CanSIA

SOLutions

The newsletter of the Canadian Solar Industries Association/L'Association des Industries Solaires du Canada

ONTARIO ATTRACTS WORLD-CLASS PV PROJECTS

Province Signs 46 Standard Offer Contracts

The Ontario Power Authority (OPA) has signed 46 contracts with 29 proponents that collectively aspire to install 88.6 MW of photovoltaic capacity under the province's Renewable Energy Standard Offer Program (RESOP). The vast majority of this proposed generation is utility-scale solar farms.

Summer statistics from the OPA indicate a significant increase in PV projects inspired by RESOP, which began accepting applications in November 2006 and guarantees 42¢/kWh on a 20-year term to grid-tied PV projects less than 10 MW in size. The OPA's first quarter report in the spring indicated only three PV projects had been contracted, totalling 23 kW, and by the end of July six projects with a combined capacity of 28 kW were in commercial operation. Representative of small-scale PV installations, the OPA's July tally indicates 44 contracts totaling 359 kW had been signed. RESOP has also attracted two proponents with utility-scale PV ambitions accounting for contracts totaling 88.24 MW.

The OPA report indicates OptiSolar Farms Canada Inc. has signed seven 10 MW contracts. The company, a subsidiary of California-based OptiSolar, plans to begin construction of its first 10 MW solar farm in the municipality of Sarnia in 2008, and complete the installation of 90 MW of PV across three locations sometime in 2010. Sarnia is to receive 50 MW of installed capacity. While, the other two locations, Petrolia and Tilbury, will each have 20 MW each.

SunEdison LLC

SunEdison is now building the 8.2 MW Alamosa solar farm in Colorado and plans, with its partner SkyPower, to start construction of a utility-scale PV project in Ontario next year.

In a news release, the company said it would install "hundreds of thousands" of ground-mounted PV modules, and the projects will generate millions of dollars in local construction work and procurement contracts. The Sarnia wind farm alone is among the most ambitious PV developments ever proposed anywhere, and would occupy more than 350 hectares of land. The company says long-term RESOP contracts in combination with a proprietary thin-film PV technology and cost-effective manufacturing make the projects economic.

"The initial press coverage of the Sarnia project actually stimulated some other solar farm developers from outside Canada to take a closer look at our market, and some of those companies, I be-

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KEY SOLAR PLAYERS JOIN CANSIA

CanSIA recently welcomed seven new Corporate I members, "all key players in the industry who will help the association be more proactive in dealing with issues of concern," says executive director Elizabeth McDonald.

"Our growing membership is a testament to the fact the solar industry is ideally positioned to offer its expertise to governments and the public at this key time when the world is looking for solutions to the effects of climate change. The interest in CanSIA shows solar energy is the future," she says.

In order to qualify as a Corporate 1 member, companies must have more than 25 employees or revenue of over $3 million per year.

The new CanSIA Corporate I members are:

- BP Solar
- Conergy Inc.
- Day4 Energy Inc.
- ICP Solar Technologies
- SunPower Corp.
- SunPower Parks Corp.
- Sharp Electronics Solar Energy Solutions Group

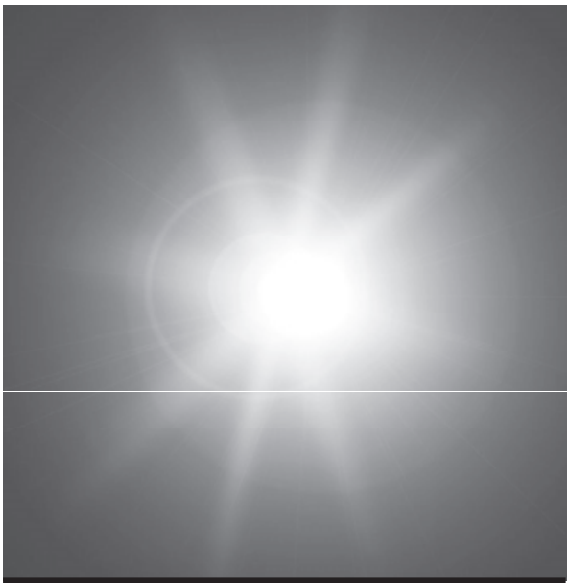
CANSIA MEMBERSHIP

Voting

• *Corporate I:*
25+ employees or revenue >$3 million – $5,000
• *Corporate II:*
6-24 employees or revenue > $1 million – $1,500
• *Corporate III:*
3-5 employees – $800
• *Corporate IV:*
1-2 employees – $400

Non-voting

• *Large government departments, utilities and energy regulators:* $1,000
• *Small government departments and small distribution companies:* $500
• *Large non-profits and educational institutions:* $400
• *Small non-profits and community groups:* $250
• *Advocate/individual:* $100
• *Students (Must supply copy of student ID):* $50



CanSIA's MISSION:

To develop a strong, efficient, ethical and professional Canadian solar industry, able to service an expanding domestic market, to provide innovative solar solutions to world energy problems, and to play a major role in promoting the transition to a solar energy future worldwide.

