

Vol. 2 | No. 2 | April 2014

'Important step' taken in energy storage

Calling a proposed OPA-Independent Electricity System Operator (IESO) energy-storage procurement framework "an important step" in realizing the potential of the technology, Energy Minister Bob Chiarelli has asked the two agencies to move ahead with plans to begin awarding contracts.

Mr. Chiarelli, in support of the government's Long-Term Energy Plan, in December had called for up to 50 megawatts (MW) of energy-storage capacity by the end of 2014. As a result of the proposed framework, the Minister is now requesting that the IESO procure up to 35 MW in a first phase and that the OPA procure the remainder in a second phase.

In his February 20 letter, Mr. Chiarelli also said his ministry will conduct an independent study of the projects resulting from the two-phase procurement "to better understand the value and barriers to energy-storage projects in Ontario."

The letter came less than three weeks after the OPA and IESO submitted a joint report on an energy storage procurement framework on January 31, as had been requested by the Minister in December.

Read more on page 3

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Emma Simpkin

CONSERVATION

A prizewinner of an idea to reduce energy use

For Emma Simpkin, it all started one winter when she was renting a drafty, century-old home in Kingston, Ontario.

Stunned by her high energy consumption during the cold months, the Queen's University engineering student became a dedicated energy conservation advocate.

"Seeing those bills encouraged me to look at ways of reducing energy usage," Ms. Simpkin said.

She parlayed that commitment into a 2013 victory in the OPA Energy Connections program, an annual province-wide, conservation competition for post-secondary students.

A joint undertaking by the OPA and the Ontario Centres of Excellence (OCE), OPA Energy Connections brings together graduating university and college students, usually in the applied sciences, with innovative Ontario companies to address an energy-related challenge or to explore new ways of conserving electricity.

The program is supported by the OPA's Conservation Fund, which encourages innovation to reduce electricity consumption, and is administered by OCE.

Unlike a co-op placement or internship, the OPA Energy Connections program allows students to act as consultants to an organization outside the academic sphere.

The program provides a boost both to the students who participate and to the companies with which they collaborate. Students obtain experience in the energy sector and an

Read more on page 2



For more information on the Conservation Fund,
<http://www.powerauthority.on.ca/cfund>

Continued from page 1 - A prizewinner of an idea to reduce energy use

opportunity to solve real-world problems dealing with energy conservation. Companies get access to motivated talent, exposure to fresh ideas and exposure for their brand.

Ms. Simpkin led a three-person Queen's University student team that partnered with Utilities Kingston in an experiment to lower residential electricity use, building on energy savings stimulated by smart meters and time-of-use rates. The winning project featured in-home monitors, connected to existing outdoor smart meters, which provided real-time feedback on energy consumption and costs.

The Simpkin team worked with families to place the monitors in their homes and helped them put energy consumption targets into the display.

"People could see exactly how much electricity they were using at any time—and

how much it was costing," Ms. Simpkin said.

After applying a temperature-correction formula, the winning project determined that the nine participating homes achieved an overall 10 percent energy reduction, including a two percent usage drop in on-peak times. As a result, the families saved about \$30 on average during the two-month monitoring period, and Utilities Kingston lowered its costs by more than \$34,000.

Although the sample size was statistically too small to pass scientific muster, Utilities Kingston is delighted with the results.

"We realized that if we provide our customers with more accessible information, we can achieve better energy-reduction results," said Kevin McCauley, Manager of Measurement and Communications with Utilities Kingston. "We are going to build on this."

He said Utilities Kingston benefited from receiving a "fresh, youthful" perspective on operational issues.

"The OPA is proud to support an initiative that provides Ontario students with real-world experience in the energy sector and contributes to the development of our next generation of energy innovators," said Jenni Myllynen, Conservation Fund Manager.

For her part, Ms. Simpkin found the OPA Energy Connections experience valuable on several levels.

"An opportunity to obtain practical learning outside of academia was a real positive," she said. "It was also great to work with a business in the community in which I live."

