets is 880 solar hot water systems installed by early 2014, encouraged by an installation rebate pancaking contributions from all levels of government, descending over time. Depending on system size and time of installation, says Cullington, participants will get somewhere between 30 and 50 per cent of their costs recovered.

"We're really trying to test how these ideas spread through the community, what does it take to get whole-community change?" she asks. "I have this vision where, a little way down the road, people will be walking around Colwood asking what on earth is going on, what are all these things going up on roofs? When we get past that, people won't even notice them anymore. They'll be so normal."

CanSIA is involved in Solar Colwood through the association's training and installer certification program. The municipality helped a dozen people from the neighbouring Sooke First Nation go through the program and most, says Cullington, have completed the required number of installs to achieve certification.

Wawa Generates PV Revenue

CanSIA—by offering itself as an abundant source of information—is also helping the municipality of Wawa, Ontario. With a population of 3,000, it recently became a solar generator, selling electricity to the Ontario Power Authority (OPA) from a 64 kW photovoltaic system. Its solar motivation—as a community dealing with the economic challenge of regionally diminishing forestry and mining activity, and a shrinking population—is very different from Colwood.

"The inspiration for this project is having to continually think outside the box to come up with non-taxation revenue," says **Wawa chief administrative officer Chris Wray**.

Wray also uses the word "serendipity" when describing the alignment of circumstances that lead to Wawa's solar plan. "This opportunity would never have arisen if there was not a push on for a greener environment and the need for producing energy from greener sources. We cannot continue to rely on coal and oil and natural gas. In this case, necessity might have been the mother of invention on a broader scale, but for us it's really about looking after our ratepayers."

Last November, Wawa began feeding the grid from five rooftop installations, all earning a little more than 80 cents per kilowatt-hour through Ontario's feed-in tariff program: a uniquely Ontario opportunity. Like Colwood, though, Wawa lined up federal funding for its plan. The municipality used $136,000 of its Federal Gas Tax Fund allocation toward installation costs. The feds collect billions every year in excise taxes on gasoline, diesel and aviation fuel, which can be used for capital projects, including energy projects, at the municipal level. And the Ontario Infrastructure and Lands Corporation loaned the municipality the balance of the project's cost, another $319,000.

"I'm looking at a spreadsheet I did based on 20-year projections, and we are going to do quite well," says Wray, explaining for the first 10 years of the 20-year OPA contract, Wawa will net more than $16,000 a year. From year 11 to 20 projections show a net cash of $53,000 per year.

"Over the first twenty years we will net a total of $691,768 and reduce greenhouse gases by 1,129 tons in 25 years," he adds.

"We're planning other projects right now," he says. "We're looking at probably another four or five. Another thing we're doing is contacting other smaller municipalities in the area, about 200 km out from Wawa, to see if we can partner with them, either leasing roof tops or simply administering the program for them and taking a royalty back. We may also do that with some other public-sector organizations, like school boards right in Wawa."

The two scenarios of Colwood and Wawa are playing out on some scale just about everywhere in the country, says MacAulay, and CanSIA caucuses and working groups in every region are looking at the issue of municipal engagement.

"Municipalities are taking a lead on climate change, energy, and sustainability issues. Globally people are thinking local—when severe weather events attributed to climate change happen it is municipalities cleaning up, adds MacAulay.

"Municipal infrastructure is made to last 50 years or more and projections are that "rare" events will become more common in that time. So while they design infrastructure that includes appropriate adaptive measures they are also taking action to modify the built environment in such a way that may mitigate climate change."

"Also, when it comes to buildings, in a large part of the country municipal buildings must design to a set level of energy efficiency to secure provincial funding for new construction or significant renovations. Solar heating and solar PV are increasingly part of municipal strategies to achieve those energy efficiency goals," she concludes.

Brent Harris is Chief Technology Officer at Calgary-based Sustainable Energy Technologies.

"As we go around Alberta we see a lot of interest at the municipal level, but everybody thinks energy is a provincial matter."

Alberta's energy department, at the moment, is in the process of developing an alternative and renewable energy policy. Officials are gathering information in the process of writing a white paper for cabinet review. Once approved, the paper will form the basis for broader public consultation, with a new policy in place before 2013, says **ministry spokesperson Christine King**.

"Our plan is to do more consultations with industry this summer, and probably a little bit with the public, and that would include municipalities," she says. "At the end of the day it will be solar panels on a building or a home within a municipality, adhering to municipal laws and policies."

At this point, no one expects Alberta will develop a feed-in-tariff, and King cannot venture an opinion on what a renewable policy will look like in the heartland of Canada's fossil fuel industry. But Harris, through the provincial consultation process, says his working group has advised solar energy and distributed generation is a municipal-level technology. "It gets into the built environment," he explains.

"We brought the message to the provincial government to put in a program, and the main thing you need to do is empower the municipalities to drive deployment. If you can provide them some funding or adjust the regulatory environment so it helps them, you'll see municipalities pick up the ball and move it forward."