ONTARIO DEMONSTRATES SOLAR LEADERSHIP

Six New Initiatives Encourage Thermal, PV Uptake

New Ontario energy initiatives, including a target for 100,000 solar installations, demonstrate the province's "leadership role" in the development of Canadian solar energy, says CanSIA executive director Elizabeth McDonald.

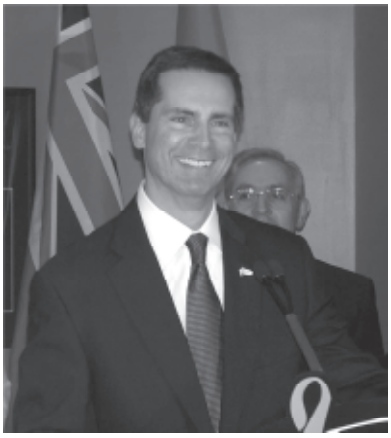
Secured by funding from the 2007 budget, a $150-million suite of environmental energy programs designed to help homeowners and businesses with retrofits to produce or conserve energy were announced in early summer. Premier Dalton McGuinty formally introduced the package of programs before 700 senior corporate and government leaders from across North America attending a conference held by the Globe Foundation in Toronto. "There has never been more green for going green in the province of Ontario," he said.

Within the package, six initiatives will directly encourage the uptake of solar electric and solar thermal technologies.

One initiative that may in time influence all the others is the formation of a task force of industry experts and energy market specialists whose job will be to advise the government on how Ontario can best achieve its 100,000 solar installations target. Before the task force presents its findings, however, the other solar energy offerings from the McGuinty government indicate homeowners will be a big part of the plan.

"Ontarians know that fighting climate change presents a huge opportunity to save money and energy, right at home," said the premier.

For homeowners, the five-year, $88-million Home Energy Retrofit Program will offer a $500 rebate on the cost of installing a solar hot water system, a sum matched by the federal ecoENERGY Retrofit program.



"There has never been more green for going green in the province of Ontario."

Dalton McGuinty

Another rebate program tailored to fit with federal incentives is solely dedicated to the installation of solar thermal air and water heating systems in industrial, commercial and institutional buildings—$14.4 million will fund a 25% rebate on installation costs, to a maximum of $80,000, mirroring Natural Resources Canada's ecoENERGY for Renewable Heat program. It is expected to generate 500 installations over four years.

Al Clark, NRCan's manager for renewable heat programs, says his department is working on an agreement with Ontario that will facilitate federal-provincial sharing of project information and create a single application process for consumers. He's pleased Ontario and other provinces are combining their own solar thermal incentives with federal programs.

"We think it's a combination of increases in other energy costs, people's interest in renewable energy and the increasing maturity of the industry. All three of these things are lining up to create are much higher interest in solar thermal, both water and air."

Ontario has also extended its provincial retail sales tax rebate on qualifying renewable energy equipment, including solar electric and solar thermal equipment, to January 1, 2010.

A fifth initiative, and another focused solely on solar energy, is the creation of a one-stop centre for information. The provincial government is working with the Clean Air Foundation (CAF), a Toronto-based non-profit organization, to set up a web site and toll-free hotline. The free services will offer consumers information on photovoltaic and solar thermal technologies, incentive programs, equipment manufacturers, events, other sources of information and financing options.

"There's a great opportunity in the residential area, and there's wisdom in providing a place for consumers to go for information," says McDonald, who is already discussing the information component of the plan with the CAF. The foundation intends to partner with retailers, she says.

Easy access to solar information, she stresses, is an important link in the Ontario program chain. "I think closing that loop, having a place to call where you can get information, a central place, and the concept of partnering with retailers, it's terrific. That helps close the loop because people don't always understand how solar works."

Finally, the province is providing $1.3 million over two years in a pilot program that will finance residential alternative and renewable energy installations. Hydro One and Enersource Hydro Mississauga will offer zero-interest

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RENEWABLES FIGHT FOR ROLE IN OFFSETS MARKET

The federal government has been consulting with stakeholders on its plan to regulate greenhouse gas (GHG) emissions, but what role renewable energy technologies will play will not be clear until Environment Canada issues its recommendations on key issues like offset trading and the government's planned technology fund sometime this fall.

The Conservative government released its 48-page *Regulatory Framework for Air Emissions* in April, outlining its plans to require industrial emitters to curb their emissions per unit of output, or so-called emissions intensity, 18% by 2010 and another 2% per year thereafter, with the ultimate goal of reducing absolute emissions by 20% from current levels by 2020. Among the options to comply with the new GHG regulations, emitters will be able to trade offset credits created by non-regulated activities. But whether renewable energy generators will be able to create and sell offsets is and has been a lengthy and somewhat fiery debate.

The renewable sector had to fight for that right under the previous Liberal government. Officials were concerned about the double counting of reductions and about the potential transfer of wealth from fossil fuel-intensive regions of the country to those with abundant hydro resources.

"It's important to note that last time the political intervention of the minister was actually quite important. The bureaucracy was not keen and we expect the bureaucracy is not keen again," says Robert Hornung of the Canadian Wind Energy Association.