For more information on the Conservation Fund, please follow this link:

<http://www.powerauthority.on.ca/cfund>.

ENGAGEMENT

SAC discusses conservation

Discussion of conservation issues dominated the second meeting of the OPA's Stakeholder Advisory Committee (SAC) on March 4.

The 17-member committee heard a presentation from Andrew Pride, the OPA's Vice-President of Conservation, in which he sought input on implementation elements of a new 2015-2021 conservation and demand management (CDM) framework.

The SAC also heard presentations on demand forecasting, access to energy data and feedback from stakeholders on the procurement process for large renewable energy projects.

The SAC was established last year to provide a forum for the OPA to receive advice and recommendations from a diverse range of interests. It builds on other OPA outreach activities, including the Advisory Council on Conservation and the First Nations and Métis Advisory Group.

Committee Chair Brian Bentz, who is the CEO of the Toronto-area distribution company PowerStream, thanked OPA staff for their presentations.

"I think they are very useful, we're learning as we go," he said at the conclusion of the four-hour meeting. "The stakeholder process is still maturing but I think we're making good progress."

Four more SAC meetings are scheduled for 2014, with the next one on May 13. SAC meetings are open to the public and can be accessed by webinar.

For more information and for an archive of past meetings:

<http://www.powerauthority.on.ca/stakeholder-engagement/stakeholder-advisory-committee>

SUPPLY

Contracted generation capacity rises

The OPA added 134 megawatts (MW) to its contracted generation capacity in the third quarter of 2013.

According to its latest quarterly report, the OPA administered contracts for 22,368 MW of electricity at the end of September 2013, of which 15,743 MW were already in commercial operation. That figure represents nearly half of the total installed capacity in Ontario's electricity sector.

The remaining 6,678 MW of the OPA's contracted capacity is in various stages of development.

The increase in overall contracted capacity includes the addition of new contracts under the second version of the Feed-in Tariff Program (FIT 2), along with one new contract for an existing gas facility owned by a non-utility generator.

By the end of the reporting period, the OPA had under contract 8,170 MW of renewable non-hydroelectric generation, 2,390 MW of renewable hydroelectric, 8,809 MW of natural gas and other fuel sources, along with 3,000 MW of nuclear capacity.

"We are very proud of the significant role that we have played in growing, transforming and modernizing Ontario's electricity system and working diligently to be a fair and credible counterparty for our suppliers and ratepayers," said JoAnne Butler, the OPA's Vice-President of Electricity Resources.

Continued from page 1 - 'Important step' taken in energy storage

The IESO issued a request for proposals on March 12 and contracts are expected to be signed by June 30.

The OPA will time its procurement to complement the IESO's process to leverage lessons learned from the first phase. A request for proposals is likely to be released by the OPA shortly after the end of the IESO's procurement.

"This dual-track approach to procurements will assist Ontario in evaluating the broad range of benefits that storage technology can provide to the electricity system as well as exploring the different market mechanisms and commercial arrangements for energy storage solutions," the Minister said in a letter to OPA CEO Colin Andersen and his IESO counterpart, Bruce Campbell.

Energy-storage technologies have the ability to store and move energy from one time period to another. They include batteries,

flywheels, pumped storage and compressed air energy storage.

The aim of the procurement is to evaluate the potential ability of storage to increase the electricity system's efficiency, lower costs and increase reliability. This will be done by storing electricity during periods of low demand and/or low prices and then providing it back to the system when demand and prices are higher. It also identifies the main regulatory barriers to participation by storage providers in the Ontario electricity market and tests options to address them.

"This initiative provides both the OPA and the IESO with a unique opportunity to learn about the various end-use services that energy storage solutions can provide," said Darren Byers, Manager, Policy and Analysis, who is part of the group responsible for coordinating the OPA's storage procurement.

"It also allows us to explore the various market mechanisms and commercial arrangements that optimize the value these assets can provide to the system," he said.