Medicine Hat Harnesses the Light

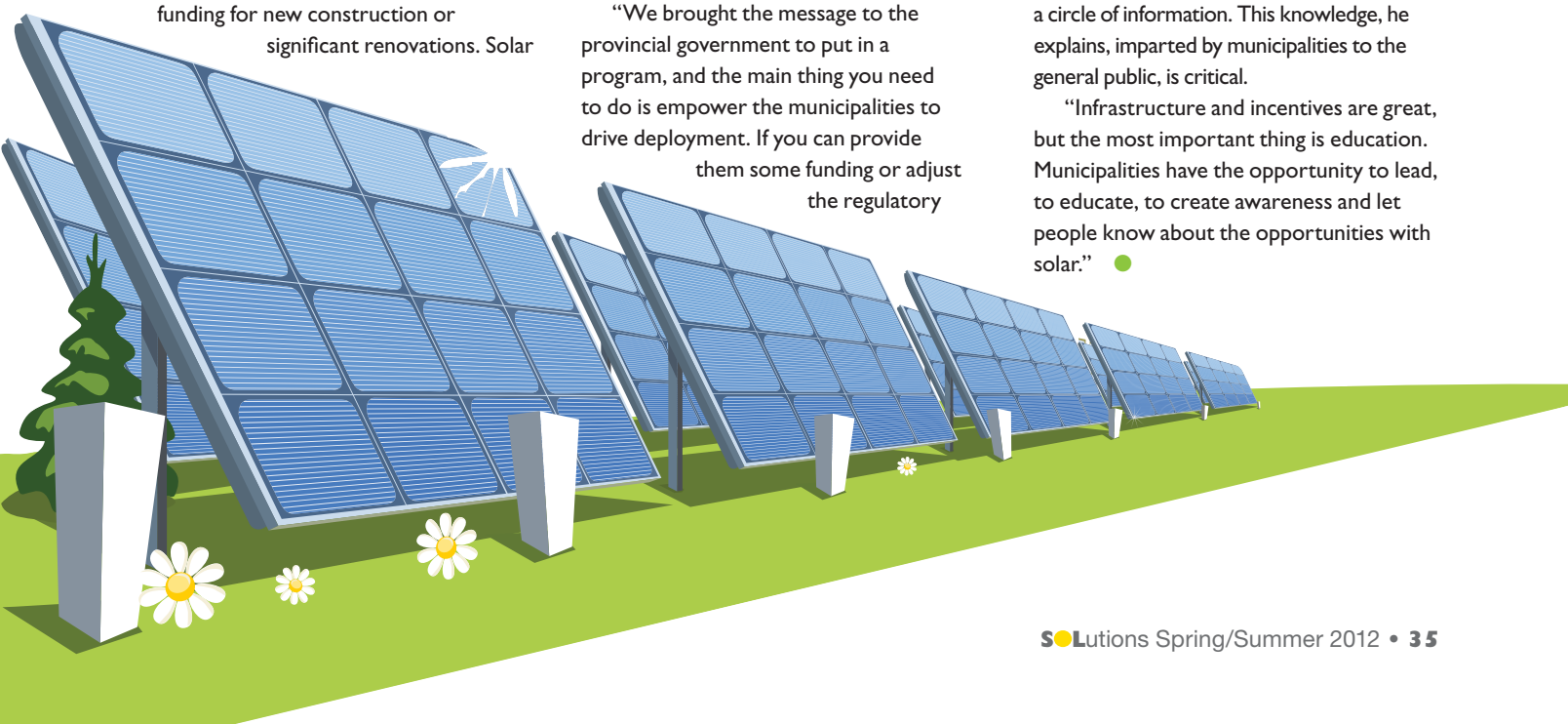
One of the country's most interesting examples of municipal solar development is in southeastern Alberta, where the City of Medicine Hat has offered residents PV and thermal incentives, funded by the municipal government, since 2008. Medicine Hat has two self-proclaimed monikers: located on significant natural gas reserves it is the "gas city," and receiving more annual sunlight than any other place in the country it is "Canada's sunniest city."

"We have one of the highest," says **Jonathan Seib, spokesman for the Economic Development Alliance of Southeast Alberta, "**solar PV potential in the country, at more than 1,400 kilowatt hours per kilowatt installed." The non-profit development agency is funded by the City of Medicine Hat and guided by municipal, academic and business leaders. Seib says the group recently commissioned a study to more closely evaluate the economics of solar development.

"We've been really focusing on solar in the last year," he says. "Prior to that we'd been working in renewables more broadly, but we're becoming more interested in solar."

Seib says the development authority has had the opportunity to work with industry, municipalities and others, and has established a circle of information. This knowledge, he explains, imparted by municipalities to the general public, is critical.

"Infrastructure and incentives are great, but the most important thing is education. Municipalities have the opportunity to lead, to educate, to create awareness and let people know about the opportunities with solar."



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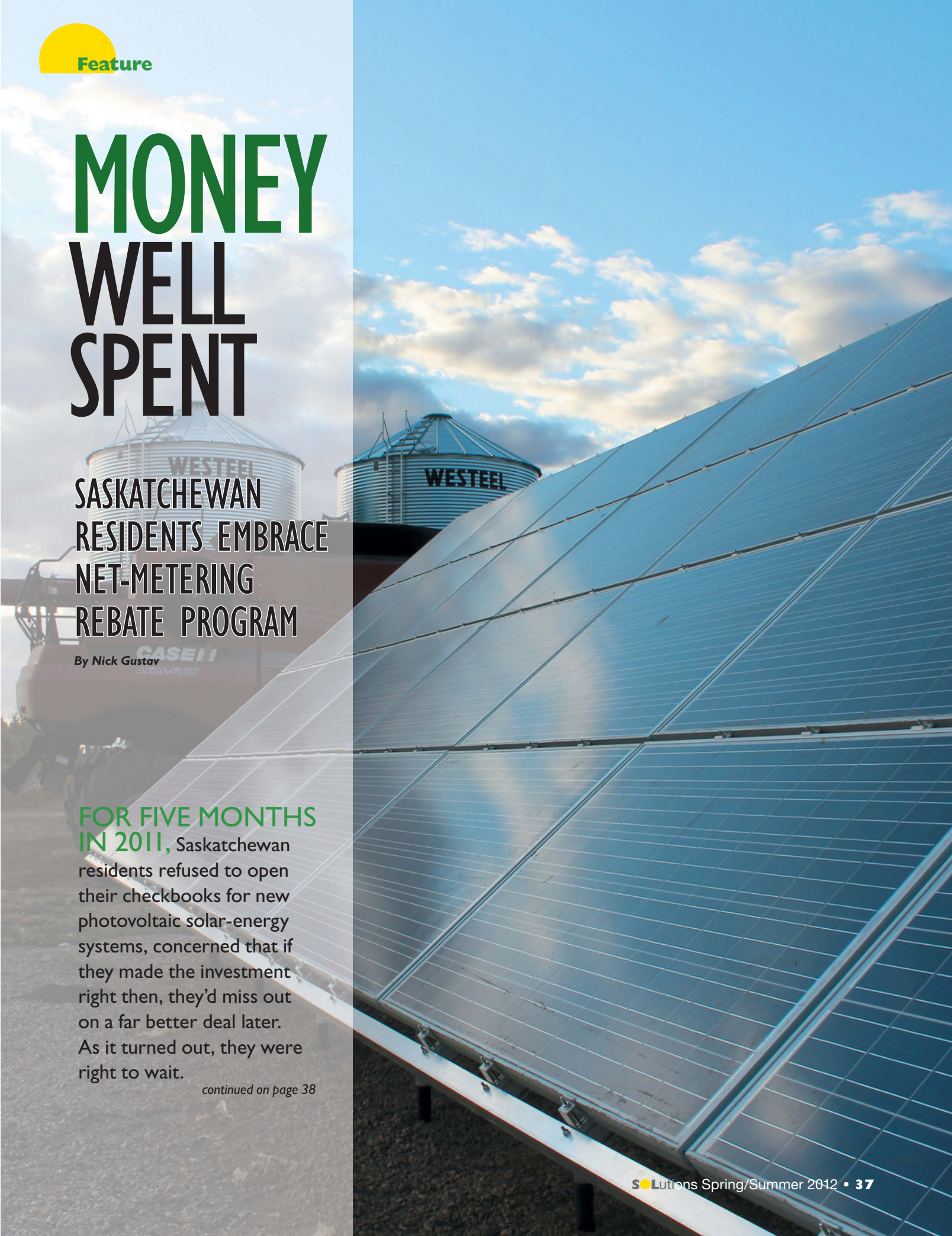
SASKATCHEWAN RESIDENTS EMBRACE NET-METERING REBATE PROGRAM