PILOT TARGETS RESIDENTIAL SECTOR

NRCan Releases REI For Solar Thermal Projects

Natural Resources Canada has released a request for expressions of interest (REI) in undertaking projects that will install solar domestic hot water systems in Canadian homes.

"Large projects and innovative approaches to deployment are encouraged," says the REI document. The call, closing September 28, is funded through the ecoENERGY for Renewable Heat (ERH) program, and invites responses from energy utilities, residential-sector developers and builders, municipalities, provincial and territorial governments, non-governmental organizations, community buyers' groups or any organization "interested in receiving federal financial assistance" in esatblishing residential solar water heating projects.

"Internationally, countries that have had real success in deploying solar hot water have targeted the residential sector, and in Canada, through previous programs, we haven't done much in the residential sector," says Al Clark, NRCan's manager of renewable heat programs. Clark believes the federal initiative will "completely change" the deployment of residential solar hot water in Canada.

CanSIA's Elizabeth McDonald says the residential aspect of the initiative, which will increase awareness and understanding of solar energy through the visibility of the installations, is significant. "That's what got things going in Europe. I think that will do it here, and maybe we can catch up to the countries we have fallen behind."

Proposed projects must be designed to install, in a minimum of 200 homes, active systems incorporating a pump. Installation sites must be single-family houses or small multi-unit residences. Customers can buy or lease the systems, or buy heat from a solar energy service provider. The maximum contribution to an individual organization, which will be a reimbursement based on an amount per completed installation, is $2 million. "If we had four very large projects that would almost deplete the funding, but I don't anticipate that," Jeff Knapp, program officer in charge of the REI, says. "Because of the nature of utilities—I think they're a bit conservative—I think they're going to go at this gently."

The REI indicates the number of projects should be sufficient to test a variety of approaches to deployment "over a significant geographical distribution." Knapp says he has had interest from about 25 utilities and developers and hopes at least 10 agreements will be negotiated with successful respondents this fall. Participants must complete their projects by October 31, 2010.

To facilitate testing of different approaches participants will be required to keep records of their projects for five years, but the call document recognizes a good deal of information about residential solar water heating initiatives is already available, with numerous programs ongoing in other countries. While Canada can learn from those experiences, it says, "a made-in-Canada approach that considers our particular climate, industry structures and socio-economic system will provide valuable Canada-specific experience and learning."

The $36 million ERH program has a $9 million budget for the pilot initiative, to be dispersed between now and March 2011. Applicants are encouraged to solicit supplemental funding for their projects from municipal, provincial or other federal government sources, but ERH funding will not combine with other government funding to ex-

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SASKATCHEWAN PROMOTES WATER, NOT AIR

The government of Saskatchewan is promoting solar thermal heating technologies, and has worked closely with Natural Resources Canada to double or triple federal installation incentives and simplify the public application process. CanSIA, however, has been left wondering why the province left solar air heating out in the cold.

In mid-August, the province's Office of Energy Conservation (OEC), under the jurisdiction of the Saskatchewan Research Council, announced the Solar Heating Initiative for Today (SHIFT), which will partially fund new solar water heating systems tailored for "large, non-residential consumers." The program, says the announcement, will provide $700,000 per year, ending March 31, 2011, to businesses, industries, multiple-unit residential buildings over three stories, institutions and public buildings.

Saskatchewan, in addition to Ontario and Nova Scotia, is the third Canadian province to augment the federal government's ecoENERGY for Renewable Heat (ERH) incentive, which provides a 25% rebate to a maximum of $80,000 towards the installation of solar water and air heating and geothermal technologies. SHIFT, too, has an $80,000 ceiling on all projects and matches the 25% federal formula, with the exception of installations in remote communities where the incentive rises to 40%.

But SHIFT has come up short in recognition of solar thermal technologies, says CanSIA executive director Elizabeth McDonald. Unlike the ecoENERGY initiative, and the federal REDI initiative before it, Saskatchewan and Nova Scotia have not included solar thermal air heating technologies in their programs. CanSIA, says McDonald, plans to address the situation in Saskatchewan with a letter to the premier's office.

Chuck Lees, the Ministry of Environment's acting director of green policy, says the province saw an interest in solar hot water heating technology and acted on it, designing a program around that market. Now, he says, the province is interested in adding solar air heating technology to the program in the future, maybe next year.

"Our colleagues at NRCan tell us the technology is very good," says Lees, "and the payback may even be better than solar hot water heating. In that light, as we go through this year looking at next year's programming we'll consider that."

Al Clark, NRCan's manager for renewable heat programs, says Saskatchewan and the ministry have signed an agreement to share project assessment data. They are also providing a one-window application process. This model of provincial-federal cooperation, says Clark, "is a huge step" towards offering consumers and industry a simplified incentive package.

In addition to SHIFT, Saskatchewan also extended and expanded its EnerGuide for Houses program, now offering provincial homeowners Canada's most generous solar domestic hot water (SDHW) retrofit incentive, $1,500 when combined with the $500 federal incentive offered through the ecoENERGY Retrofit program.