This procurement will allow energy storage to demonstrate its value to the system by providing a number of different services. These include dealing with meeting ramping demand requirements, managing surplus baseload generation more effectively by shifting it from low-demand periods to high-demand periods and levelling the output of intermittent renewable generation resources. 

For more on energy storage:

<http://www.powerauthority.on.ca/generation-procurement/energy-storage>

For more on the Long-Term Energy Plan:

http://www.energy.gov.on.ca/en/ltep/#.U0LpmJ3D_KI

IN THE COMMUNITY

OPA staff pitch in for affordable housing



The OPA's Isabel Toledo (left) helps a Habitat for Humanity crew member.

The OPA has once again joined forces with Habitat for Humanity to help build affordable homes.

On three days in March, 10 OPA staff volunteered their time at a house construction site in northwestern Toronto.

"I think it's really progressive that the OPA enables staff to volunteer each year with Habitat for Humanity," said Amy Snook, Business

Manager, Local Distribution Companies, at the OPA. "This is a great cause and volunteering on-site not only supports the building efforts, but also allows me to learn new skills."

"It's the stories of these families that inspire me to volunteer with the organization," said Andrew Bishop, Compliance Manager. "After learning about the families, build days become personal and I come away feeling great knowing that, in a small way, I have helped bring them one step closer to settling into their new home."

Habitat for Humanity Toronto helps low-income families build and buy simple, quality affordable homes through a no-interest, no-profit mortgage with payments set at less than 30 percent of gross income.

This solution not only helps to provide available housing for families in need, it enables low-income families to build assets, to reduce their dependence on other forms of social assistance and to break the cycle of poverty.

Families must be willing to volunteer 500 hours of "sweat equity" towards the construction of their home or with other Habitat programs, such as its ReStore shop. 



The OPA has been a sponsor of Habitat for Humanity since 2008.

For more information on Habitat: <http://www.torontohabitat.ca/>



Martin Rovers, Director, Energy Services and Solutions at PowerStream, explains Micro Grid to Lyn McLeod of the OPA Board.

Board visits two key electricity sites

The OPA Board of Directors took a road trip at its last regular meeting to visit two sites vital to Ontario's electricity sector.

First, the Board and the executive toured the micro grid demonstration project of Power Stream, a local distribution company north of Toronto. A micro grid is a sustainable and reliable energy system comprising a number of different clean and renewable energy sources as well as storage and is capable of operating on or off the province-wide grid. It services target areas and may include a single customer or a load centre such as a hospital or school.

OPA CEO Colin Andersen said he was excited to show the Board what PowerStream is up to "because I think it's part of the future that we'll be looking at in Ontario."

Later in the day, the group went to Barrie to tour the Hydro One control centre. The \$125 million centre, opened in 2004, allows controllers to see the approximately 23,000 kilometres of high-voltage transmission lines across Ontario, along with the hundreds of transformers and switching stations. This overview allows Hydro One to coordinate recovery from power outages even as emergency crews set to work. 🌱

Polar Dip supports Arctic awareness

Eight brave OPA staff waded into the icy waters of Lake Ontario recently to raise awareness of Arctic issues.

The dip was part of WWF-Canada's Polar Bear Week, which ran in the last week of February, and is a fundraising event for WWF's Arctic Home awareness program.

OPA CEO Colin Andersen expressed his "wonder, disbelief and respect for the eight hardy souls" who took the plunge in sub-zero weather.

The team raised more than \$1,100, which will be matched by WWF-Canada's corporate partner, Coca-Cola, for Arctic Home. 🌱

<http://www.wwf.ca/takeaction/arctichome/>



OPA staff braved chilly Lake Ontario to raise money for Arctic awareness

PROCUREMENT

FIT program rule change process handled well, says monitor

The OPA performed well in dealing with significant changes to the Feed-in Tariff (FIT) Program, according to an independent evaluation.

Navigant Consulting Ltd. monitored how the OPA handled applications for Small FIT projects to version 2.1 of the FIT Program. It is standard practice for the OPA to engage an independent evaluation monitor to assess the integrity of its procurement processes.