By Nick Gustav



FOR FIVE MONTHS IN 2011, Saskatchewan residents refused to open their checkbooks for new photovoltaic solar-energy systems, concerned that if they made the investment right then, they'd miss out on a far better deal later. As it turned out, they were right to wait.

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Last August, the province announced that its Net-Metering Rebate Program was being renewed through March 2012, giving residents another chance to save up to 35 per cent on renewable energy systems. The program had ended temporarily March 31, 2011, at the close of the fiscal year, slamming the brakes on the solar industry's growing momentum in Saskatchewan.

But thanks largely to CanSIA and its members, who wrote letters to provincial policymakers and tirelessly made the case for solar energy, the program was continued. Since then, Saskatchewan residents have lined up to cash in, and the numbers speak for themselves.

Dr. Geoffrey Waters, the acting manager of the Go Green Saskatchewan program in the province's Ministry of Environment, said the Net-Metering Rebate Program has led to an annual reduction in carbon dioxide emissions of more than 1,200 tons. That's an important step toward Saskatchewan's goal of reducing its greenhouse gas emissions by 20 per cent from 2006 levels by 2020.

Waters said that through December 2011, the province had issued 267 rebate cheques totaling $2.6 million to the owners of qualifying systems. That's in addition to the more than $1 million rebated to program participants by SaskPower. The 267 energy systems had a combined capacity of 1,892 kilowatts.

"It's been a successful program," Waters said. "We've had a large number of applications during the extension period, and probably more applications than we had money available for, so we know the program has been successful in generating installed capacity here."

Under the terms of the program, Go Green Saskatchewan rebates 25 per cent of the cost of qualifying systems, while SaskPower pledges an additional 10 per cent. The Saskatchewan Research Council administers the program on behalf of Go Green Saskatchewan and SaskPower.

The Net-Metering Rebate Program provides participants with a reimbursement cheque of up to $35,000 to offset the cost of installing renewable energy systems with generating capacities

> "The Net-Metering Rebate Program has led to an annual reduction in carbon dioxide emissions of more than 1,200 tons. That's an important step toward Saskatchewan's goal of reducing its greenhouse gas emissions by 20 per cent from 2006 levels by 2020."

Solar Outpost 10kW installations near North Battleford, SK. Photos courtesy of Solar Outpost.

of 100 kilowatts or less. Participants must enter into net-metering contracts with their local electric utilities and agree to give the Saskatchewan Research Council access to their production data.

The types of generating equipment included in the program are wind, low-impact hydro, biomass, heat reclaim, flare gas and solar PV, but solar PV has proven to be the most popular of those technologies in Saskatchewan over the last few years.

When the program was renewed last August, Saskatchewan's Go Green Fund pledged an additional $2.9 million in funding. Of that amount, $900,000 was to be spent on the larger number of applications received just prior to the original deadline of March 31, 2011. The

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remaining $2 million was used to fund the program through March 2012.

To qualify for a rebate from the most recent round of funding, applicants had to register for the program by Jan. 3, 2012, and confirm that they had made at least a 10 per cent deposit on their energy equipment by March 30. Participants then had until Aug. 31 to get the system up and running and apply for a rebate cheque.

David Anderson, chair of the Saskatchewan Working Group and Renewable Energy Engineer at Saskatoon's Solar Outpost, said that when the Net-Metering Rebate Program originally ended last year, sales of solar PV equipment in the province fell off a cliff. Customers who were interested in solar PV systems simply waited in hopes that the program would be reinstituted.

Once the program returned, sales quickly picked up. Anderson said that from September 2011 to August 2012, his company will have installed approximately 60 solar PV systems that qualify for the rebate program, and those systems will have a total capacity of about 500 kilowatts.

Anderson said Solar Outpost likely would have had to lay off several employees had the program not been continued because solar PV equipment represents most of its business. But because the program was renewed, the company planned to add several positions to help with the busy summer installation season.

"It was nice to have the program come back," said Anderson. "It was a huge thing for renewable, clean energy in our province and for the industry in general."

