

CONSERVATION FUND

10 years of backing winners

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There wasn't a lot of conservation-related activity going on in Ontario in the 1990s. The former Ontario Hydro had some successful programs but they had been scaled back and, in the years that followed, demand for electricity went up while the supply went down. The result by the early 2000s was looming energy shortages, particularly during the hot summer months.

Local utilities were funding some programs but there was no province-wide initiative. Ontario faced an electricity shortfall as coal plants were retired and nuclear plants reached the end of their useful lives even as demand grew at nearly one percent annually.

In response, the Ministry of Energy started in 2004 a small program, the Conservation Partnership Fund, to seed projects that could be transformed into programs after the OPA was established. The fund – its name shortened to the Conservation Fund – came to the OPA's Conservation Bureau within months to help it with its direction to find up to 1,300 megawatts (MW) of electricity savings.

Peter Love, then the Chief Energy Conservation Officer at the OPA's Conservation Bureau, made the Fund a priority.

But its initial scope was small. The Board of Directors gave it just \$100,000 initially in 2005 to fund five projects that would lead to the efficient use of electricity.

"The purpose was to fund new conservation ideas and initiatives so that we would better understand how to create a culture of conservation and use the experience of the more-successful pilot programs to design and deliver province-wide programs,"



Mr. Love said.

From its modest start, the Fund grew dramatically. Indeed, it surpassed its goals in its first year and funded 24 projects in 2005 with an average grant of about \$45,600.

The Fund now supports projects across all sectors that influence end uses, decision-making, energy-management practices and innovation in market development.

In its 10 years, the Fund has provided \$48.7 million in financial support to 190 projects and leveraged \$125 million in support from partner businesses and organizations.

The Fund continues to connect innovation to market transformation. In 2013, for example, it awarded \$9.5 million to support 17 new projects (out of 58 applications).

Temporal Power Ltd., which makes a flywheel used in energy storage, is one of the companies the Fund helped to get to the next level.

"The simple fact that OPA funding was available for energy conservation projects got me thinking about actually founding a company to scale my idea to utility level," said company founder Jeffrey Veltri.

We invite you to read about some of the exciting projects that it has nourished in the next five pages of this special edition of *Arc*. For a list of Conservation Fund projects, please see page 10. 

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

CONSERVATION FUND

Three startups that are taking on the world

Financial support from the OPA at a critical time allowed three Ontario startup companies to obtain crucial private backing and make a big impact in the energy-efficiency market.

Five years ago, for example, Fifth Light Technology received \$250,000 from the OPA's Conservation Fund to help pilot its web-based dimming and lighting management system at the new Sault Area Hospital. Just three years later, the company was snapped up by Cooper Industries, a global leader in lighting systems (since acquired by Eaton, a power-management company).

Today, Fifth Light makes up the company's digital addressable brand and all of Cooper's lighting fixtures come with its software controls.

"For a publicly traded, Fortune 500 company to take an interest in us, it's what all businesses try to achieve," said Tony Dableh, one of the founders of Fifth Light Technology and now director of sales and services for Eaton's Cooper Control Group. Now, he added, "we literally have global exposure."

Another company, REGEN Energy Inc., caught the attention of venture capital firms when it used a \$240,000 award from the Conservation Fund in 2008 to develop technology that allows small-to mid-sized commercial, industrial and institutional buildings – and the utilities that supply them – to benefit from demand management and automated demand response.

Mark Kerbel, REGEN's executive vice-president of business development, said the OPA funding allowed his company to test its innovation at three different facilities. The success of these pilot projects attracted funding from BDC Venture Capital's Energy/Cleantech Fund and, later, from California-based NGEN Partners.



Tony Dableh (left) and Roumanis Dableh of Fifth Light Technology



Steve Pataki (left), facilities manager, Toronto Cricket, Skating and Curling Club and Mark Kerbel, executive vice-president, REGEN.

"Now, our sales and operations are based in the U.S. while R&D and corporate remain in Toronto with one of the largest utilities in the U.S. as an investor," said Mr. Kerbel. "Our Ontario R&D team has grown sevenfold from the time of our initial OPA engagement."

Temporal Power Ltd. didn't exist when engineer and inventor Jeffrey Veltri started playing around with the idea for a solid-steel flywheel – a mechanical battery that can convert electric energy into kinetic energy, store it, then change it back again as needed.

The OPA saw the idea's promise and, with \$300,000 from the Conservation Fund to help develop the prototype for a larger flywheel, Mr. Veltri and new partner (and now CEO) Cameron Carver, founded Temporal.