The FIT Program, launched in September 2009, was updated to reflect the results of a two-year review, which were announced in March 2012. Changes included updates to land-use policy, a system to prioritize projects and updated requirements for testing of grid connection capacity.

After making the program changes, the OPA opened a new month-long window for applications between December 14, 2012 and January 18, 2013. In that time, the OPA received 3,938 applications, half of which were resubmissions of applications from previous application periods.

Navigant analyzed how the OPA had handled these applications and concluded that it had "carried out a transparent and uniform application review process that did not disadvantage or advantage any applications and resulted in a reasonable outcome."

Shawn Cronkwright, the OPA's Director of Renewables Procurement, was pleased with Navigant's findings. He said the conclusions of the FIT Program's two-year review process, released in 2012, had resulted in key changes to government policy direction.

"The resulting impact to the program was significant, affecting both participants and OPA personnel," he said. "It's reassuring to see the independent evaluation monitor conclude that we ran a high-quality process." 🌱

More details are available here: <http://fit.powerauthority.on.ca/newsroom/independent-evaluation-monitor-report-for-fit-2>

BRIEFLY

Revenue Requirement Submission filed

The OPA has filed its Revenue Requirement Submission with the Ontario Energy Board.

In its March 6, 2014 submission, the OPA asks for review and approval of a revenue requirement of \$60.3 million for 2014, based on its operating budget, and for a usage fee of \$0.439 per megawatt-hour (MWh). This is a reduction of 20.3 percent from the 2013 approved usage fee. The OPA's 2014-2016 business plan has been approved by Energy Minister Bob Chiarelli. 

For details: <http://www.powerauthority.on.ca/regulatory-affairs/2014-revenue-requirement-submission>

HESOP contracts offered

Ontario's clean-energy economy continued to grow as the OPA offered three contracts under the Hydroelectric Standard Offer Program (HESOP), representing 35.25 megawatts (MW) of power. The contracts, which have been executed, were offered to St. Catharines Hydro Inc. (4.2 MW), Renfrew Power Generation Inc. (1.7 MW) and Chaudière Hydro LP (29.35 MW). All three projects have 100 percent municipal participation. 

For details: <http://www.powerauthority.on.ca/hesop/municipal-stream>

Large renewable procurement framework report filed

The OPA has submitted its final recommendations on the development of a new process to procure large renewable energy projects (over 500 kilowatts). A report was submitted to Energy Minister Bob Chiarelli on February 28. The report builds on interim recommendations provided to the Minister on August 30, 2013, and reflects extensive engagement with municipalities, First Nations and Métis communities, local distribution companies, industry and other stakeholders, and the general public. 

For details:

<http://www.powerauthority.on.ca/large-renewable-procurement>

Combined Heat and Power recommendations submitted

The OPA submitted to Energy Minister Bob Chiarelli its recommendations for the design of a targeted procurement program for combined heat and power projects. The submission, delivered on February 28, recommends different approaches for projects 20 MW or smaller than for those larger than 20 MW. 

For details:

<http://www.powerauthority.on.ca/combined-heat-power-procurement>

Aboriginal Transmission Fund draft rules posted

To prepare for the launch of the Aboriginal Transmission Fund (ATF) later in 2014, the OPA has released the fund's draft rules for comment. Feedback should be received by the OPA by April 18. The ATF is available to First Nations and Métis communities that are exploring equity positions in new, major transmission lines in Ontario where the OPA has identified a need for transmission capacity. The ATF will provide up to \$20,000 in funding to support eligible First Nations and Métis communities, to a maximum of \$500,000 per transmission line. ATF funding is intended to cover costs related to undertaking due diligence and assessments of partnership opportunities. 

For details: <http://aboriginalenergy.ca/aboriginal-transmission-fund>

LTEP supporting data released

The OPA has developed a series of modules to provide a detailed breakdown of the facts and figures underlying the Long-Term Energy Plan, *Achieving Balance*, which was released by the Ministry of Energy in December 2013. The modules were developed in conjunction with a summary of the assumptions used in the development of the plan. 