To receive the grant a homeowner must undergo a pre-retrofit energy audit, and then complete the installation of a qualifying SDHW system and post-retrofit audit within 18 months. The program is managed by the province's government-owned natural gas distributor, SaskEnergy, and is also scheduled to run to March 31, 2011. Small businesses or organizations that use residential-sized equipment in a structure similar to a residential dwelling are also eligible to participate in the program.

Dave Kelly, who represents CanSIA's ST caucus, believes provincial enhancement of federal ST initiatives can "stir the market for sure," and is particularly important for the ecoENERGY Retrofit program. "Right now, to get the audits done in Alberta, I think the cost is in the neighbourhood of $350. To get $500 back it's hardly worth doing unless you get of bunch of other retrofits as well."

Kelly says some "really big players" are starting to look closely at the Canadian ST market. Home Depot, for example, now has an agreement to distribute Ontario-based EnerWorks' CSA-certified solar domestic hot water systems through a number of stores in the Greater Toronto Area. Kelly's chief concern with all this new activity is a lack of adequately trained installers, potentially leaving a void to be filled by "fly-by-night" operators who could carelessly diminish the reputation of the industry.

As part of Saskatchewan's solar program, says Lees, and with CanSIA's assistance, the province ran two ST installer training workshops. Lees is encouraged by the fact that 51 people have now taken the installer course in the province. He says officials "are really cognizant" of the need to ensure a professional workforce is available to meet market demand.

"It's a real key part of this, industry acceptance and trained installers. We want to continue to work on all of those fronts to make this a successful initiative."

The province is also offering a rebate on SDHW systems installed in new homes. To qualify for the incentive, which is again administered by SaskEnergy, a resident must build or purchase a newly constructed Energy Star qualified or R-2000 certified home. The owner can receive $1,000 for the home itself and another $1,000 for including a solar water heating sys-

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BC FEED-IN TARIFF PROPOSAL DISAPPOINTS INDUSTRY

Utility Should Establish a Separate Price for Photovoltaic Electricity, says CanSIA

BC Hydro needs to establish a separate tariff for photovoltaic electricity in its proposed standing offer program if it is to tap into the benefits of solar energy, says CanSIA.

The utility released its draft terms and conditions for a standing offer program for clean electricity projects between 50 kW and 10 MW in size in June. Under the plan, the program will provide a base price that ranges from $65/MWh to $79/MWh, depending on where the project is located in the province. The tariff will be adjusted for inflation and for the time of day and month when the energy is delivered. An additional payment of $3.05/MWh will be made for projects that receive Canada's EcoLogo or other environmental certification.

Installations less than 50 kW in size, the draft says, will be included in BC Hydro's existing net metering program.

The utility was directed to develop a standing offer program as part of the province's new energy plan, released in February. But CanSIA's executive director Elizabeth McDonald calls both the energy plan and the proposed standing offer tariff shortsighted.

"The goals set out in the plan ignore the potential benefits of solar energy. The tariff is unworkable for solar photovoltaic and does not address the high cost of implementation."

In a letter to BC Hydro providing feedback on the draft terms and conditions, CanSIA argued PV can supply a "significant part" of BC's new energy requirements and has the promise of widespread deployment in both urban load centres and more isolated regions. "Solar PV is the only renewable energy alternative that can be so easily and universally adopted and can be installed by residents and businesses large and small."

The association recommends the utility set a goal of making PV 10% of incremental resources by 2025, equivalent to about 2 TWh of electricity a year. It also asked BC Hydro to implement a separate feed-in tariff for PV that is high enough to support rooftop installations as well as larger commercial projects, pointing out that solar production costs currently range between 30¢/kWh to 60¢/kWh and are falling at a rate of 5% a year.

BC Hydro spokesperson Gillian Robinson would only say the utility is "looking to the Innovative Clean Energy Fund to bring in solar power." The $25 million fund, also announced in the new energy plan, will assist the research, development and demonstration of emerging technologies.

John Stonier is with Vancouver area-based PV project and technology developer Day4 Energy and says he is disappointed with how BC's standing offer tariff is coming together. "Six or eight cents isn't enough. PV in Vancouver probably needs about 60 cents to really get any take-up. That would make it economic. You'd get a payback somewhere in the area of eight to 10 years, but you're building a system with a 25-year warranty that will probably last 50 to 100 years."

The fact that the Winter Olympics Games are coming to BC in 2010 also provides the province with a unique opportunity, he says. "The whole world will be coming to BC for the Olympics and it is crucial that Canada show how cutting edge our energy production technologies are," he says. "BC must take advantage of the fast growing opportunities to create jobs and build the provincial economy by developing its existing sustainable solar electric energy industry."

BC Hydro plans to go to the BC Utilities Commission in October for approval of the program. ▯

CANSIA PUSHES TO INCLUDE SOLAR THERMAL

CanSIA is recommedning BC's standing offer include the opportunity for solar thermal applications to displace electric hot water heating. "We understand that this would be especially useful for rural residents and for those living on Vancouver Island where natural gas is not as widely available." Solar water heating can deliver energy in the home for under 10¢/kWh, said CanSIA in a letter to BC Hydro, about the same cost as utility-scale wind power "but with no distribution costs and no environmental impact issues."