Anderson said he would like to see either the Net-Metering Rebate Program made permanent or a similar federal or provincial program created to replace it so the solar industry doesn't lose momentum after August. He said that since there isn't enough money in the program to meet the current level of interest in solar PV systems, the industry isn't growing as quickly as it could.

"With the last round of funding, the entire program was quickly sold out, so that is the limiting factor right now with the industry's growth because people aren't going ahead without the incentives," Anderson said.

"Every other energy industry has some form of tax break or incentive program, but because solar is newer, it doesn't have permanent programs like some of the other energy industries. It relies on programs that stop and start. It'd be nice to be on an even playing field with those industries because I think we can compete today. There should be some form of provincial or national policy that evens the playing field between all forms of energy and lets the customer decide."

Waters said in March that it had yet to be determined whether the budget for the current fiscal year would include funding for solar PV incentive programs. "CanSIA members have been in touch with us about continuing the program, and the renewable energy sector is very important to us," he said.

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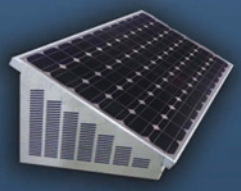

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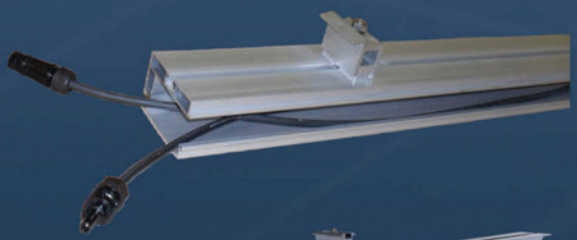

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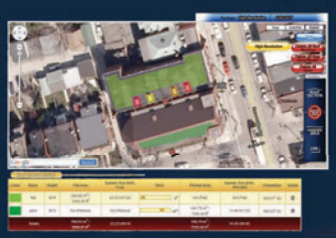

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POWERING THE NORTH

SKYFIRE ENERGY INSTALLS NORTHERN CANADA'S LARGEST SOLAR SYSTEM

By Nick Gustav

DURING THE COLD WINTER months, when the sun warms Fort Simpson for only a few precious hours each day, this remote village in the Northwest Territories seems like an unlikely home for a large photovoltaic solar electricity system. But during the long summer days, Fort Simpson is awash in light, making it an ideal place to harvest the power of the sun.

This summer, the diesel generators that provide electricity to Fort Simpson's 1,200 residents will get less use thanks to a 60.6-kilowatt solar installation built by SkyFire Energy Inc. The 258-panel installation rests on a piece of flat land at Fort Simpson Airport. It produces enough electricity to power about 10 homes and is the largest solar system in northern Canada.

"It's quite far north for a grid-tied solar electric system," said **SkyFire Energy President Tim Schulhauser**, who supervised the project. "Some people think there aren't very good solar resources in the Northwest Territories, but it's actually not too bad. Because they have such long summer days, over the course of a full year, they'll get more energy out of their system than they would in Germany or Japan, where a lot of solar systems are installed."

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> "This project was definitely unique because it was really far away and very cold. I think the coldest it got was minus 40 degrees Celsius."
>
> —SkyFire Energy President Tim Schulhauser

Last September, Calgary-based SkyFire Energy beat out three other bidding companies for the $800,000 project, which was completed under budget. The system was built for Northwest Territories Power Corp. and paid for through the Northwest Territories' $60 million Energy Priorities Framework. That four-year plan was put in place in 2007 during the 16th legislative assembly.

Construction originally was scheduled to run from November to March, but the difficult task of getting supplies and workers to the remote location, 630 kilometers west of the territorial capital of Yellowknife, led to a change in plans. Twice a year, there are periods of about six weeks when the ferry across the Liard River to Fort Simpson doesn't run and an ice road across the river isn't thick enough for safe travel.

Flying in pallets of equipment by helicopter quickly would have ballooned the cost of the project, so SkyFire Energy waited until January to begin construction. By adjusting the design of the installation and carefully planning each step of the construction process, the company was able to complete it in February after just six weeks.

"We've installed hundreds of systems all over Canada, and that experience helped us," Schulhauser said. "We're experienced at working in remote locations. Because of the location, we had to plan every single detail. Shipping and logistics were a challenge. It's not like we could just run out to Home Depot there if we were short on something. This project was definitely unique because it was really far away and very cold. I think the coldest it got was minus 40 degrees Celsius."

Photos courtesy SkyFire Energy.

SkyFire Energy had wanted to start laying the foundation in the fall, before the ground became completely frozen. Instead, in January the company hired a subcontractor to drive screwpiles deep into the ground and anchor the installation. The steel tubes with helical steel plates combat the problem of "frost jacking," in which underground frost pushes against the foundation, potentially damaging the structure.

"We had to go really far down and make sure the helix was way below the frost so that when the frost does come every year, it's not able to push the system up or down because it's anchored well below the frost," Schulhauser said.

The solar panels, produced by Conergy Canada, each produce 235 watts of electricity. Schulhauser said they'll produce very little power during the winter but will pay big dividends during the long summer days, when solar energy is essentially auditioning for a bigger role in the Northwest Territories.

Myra Berrub, manager of energy services for Northwest Territories Power Corp., said the performance of the Fort Simpson system will help determine whether additional solar projects are commissioned in the future. She said NTPC expects the installation to come

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with minimal operational and maintenance costs, but the power company wants firsthand knowledge that the technology can perform in the North.

One area of concern is snow buildup. Berrub said there will be days when snow isn't manually removed from the solar panels, and NTPC wants to confirm its position that daily maintenance isn't needed.

"We're very pleased with the installation and hope to assess the performance of the technology in our climate," Berrub said. "It is a demonstration project. We will be looking at how much power we're generating and what sort of maintenance is required. We want to prove some of these things for ourselves.

"A lot of people would expect that we wouldn't generate a lot of power, being so far north, but based on the data, we should be generating quite a bit of power, so we are looking forward to that."