The six documents are available here: <http://www.powerauthority.on.ca/power-planning/long-term-energy-plan-2013>

OPA annual report released

The OPA delivered its 2013 annual report to the Minister of Energy on March 31, 2014. The report, *Innovating for a Sustainable Electricity System*, provides highlights of the past year and includes audited financial statements. "Our multi-faceted efforts are dedicated to making Ontario a world-leading clean energy jurisdiction to support our future economy," said Chair Jim Hinds and CEO Colin Andersen. 

To see the report:

<http://www.powerauthority.on.ca/news/opa-2013-annual-report>

Ministerial directions received

The OPA has received five new direction letters from Energy Minister Bob Chiarelli. The directions, which were received on March 31, are:

- 2015-2020 Conservation Framework
- Continuance of the OPA's Demand Response Program under IESO management
- Moving Forward with the Large Renewable Procurement process
- Combined Heat and Power Agricultural Industry and District Heating Projects
- Procuring Energy Storage. 

Details and the direction letters are available here:

<http://www.powerauthority.on.ca/about-us/directives-opa-minister-energy-and-infrastructure>

CONSERVATION

Booklet helps homeowners save money and energy

Ontarians have been sent a booklet filled with savings, **saveONenergy**^{OM} program information and tips on how to save electricity.

The Little Book of Great Big Energy Savings, which contains coupons valued at more than \$100, was sent to 4.3 million households in March.

The coupons are for a range of energy-efficient products, including LED light bulbs, indoor motion sensors, dimmer switches and programmable thermostats for electric baseboard heaters. The booklet also contains hints for reducing electricity consumption in the home and information on programs such as **peaksaver PLUS**[®] and the **saveONenergy HEATING & COOLING INCENTIVE**.

Andrew Pride, the OPA's Vice-President of Conservation, said initiatives like the coupon program provide residents with valuable information.

"There are a variety of energy-saving opportunities around the home and replacing inefficient products with more energy-efficient options is a great first step," he said.

For more information, please use this link: <https://saveonenergy.ca>



Ontario households received a booklet to help them save money and energy

CONSERVATION

Applications being accepted for Community Conservation Awards

The OPA is calling on municipalities across Ontario to enter the 2014 Community Conservation Awards (CCAs) to showcase their contribution to promoting energy efficiency, building a culture of conservation and supporting province-wide conservation goals.

The CCA initiative, now in its third year, is led by the OPA in collaboration with the Association of Municipalities of Ontario (AMO) and the Electricity Distributors Association (EDA).

The application period will run until May 30. The finalists will be chosen in June with the winners to be announced at the AMO annual general meeting in August.

Andrew Pride, the OPA's Vice-President of Conservation, said the awards provide an opportunity for communities to highlight a specific conservation initiative undertaken in their community.

"We encourage communities across the province to submit an entry and to demonstrate their leadership in promoting energy efficiency," he said. "The awards are an opportunity for communities to showcase their commitment to ensuring long-term energy sustainability and building a culture of conservation across Ontario."

The awards are open to all cities, towns and municipalities in Ontario. Applying is easy - municipalities are required to submit an entry form with a description of their efforts in conservation leadership, innovation and market transformation, and corporate and community engagement.

The winners in 2013 were Burlington, Sault Ste. Marie and South-West Oxford.

For more information on the Community Conservation Awards, please visit:

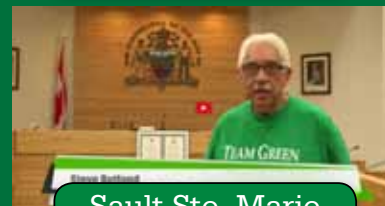
powerauthority.on.ca/cca

2013 WINNERS

Congratulations to the winners of the 2013 Community Conservation Awards



Burlington



Sault Ste. Marie



South-West Oxford