Right now, approximately 20% of hot water tanks in British Columbia are electric and water heating accounts for about 25% of household energy consumption. Not only can a move to solar thermal technology help shave peak energy consumption, argues CanSIA, but it could also become a revenue generating opportunity.

"This year a utility company in Finland is installing over 20,000 utility metered solar hot water appliances; this follows other large utility deployments in the Netherlands," it says. Similar models, it adds, are emerging in the US. ▯

CONFERENCE WILL ASSESS NEW OPPORTUNITIES

New business opportunities, government policy, which has clearly advanced since this time last year, and a pressing need for the Canadian solar industry to come together on issues of market growth will engage participants at CanSIA's Solar Conference 2007, November 18-21 at Toronto's King Street Holiday Inn.

"There has been a lot of activity in the last few months. There will be new opportunities to talk about," says CanSIA's executive director, Elizabeth McDonald.

The Toronto location is a change for CanSIA, which has traditionally held its annual conference in Ottawa. An advantage of switching to Toronto, explains McDonald, is that it is a hub of solar activity, both as a city and provincial business centre. Canada's largest solar electric generation facility is in Toronto, as are numerous significant solar thermal installations, and Ontario is home to the country's most comprehensive suite of solar energy policies and incentives.

"One of the things about being in Toronto, and you'll see this reflected in the agenda, it's a place where there's a lot of focus on business," says McDonald. "And we'll attract more participation from the government of Ontario. Last year there was a big policy angle. This one is really going to have a business side to it."

The conference will launch, following an opening breakfast, with a plenary session focused on the business of solar energy. Other plenary sessions, each with an engaging moderator and expert panellists, will look at marketing, research and development and government policy. Each plenary assembly will be followed by two or three breakout sessions based on the results of CanSIA's call for papers.

While the final decision on breakout presentations has yet to be determined, McDonald suggests CMHC's report on the EQuilibrium housing initiative, a national competition through which 12 winning teams are currently building net-zero-energy houses, is a good example of what delegates can expect. "A couple of the winning teams are in the Toronto area, and we may bring a team in so people can see what's happening, what worked and what didn't. I think that would be very interesting."

In addition, an expanded tradeshow will be more closely aligned with conference activities, says McDonald. This will in part be accomplished by holding the opening breakfast and cocktail reception in the tradeshow area, she explains, enhancing opportunities for networking and doing business. And as is customary, solar installer training workshops and certification exams will be offered.

Solar Conference 2007 is the central event of, and an essential occasional for anyone connected to the Canadian solar thermal and PV industries. It will be CanSIA's largest annual conference to date, attracting government representatives, non-governmental organizations, utilities, the financial community, architects, builders and developers. With more than 400 delegates and 50 exhibitors expected to attend, there is a possibility this year's event will sell-out, so the CanSIA office is encouraging participants to register soon.

For updates and registration information visit www.cansia.ca/conference2007.asp or call 1-866 522-6742 ext. 221. □

STACKING PROVISION LIMITS TOTAL GOVERNMENT CONTRIBUTION

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ceed 50% of total project costs, except for non-profit organizations. This so-called stacking provision, warns Knapp, is a little complex. "I know this can be done economically by a well-operated utility," says Knapp. "Once they've had a go at it, they're going to discover they don't need 50% of their costs to be covered by government. Once they get economies of scale in place and figure out what they are doing, they hone their marketing a little bit, they're going to find they can do it with less funding from the government." □

SOLAR THERMAL EDUCATION INITIATIVE TAKES SHAPE

Natural Resources Canada is ready to support a program that will increase training opportunities for solar thermal equipment installers, says NRCan's senior manager for renewable heat programs, Al Clark.

"We have one objective, to help ensure there is industry capacity to respond to growth," he says "We have initiatives out there we expect will significantly impact on demand for systems, so in parallel we have programs and activities in place to try and make sure the industry capacity is there."

This, explains Clark, means funding has been set aside to assist a now loosely formed national ST education committee, with representatives from NRCan, CanSIA, the Association of Canadian Community Colleges (ACCC) and the Electricity Sector Council (ESC), a non-profit corporation dedicated to workforce development in the Canadian electricity and renewable energy sectors.

"We're waiting for a proposal from ACCC, CanSIA and the Electricity Sector Council. All three of these groups are talking to each other, and this is new."

The dean of computer and engineering technology and skilled trades and tourism at Ontario's St. Lawrence College, Don Young, represents ACCC. He sat on an ACCC renewable energy advisory committee on training, which inspired the new stakeholder meetings on ST training. Young says ACCC is looking for direction from CanSIA's board on how it wants to proceed. "The real neat thing at this point is CanSIA has some willing and very strong partners," says Young. "The college system in this country has 150 institutional members with 900 campuses and 900 communities. That is a pretty good partner."

While the stakeholder group, still officially forming, is new, the ambition to develop a standardized curriculum for training ST equipment installers, and then make it available to students across the country, is not. I fact, it has been discussed for years, says CanSIA research officer Wesley Johnston. "The way CanSIA would like to see it go is have the program curriculum criteria set out. Then as demand grows, province by province, it can be picked up. The books will already be available, and community colleges will administer the program.