Data from the Fort Simpson installation also could assist the new territorial government in determining whether to invest more money in solar technology through a plan like the Energy Priorities Framework.

Schulhauser said many subcontractors had a hand in building the installation, but the total manpower amounted to about five full-time workers over six weeks. Future projects mean more jobs, so Schulhauser said he hopes the Fort Simpson installation leaves all stakeholders impressed.

"This installation is not by any means a huge solar farm, but it's fairly large," Schulhauser said. "It's the largest one by far in the Northwest Territories, and we hope they'll get bigger. That's always the hope: that there'll be more work." ●

INTERNATIONAL PRAISE

CONSERVAL ENGINEERING, SOLARWALL EUROPE WIN SME AWARD

By Nick Gustav

"These two companies are examples of businesses whose innovation and technological advancements have made them front-runners in their fields and at the same time clearly show the benefit of closer Canada-France economic ties."

—Ed Fast, Canada's minister of international trade and minister for the Asia-Pacific Gateway

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Left to right: *Serge Contat, Director General, Régie Immobilière de la Ville de Paris, Minister Fast, Thierry Melot, Director General, Ama Architecture and Vice-President of French Architects Overseas, Marc Lebret, Head of Mission for Attractivité Internationale at the Paris City Hall, and Bernard Foulon, manager of Ama Architecture, Paris office*

IT TAKES A PRETTY innovative idea to find success on both sides of the Atlantic, and last December in Paris, Conserval Engineering was singled out for doing just that.

Conserval Engineering, a Toronto-based manufacturer of solar air-heating systems established in 1977, was one of only two companies to win a Small and Medium-sized Enterprises award during a Dec. 13 trade visit between Canadian and French officials.

Ed Fast, Canada's minister of international trade and minister for the Asia-Pacific Gateway, along **Pierre Lellouche, France's secretary of state for foreign trade**, expressed their support for a trade agreement between Canada and the European Union that would create jobs in both countries. They also renewed the Canada-France Joint Action Plan, which has led to increased cooperation in innovation, science and technology since its inception in 2006.

But for the solar-energy community, Conserval Engineering's receipt of an SME award trumped the other news. The company won the award given to a Canadian business that has found success in France. Conserval Engineering's Paris-based subsidiary, SolarWall Europe, was established in 2009, and France represents a growing component of the company's sales in Europe.

"We're honored to be recognized as a small company in France with Canadian roots," said **John Hollick, the CEO and co-founder of Conserval Engineering** and **president of SolarWall Europe**. "Our European subsidiary, SolarWall Europe, manages many of our international projects now and is working to create technology awareness in France. We are projecting impressive growth in the next few years, as there is widespread applicability for the SolarWall technology

throughout the commercial and industrial building sector in France."

The other SME award was given to a French company that has prospered in Canada, and the recipient was Alstef Automation, which provides logistical solutions for the management of baggage at airports.

"These two companies are examples of businesses whose innovation and technological advancements have made them front-runners in their fields and at the same time clearly show the benefit of closer Canada-France economic ties," Fast said of the SME award winners. "Thanks to their success at home and abroad, they are creating jobs and prosperity for workers in both our countries."

The SolarWall technology typically features a metal wall that becomes part of a building's facade and can be used for new construction projects or retrofitted to existing large commercial, industrial, military or institutional buildings. The collector system typically is mounted on a south-facing wall and draws air inward through thousands of tiny perforations in the wall.

The air is heated as it passes through the perforations and into an air cavity measuring 15 to 30 centimetres in width and located right behind the exterior SolarWall surface. That heated air then enters the building's HVAC system.

Depending on the temperature of the outside air and the amount of sun hitting the wall, the air that passes through the wall is heated to between five and 47 degrees Celsius. The heated air reduces a building's consumption of heating fuel by 20 to 50 per cent and improves indoor air quality.

During the summer, the SolarWall system also reduces air-conditioning costs by capturing and venting off the solar energy that would otherwise be absorbed by the building.

The cost of a SolarWall system varies from building to building, but customers typically recoup their investment within six years. The systems are built to last more than 30 years and require no maintenance.

Conserval Engineering also builds rooftop SolarWall systems as well as hybrid systems that combine solar air-heating and photovoltaic solar electrical systems.

SolarWall technology has received commendation from both the U.S. Department of Energy and Natural Resources Canada and has been used in more than 30 countries by private- and public-sector organizations like the U.S. Army, the Canadian government, NASA, Ford, FedEx, Auchan, Owens Corning, Wal-Mart and 3M.

Victoria Hollick, Conserval Engineering's vice president of operations, said the company has installed more than 3,000 SolarWall systems around the world, with about half of them in Canada.

SolarWall Europe's customers in France include Toyota, the famous town of Fontainbleau and other industrial sites, retail stores, colleges, gymnasiums, schools, multi-unit buildings, offices and warehouses.

Hollick said roughly 40 per cent of all carbon dioxide emissions in Canada come from the building sector, and 50 to 60 per cent of that amount is from the heating load. So, reducing the amount of fossil fuels needed to heat large buildings is the easiest way to decrease greenhouse gas emissions.

The European Union has set a goal of getting 20 per cent of its heating energy from renewable sources by 2020, a policy that could drive growth for SolarWall Europe.

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Back in Canada, Hollick said she hopes the Canadian and provincial governments establish an incentive program to promote the adoption of solar air-heating systems. The federal ecoENERGY for Renewable Heat program, which cost only $36 million over four years, supported the installation of 1,100 solar air- and water-heating systems in Canada before it ended March 31, 2011.

Hollick said a similar program for air-heating systems would greatly help the industry and create jobs in Canada.

"It's a technology that's easily integrated into commercial and industrial buildings, and it's relatively cost-effective," Hollick said. "With a minimal amount of government support, you could achieve a huge energy reduction. SolarWall systems produce about 50 to 60 watts per square foot, compared with photovoltaic systems, which produce about 10-15 watts per square foot, so it's very high-efficiency in terms of converting solar radiation into usable energy.