Four years later, they're involved in a major energy storage project with NRStor Inc., and with 20 employees, "we're certainly not in Jeff's garage anymore," said Mr. Carver. (See page 3)

He said "the OPA's support was an important reference point for investors and gave us credibility with utilities. We're now one of a number of local companies poised to be world leaders by demonstrating the benefits of our green technology here in the province."

Jenni Myllynen, manager of the Conservation Fund, said she knew the companies had deserving projects. "But even we've been surprised at how successful the companies have become," she said. "It's great for them and great for Ontario." 

CONSERVATION FUND

Meeting the future of electricity

The crowd of dignitaries that descended this summer on the small town of Minto, Ont., came to see tangible evidence that the future of the electricity industry has arrived.

The occasion was the opening of the first commercial grid-connected energy storage facility in Ontario. The 10 underground flywheels at the operation, owned by NRStor Inc., can take power off or add power to the grid quickly. This makes it easier for the Independent Electricity System Operator (IESO) to match supply and demand.

The NRStor facility is only two megawatts (MW) but it represents a breakthrough for the power sector. Ontario's electricity demand (known as load) varies minute-by-minute, leaving the IESO to constantly adjust the grid to ensure the amount of energy produced meets, but doesn't exceed, demand. It's a delicate balancing act that can fail if not enough energy is available at peak times.

Energy Minister Bob Chiarelli said that energy-storage technology has the potential to revolutionize the electricity system. "It is extremely exciting," he told the 75 people at the opening ceremony. "When it gets some traction in the system, it is going to make a much more efficient system, it is going to save money."

The OPA has played a key role in this significant development. The NRStor facility was designed by Temporal Power Ltd., which received financial OPA support – a \$300,000 grant from the Conservation Fund -- to move from the lab to the real world.

"I started with a one-kilowatt-hour (kWh) storage device. The OPA funding allowed us to scale up to a 20-kWh device, beginning to work towards a utility-level, grid-scale device."

"I knew that flywheel technology is capable of storing power over many hours," said Jeffrey Veltri, Temporal's founder and now its chief technology officer. "But I needed to be able to scale it up. I started with a

one-kilowatt-hour (kWh) storage device. The OPA funding allowed us to scale up to a 20-kWh device, beginning to work towards a utility-level, grid-scale device."

The OPA also encouraged Temporal to begin planning commercial projects. CEO Cameron Carver said he came to Temporal to help advance the company's plans and now the firm has a 9,000-pound flywheel to offer that provides one MW of flexibility.

"I expect us to be the premier solution for short-term energy balancing," he said. "We're at the start of a transformation to smarter, more precise control with increased reliability at lower cost."

Jenni Myllynen, the OPA's Conservation Fund manager, said the success of Temporal and another firm -- ENBALA, which used a



Left to right: Cameron Carver, CEO Temporal Power; Colin Andersen, CEO, OPA; George Bridge, Mayor, Town of Minto; Annette Verschuren, chair and CEO, NRStor.

Conservation Fund grant to develop its own smart-grid technology (see page 2) -- is heartening.

"We are proud our funding helped these two Ontario startups grow and also contributed to proving the value of innovative ideas," she said.

Ms. Myllynen said the subsequent success of the Temporal Power and ENBALA technologies in pilot projects with the IESO led the Ministry of Energy to integrate energy storage into the updated Long-Term Energy Plan in December, 2013. A few months later, the ministry directed the OPA and IESO to include 50 MW of energy storage into their procurement process by the end of 2014.

In July, the IESO announced the results of its procurement of up to 35 MW. The OPA will be starting its procurement process for the remaining megawatts.

"We want to dampen out volatility in the supply of electricity and increase our flexibility and capability to meet the needs of Ontarians," said Kim Warren, the IESO's chief operating officer. "We do believe there's value in storage."

Details on the IESO's energy storage procurement:

<http://www.ieso.ca/Pages/Media/Release.aspx?releaseID=6857>.

Details on the OPA's energy-storage initiative:

<http://www.powerauthority.on.ca/sites/default/files/news/MC-2014-857.pdf>



Simcoe Place is a leader in energy efficiency

CONSERVATION FUND

A race built on collaboration

By **Daniel Girard**

This story was originally published in the July, 2014 edition of Arc.

Simcoe Place was a model of energy efficiency even before its focus shifted to making it an industry leader.