> *"We have one objective, to help ensure there is industry capacity to respond to growth."*
>
> **Al Clark, NRCan**

While CanSIA and ACCC begin to define some terms of reference for this new work, NRCan has already established a three-step course of action, says Clark. The first step will be the development of occupational standards, which will outline what the ST industry needs from the graduate of a training facility. Clarke says ESC, working with the other associations, will head up this activity. The second step, curriculum development, will be the primary task of ACCC.

"We've invited ACCC to make a proposal to us for projects that would help develop curriculum in this area," says Clark. "We're looking for national curriculum development guidelines, and ACCC plans to work very closely with CanSIA on this."

The third step in NRCan's plan is developing a system whereby Canadian ST installers and technicians will be certified, which is something everyone agrees is crucial. What is unclear at this point, though, is which organization should ultimately administer the certification of graduates.

Along with a handful of colleges in the country, CanSIA currently trains ST and PV installers. The association also offers certification exams. Dave Kelly, president of Calgary's Sedmek Inc., is one of CanSIA's primary instructors and works with the association's ST caucus. He and Young agree, while CanSIA's courses are very good, the job of training is destined to reside with the colleges.

Certification, on the other hand, could remain within the associa-

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DEMAND STRAINS RESOURCES

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tion's jurisdiction. "Ideally we want to have that CanSIA course taught in the colleges, and have plumbers come out with a solar ticket," says Kelly. "I think CanSIA could retain the job of certification or it could move on to whoever the certification body or accreditation body is now for plumbers, and electrical on the PV side."

Young says it makes sense for CanSIA to retain the certification role. The question is do they certify individuals or do they accredit programs, or do they do both, he asks? It's one of the issues on the table, he says.

"If we can get to the step of having a curriculum accredited by CanSIA so graduates from accredited programs can immediately begin employment and be recognized as suitable installers or maintainers we've moved the yardstick a long way."

Kelly says recent progress on federal and provincial ST incentive programs is "fantastic," but is worried existing education capacity is insufficient to produce enough qualified technicians to meet an increase in market demand. The result, he says, could be the proliferation of installers who cannot maintain the professional standards of the industry, a situation that could diminish the reputation of the technology. Certainly, in the near term, the desire to bring certified installers onto the Canadian market will not be easily fulfilled.

"There are three certified ST installers in the country, plus the CanSIA instructors, which probably makes a total of about six or seven," says Kelly. "All the instructors are in the solar industry, and all of us are busy and find it hard to spare the time to go out and teach. That's a bit of a bottleneck, I think. If business takes off like we expect it to I don't think we'll be able to keep up."

Clark also recognizes there is some urgency to the task of solar industry workforce development, indicating the three stages to NRCan's plan would ideally be done sequentially but to speed progress will unfold in parallel. He expects occupational standards will be established by April 2008. Also in spring 2008, he hopes ACCC will be working on the development of "some basic curriculum." Young believes students will be enrolling in ST training programs at Canadian colleges within two years.

Certification, says Clark, "will be a little bit" down the road. "But there's going to be pressure for certification from our retrofit program," he says. "The retrofit people would like to be able to indicate any of the installations they support will be installed by certified installers. To do that we need a lot more people certified. It's an issue." □

PV TRAINING NEED NOT ADDRESSED

While a far-reaching plan to increase the capacity of Canadian colleges to train ST technicians is falling into place, less is being done to address the needs of the photovoltaic side of the industry.

"Why would we support PV education federally? "It's not economic. That's why we don't have subsidies for it. It's at a research and development stage. Our focus is solar thermal," says NRCan's Al Clark.

"That's not saying we think R&D should not be done in the photovoltaic area. That's why we're supporting, through the National Research Council, the Solar Buildings Research Network."

The network, with 10 Canadian universities, is designed to provide a nationally accessible base for R&D into solar and building technologies tailored to Canada's climate and marketplace. It will receive nearly $5.4 million in federal funding over the next five years. "My feeling is the government is putting its money toward PV where it should, " says Clark.

Federal initiatives launched in early 2007 re-established and increased ST installation

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PV DEVELOPERS BATTLE DOUBT

CONTINUED FROM PAGE 1

lieve, are active now," says OptiSolar Farms vice president Peter Carrie.

The other large-scale PV proponent to already appear on the RESOP contract rolls is Toronto-based Skypower Corp., which has signed two 9.12 MW agreements. SkyPower has a joint venture partnership with SunEdison Canada, a subsidiary of Maryland-based SunEdison LLC. SunEdison's aggregated PV installation experience is approaching 25 MW across the US, including close to 9 MW the company owns and operates, selling electricity to customers at 54 different sites. In addition, it is now building an 8.2 MW PV plant in Alamosa, Colorado, which it will use to deliver electricity under contract to midwestern utility Xcel Energy. "Frankly, people don't believe in the power of solar to scale, and to be material, says SunEdison CEO Jigar Shah. "It's the biggest problem we face.