"Without government policy and the appropriate incentive mechanism to promote an equal playing field between clean energy and conventional energy, I reiterate what has been stated internationally: that Canada will be forfeiting hundreds of thousands of jobs in clean energy as well as any type of technology leadership in solar. Other countries will reap these benefits instead, and that is why they are investing right now in promoting solar heating, cooling and electric technologies." ●

Left to right: *French Secretary of State Pierre Lellouche; Pierre Marol, CEO of Alstef; Anouck Colson, Business Unit Manager of Conserval Engineering; and Minister Ed Fast. Photo courtesy of the Government of Canada.*

Feature

SOLAR SHINES

CANSIA MEMBERSHIP CONTINUES TO GROW CORPORATE 1 RANKS

"CanSIA offers companies in Canada an informed and credible voice that is heard and sought out by governments and in turn strengthens public awareness about the advantages of solar," said **Michelle Chislett, CanSIA Chair**. "CanSIA's careful work shows results, which is evidenced in our growing membership. On the international front, CanSIA is the first call made by global solar firms looking to participate in Canada's solar market. Our service commitment to members and ability to engage policy makers explains the continued growth in our association."

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WHAT CanSIA DOES FOR YOUR ORGANIZATION

The Canadian Solar Industries Association (CanSIA) is a national trade association that represents more than 650 solar energy companies throughout Canada. Since 1992, CanSIA has worked to develop a strong, efficient, ethical and professional Canadian solar energy industry with capacity to provide innovative solar energy solutions and to play a major role in the global transition to a sustainable, clean-energy future. The services that CanSIA provides to the Canadian solar industry include:

Government Relations and Lobbying

CanSIA engages its member-base, government and industry stakeholders collaboratively to develop and expand solar markets and industry capacity. CanSIA regularly represents the industry to the Federal Government and its standing committees and maintains close contact with all key bodies and agencies. CanSIA is intimately involved in the on-going development of Ontario's Feed-In Tariff program and with provincial governments and municipalities across Canada. CanSIA also works in a network with the Canadian Hydropower, Wind Energy and Geothermal trade associations to collaboratively pursue and improve renewable energy policy in Canada.

Public Awareness, Advocacy and Consumer Support

CanSIA's publications, external communications and advocacy campaigns educate the public, press and politicians about the truths, benefits and possibilities for solar energy.

Press and Media Relations and Marketing

CanSIA is a valuable contact for the media. CanSIA also assists members to release their news items through its database of media connections. Through CanSIA, each and every member also has the means to communicate directly to potential customers and other stakeholders via: the *SOLutions* magazine, Solar Beat newsletter (bi-monthly publication), *Canadian Solar Industry Directory*, Solar brochures and fact sheets and CanSIA's website.

Standards, Codes and Regulations Development

CanSIA represents the industry for the development of solar standards, codes and regulations.

Education and Training

CanSIA has worked with the Association of Canadian Community Colleges (ACCC) to develop solar college curriculums that are now freely available to all community colleges across Canada. CanSIA is currently analyzing and exploring options with solar industry members, various stakeholders to improve solar installer certification programs in Canada.

Events

CanSIA's events are highly popular and successful in showcasing members and giving exposure to the industry: Solar Canada: The Annual Conference and Exposition, Solar Ontario, the Summer Solstice industry celebration and other networking events.

Additional Benefits to CanSIA Members:

- Hundreds of public and industry inquiries received each month are referred to the member base.
- Business and employee benefit insurance program options. TD Canada Trust consumer financing.
- Discounts on merchandise and event attendance.

For further information on CanSIA membership and how to apply, visit www.cansia.ca or contact Sharon Chester, Member Services Administrator at 613-736-9077, ext. 222 or sharonchester@cansia.ca.

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SOLutions digital magazine

In addition to print, *SOLutions* is also emailed to members as a fully interactive digital version. Viewers can virtually flip through the pages, forward articles of interest to colleagues and click on ads to be redirected to the company's website. Animation and video capabilities bring your message to life.

Solar Beat eNewsletter

Distributed bimonthly to members, *Solar Beat* covers the most up-to-date topics, news highlights and issues affecting the industry. A limited number of advertisers in each issue ensures maximum exposure to CanSIA members. Your ad can be linked directly to your company's website, online product information or any other landing page of your choice.

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JULY 9–11
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San Francisco USA

JULY 10–12
Intersolar North America
San Francisco USA

NOVEMBER 6–8
Intersolar India
Mumbai India

NOVEMBER 13–15
National Clean Energy Workforce Education Conference
Albany NY, USA

DECEMBER 3–4
Solar Canada 2012
Toronto, Ontario

DECEMBER 12–14
Intersolar China
Beijing China

For more information on these and other upcoming events, visit the CanSIA website at www.cansia.ca.