"Most people think solar is ideal for cabins and residential systems and will never be suitable to provide a significant amount of energy in a place like Ontario." That's a challenge, says Shah, because people who doubt utility-scale PV are often making decisions about how vigorously they are going to support the projects, and about how quickly they're going to establish rules around development.

"People think it will be a one-off project, and we say no. We have to develop the infrastructure, the regulations and the know-how, in-house, because this is going to become a regular occurrence. If solar is going to become a meaningful energy source it means it has to be part of the lexicon that everyone uses, whether it's the tax commissioner, the Ontario economic development people, the utility regulators or utility employees themselves."

The SunEdison-SkyPower team proposes to fulfill one OPG contract with a northern installation in Thunder Bay, while the second will be located in south-central Norfolk County. Shah, who thinks it is premature to identify a construction schedule, says a contract has been signed with Phoenix-based First Solar Inc. to supply the modules, and the Ontario regulatory process in underway.

Combined, Ontario's proposed solar farm projects are demanding the attention of officials in five municipal districts and as many local electricity distribution companies. Numerous news releases from the developers include comments from utility company executives and municipal politicians, who indicate enthusiasm for the solar farm concept.

"Having a large renewable generator connected to our system will have a positive impact on local reliability and we recognize that this project represents a significant contribution to meeting the future electricity needs of the Province," said Robert Mace, the president and CEO of Thunder Bay Hydro.

Mayor Randy Hope of Chatham-Kent, home to OptiSolar's Tilbury project, said the project would help the community achieve its strategic goal of attracting renewable energy investment. "Sustainable growth in our municipality depends on investment in environmentally sound energy, training people to build and operate sustainable technology and building partnerships that will develop next generation energy and environmental industries."

The OPA July report indicates the solar electric share of RESOP contracts has risen to 16.8%, second to wind generation at 73.4%, but leading bio-energy at 5.2% and small hydro at 4.6%. □

NOT ENOUGH SOLAR IN 20-YEAR PLAN

In late August, the Ontario Power Authority (OPA) filed its proposed 20-year strategy for the province's electricity system with the Ontario Energy Board. The agency's Amir Shalaby introduced the *Integrated Power System Plan* (IPSP) in a stakeholder teleconference and outlined renewable energy projections.

By 2027, said Shalaby, the OPA expects hydropower generation capacity will be about 2,500 MW, wind about 5,000 MW and biomass about 500 MW. He said standard offer contracts signed so far have encouraged the OPA to project 100 MW of commercial PV generation and perhaps a further 200 MW through conservation.

The OPA's Brian Hay says the second number, which is actually an expected range of 80-200 MW, is tallied under conservation measures because planners expect home and business owners to install PV behind their meters and consume at least some of the power onsite. "And we think of what happens off the grid, behind the meter, as a form of conservation," says Hay. "We've taken what we consider to be a prudent approach to solar, and if it moves faster from a technology point of view and a social acceptance point of view we will amend our plan accordingly."

Elizabeth McDonald of CanSIA says there is "simply not enough" PV in the plan and believes it should include solar thermal energy. "Ontarians want solar energy. They want a lot of it, and they want it now." □

CANSIA WANTS FEDERAL PV SUPPORT

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incentives through the ecoENERGY for Renewable Heat program but did not introduce a PV incentive. The ecoENERGY for Renewable Power program targets the installation of 4,000 MW of generating capacity from wind, biomass, small hydro and ocean energy by providing a 1¢/kWh payment for the first 10 years of a project's life.

CanSIA executive director Elizabeth McDonald says the association would like to see the federal government more active in both PV and ST. She points out PV installations have grown in countries where govermnents have provided some form of incentive. "I'm concerned we've only got part of it," she says.

McDonald suggests CanSIA's November Solar Conference 2007 may be a good time to present PV's case to governmental delegates. "Hopefully we can convince our friends at the federal government that PV exists as well." ▯

NEW HOME REBATE

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tem. Dave Hepburn, president of the Saskatchewan Home Builders Association, estimates that close to 1,000 new homes will be built to meet the enhanced Energy Star or R-2000 efficiency standards before the end of 2007, which represents about 45% of the total expected new home starts in Saskatchewan. The program was announced in late June and is scheduled to conclude March 31, 2008. ▯

SOLAR TRAINING COURSES IN CANADA

CanSIA Solar Hot Water System Installer Certficate: CanSIA is offering the course at its annual conference, planned for November 18-21 in Toronto. PV training will also be available.
More information is available at:
www.cansia.ca/education.asp

Energy Systems Engineering Technician and Technology Programs: St. Lawrence College offers hands on experience with system design, photovoltaics and solar water and air heating.
(613) 544-5400 ext. 1528
www.sl.on.ca/fulltime/F1002.htm
energyhouse.ati.sl.on.ca/

Introduction to Renewable Energy: Mohawk College offers an introductory course on renewable energy, including solar, wind, hydro and ground source energy.
(905) 526-6458
www.mohawkcollege.ca

PV technician's certificate: Seneca College, in partnership with CanSIA, offers an eleven-part training program for people who want to become professionally trained in the design and installation of solar photovoltaic systems.
(800) 572-0712
www.senecac.on.ca/eto/pages/photovol.html

Introduction to photovoltaics: The British Columbia Institute of Technology offers a two-level program of study in off- and on-grid PV systems.
604-434-1610
www.bcit.ca/admission/register

Renewable energy workshops: The Kortright Centre for Conservation offers four workshops, three with graduated training on how to generate electricity using solar and wind energy systems, and one on solar water heating.
(905) 832-2289 ex: 239
www.trca.on.ca

For a full list of training opportunities, please visit CanSIA's web site at: www.cansia.ca/education.asp

SOLAR CALENDAR

September 24-27, 2007: *Solar Power 2007*, Long Beach, California. Web: www.solarpowerconference.com/

October 5-8, 2007: *International Home Show,* Toronto. Web: www.home-show.net

November 4-6, 2007: *5th Annual Conference of the Independent Power Producers Assocation of BC,* Vancouver. Web site: www.ippbc.com/2007_conference/

November 13-14, 2007: *APPrO 2007: 19th Annual Canadian Power Conference,* Toronto. Web site: http://conference.appro.org/conference2007/

November 18-21: *CanSIA's Solar Conference 2007,* Toronto, Web: www.cansia.ca/conference2007.asp

For a full list of upcoming events, please visit CanSIA's web site at: www.cansia.ca/up comingevents.asp ▯

SOLAR HAS BRIGHT FUTURE IN YEARS TO COME

CanSIA EDITORIAL

by Elizabeth McDonald, Executive Director

Beginning a new job during the sunny months of late spring and summer as Executive Director of CanSIA would seem to me to be highly appropriate. It seems the days have gone by quickly as I work to familiarize myself with CanSIA, its issues, its members and its inner workings. I have been very lucky – the Association's Board of Directors has been extremely helpful and supportive. The staff – Sharon Chester (formerly Henry), Wes Johnston and Krista Mayer before she left for Asia – has been both helpful and cheerful during my settling-in months. And, of course, I am lucky to be following the very capable Rob McMonagle who is now really making things happen at Toronto's office of energy efficiency.

It is not a secret that my background is not solar energy, or even renewable energy. However, I believe this should give me an interesting perspective.

The June 2 issue of *The Economist* focused on climate change and the renewable energy sector and said "attitudes have shifted sharply over the past six years." It notes that solar is enjoying its biggest boom ever, worldwide.

Where does Canada sit in relation to the rest of the world? We all know the answer – too far behind. We also know that every poll is telling us that Canadians want to catch up.

There has certainly been a lot of activity in recent months – positive steps are being made at the federal and provincial levels. The city of Toronto is working hard to be a leader. There seems to be higher adoption of solar thermal across the country and that is great news. Some challenge the potential role PV can play – but the European experience is important to observe. Given the right economic incentives and the fact that we have plenty of sunshine, PV has the ability to displace peak load electricity demand, offer long-term price stability and take pressure off the transmission system, all while lowering CO_2 emissions. Talk about a win-win situation!

Members and supporters of CanSIA know better than anyone the benefits that solar can bring. Our goal now has to be to reinforce that message again and again to decision makers at all levels of government. We also have to work to educate Canadians because many of them are still unsure of what solar can do and how it works.

Over the past few months, I have tried to raise the profile of CanSIA and its members with a stronger media presence. At the end of September, we are partnering with the Canadian Consulate in Los Angeles, Industry Canada and the Government of Canada to maximize the opportunities for CanSIA members at Solar Power 2007. I have been meeting with many of the associations' supporters to get their views of where the industry should be going and what CanSIA needs to do. Thanks to Rob and the work of CanSIA's board of directors over the years, the association is respected every where I have gone.

In November, we will hold our first annual conference outside Ottawa. We have already begun promoting the event and hope we are designing a program that will attract as many of you as possible. If we are successful, and depending on your feedback, we may take that event somewhere else next year. At Solar Conference 2007, we will also be re-launching *SOLutions* in a new glossier format as well as making our directory available in print format.

All of this is intended to educate people to the advantages of solar and to drive more business to CanSIA members. There is a lot to do as well as significant opportunity. Our success depends on your support. I look forward to working with you over the months and years to come – a bright future for all of us. □

INDUSTRY HOPES OTHER PROVINCES, TERRITORIES TAKE NOTE

CONTINUED FROM PAGE 3

loans to their combined customer base of 350,000 people. The distribution companies will promote different options and facilitate financing through a third party. Provincial funding will eliminate customer interest payments and offset the utilities' administrative costs.

"We're certain this will be such a success that this program will grow to be established across the province," says McDonald. In fact, she adds, CanSIA hopes other provinces and territories will take note and follow in Ontario's path. "What's outstanding is Ontario has become a leader. I'm talking to people in other provinces who ask what we suggest they should do. I say take a page from Ontario's book. Not that it's a perfect page, but it's a leadership page."

The Ontario Ministry of Energy's Sylvia Kovesfalvi says more information on the province's new energy programs will start to become available in the fall. "We've had lots of stakeholders express an interest in becoming involved with the organization of some of the solar initiatives, like the 100,00 solar installations taskforce," says Kovesfalvi. "We're in the process of setting up that task force now." □