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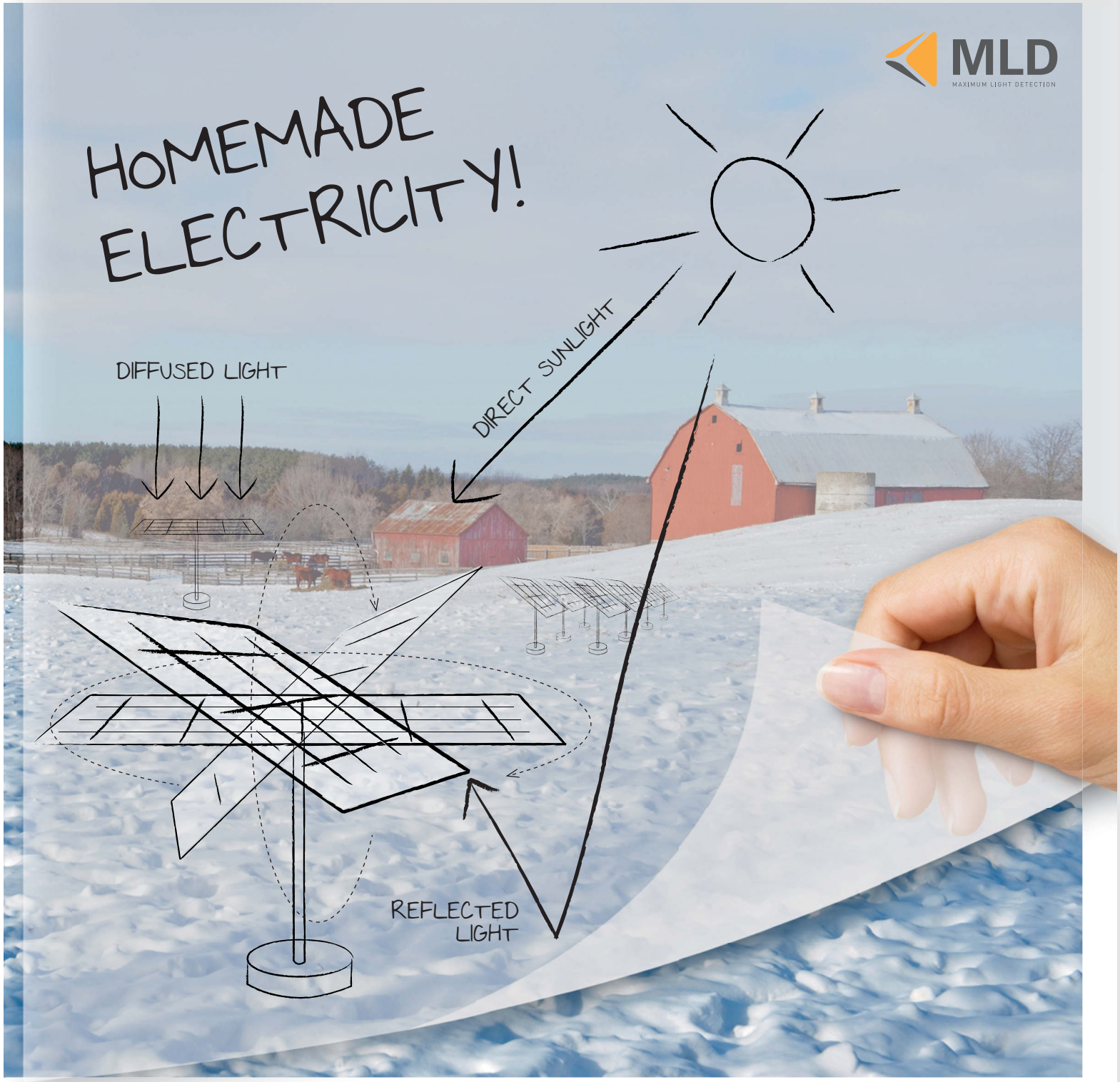


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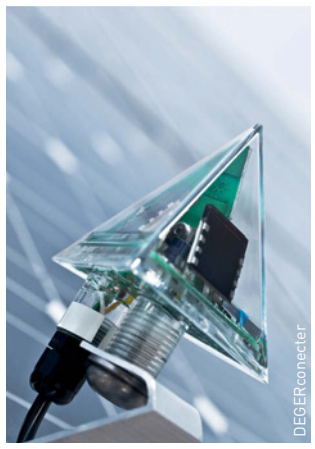
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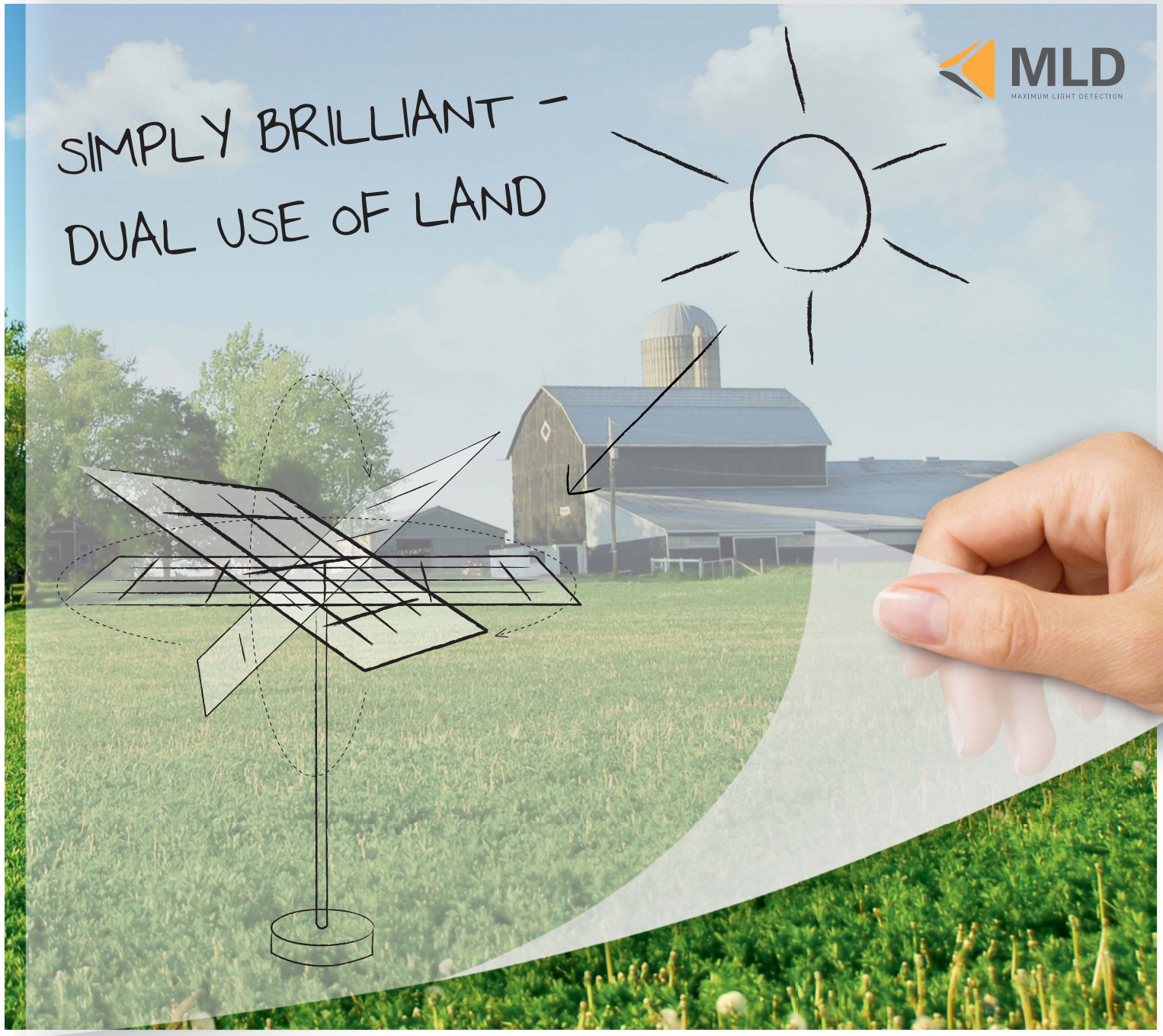

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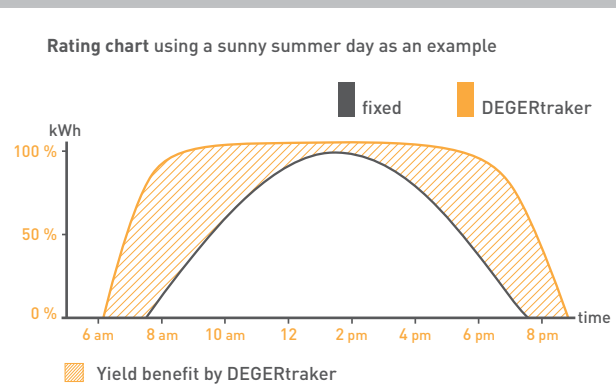

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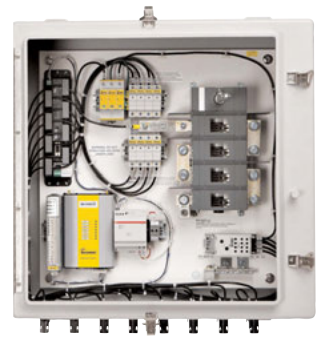

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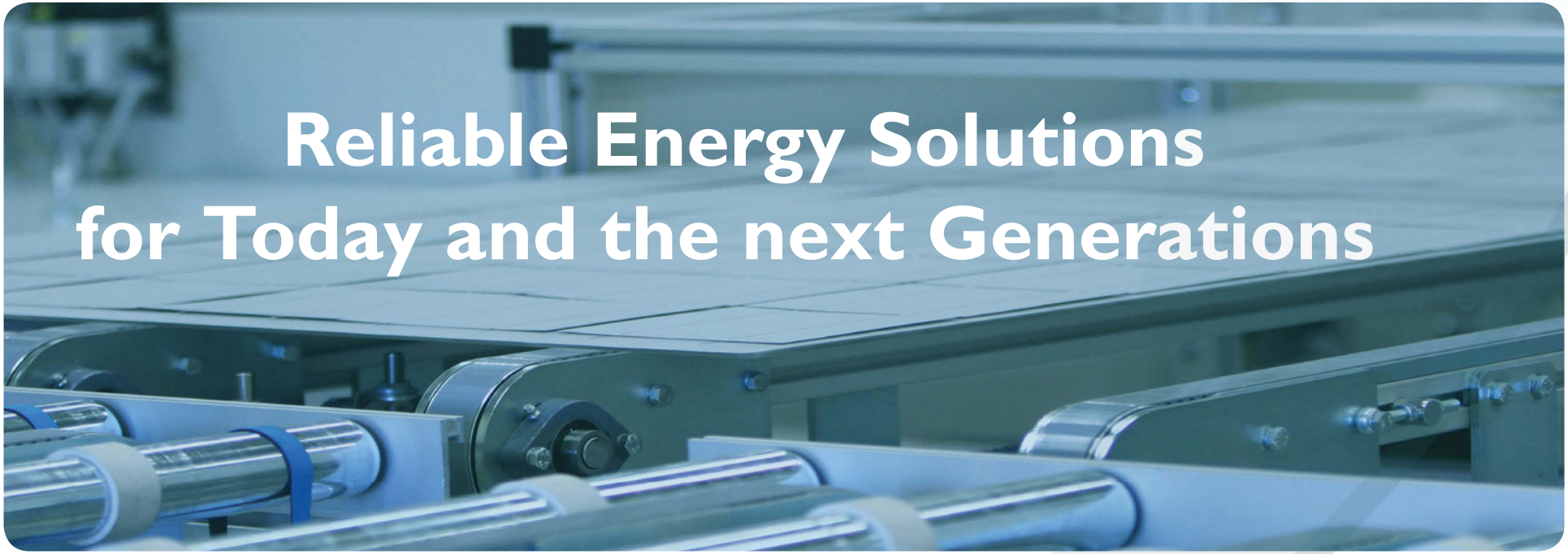

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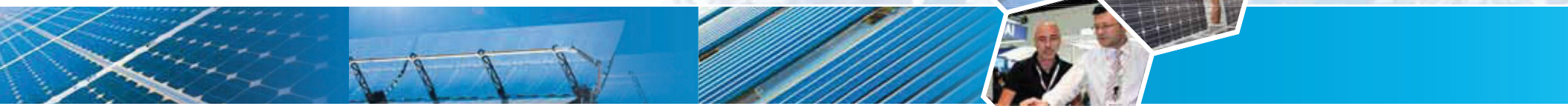

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