The 30-storey office tower in downtown Toronto garnered a BOMA national Office Building of the Year award in 2008, earned LEED Gold Certification for its green operations in 2010 and participated in a pair of groundbreaking energy-saving initiatives, including the Real Property Association of Canada's (REALpac) ambitious energy consumption target of 20 equivalent kilowatt-hours of total energy use per square foot of rentable space by 2015.

Still, Simcoe Place owners Cadillac Fairview felt there was more they could do when it came to using less energy at the 200 Front St. W. location.

Spurred on by the company's national sustainability program, GREEN AT WORK, Simcoe Place created an Integrated Building Performance Team to study every aspect of the one-million-square-foot facility's operations, looking for ways to reduce their energy consumption. Using incentives from the Ontario Power Authority's **saveONenergy** RETROFIT PROGRAM, they then realized even more energy savings.

The result, in addition to significant reductions in electricity consumption and demand as well as natural gas usage, was a 2013 Energy Champion Award from CivicAction's Race to Reduce, a smart energy office challenge.

"Energy reductions through collaboration drive change," said Andrew Pride, vice-president of Conservation at the OPA. "Energy efficiency is becoming a focus of landlords along with tenant comfort and service and Simcoe Place's success is a model for the future."

The Race to Reduce, which is largely funded by the OPA's Conservation Fund, is billed as the first office energy reduction challenge of its kind in Canada. Running

from 2011 through the end of 2014, the Race's uniqueness is the unprecedented collaboration between landlords and tenants in an attempt to cut energy use by at least 10 percent over that period. The latest statistics show that through the end of 2012, the collective energy reduction from office buildings across the Toronto region was nine percent, which means the targets were close to being realized with two full years still to go in the Race.

"Energy reductions through collaboration drive change," said Andrew Pride, vice-president of Conservation at the OPA. "Energy efficiency is becoming a focus of landlords along with tenant comfort and service and Simcoe Place's success is a model for the future."

To date, participation includes more than 175 buildings with almost 68 million square feet, or one-third of the office space in the region. All told, there are an estimated 165 million square feet in 1,750 office buildings across the GTA. They account for about 20 percent of the region's carbon emissions and they also consume some 37 percent of the GTA's electricity and 17 percent of its natural gas.

At Simcoe Place, which opened in 1995, a team of operations officials, consultants, contractors and staff from Toronto Hydro, Enbridge Gas and the OPA came together to get results. They analyzed, tested and monitored everything from ventilation, heating and cooling systems to lighting, elevators and electricity use by office equipment for ways to cut energy usage.

A multi-year capital investment program was mapped out to improve the efficiency of more than 30 individual projects, including heating and cooling plants, the building system, elevators, lighting and transformers. A tenant-landlord Green Council lowered energy use and costs by reviewing floor-by-floor performance, identifying conservation opportunities and sharing best practices. More projects are planned in the coming months.

"I am often asked what we did to achieve such industry-leading performance," said Nathan Mordaunt, general manager of Cadillac Fairview. "But the better question is how we put our team together to identify and fix the inefficiencies in our building. It's all about a new, systematic management process."



“WE EXPECT IT TO HELP NOT ONLY MAKE ONTARIO’S ELECTRICITY GRID SMART BUT ALSO TO ENGAGE THE DEMAND-SIDE”

Joe Green, ENBALA Power Networks (left), tracks electricity use with Michael McRitchie (right foreground), Sunnybrook Health Sciences Centre.

CONSERVATION FUND

Grant pays big dividends

This story was originally published in the December, 2013 edition of Arc.

A decision by the OPA to support an innovative Ontario business at a critical time is continuing to pay benefits to the province.

ENBALA Power Networks received a grant from the OPA’s Conservation Fund in 2011 to help it test an idea for balancing demand on Ontario’s electricity grid.

In the past two years, ENBALA (the name is a shortened form of “energy balance”) has used that grant to develop technology that connects large electricity users to the grid and helps them respond to real-time fluctuations in demand and keep the grid in balance.

Sunnybrook Health Sciences Centre is the latest operation to connect to the ENBALA technology. Five chillers at the hospital have been linked to the Independent Electricity System Operator (IESO), which manages the reliability of the provincial power grid.

Here’s how it works: the IESO sends continuous signals to the ENBALA system, which monitors Sunnybrook’s power needs. If the hospital determines it can spare the electricity, it shifts it to the grid (and receives payment for it). The shift is often for a very short period of time but it can save the IESO from having to buy expensive power from outside Ontario.

“This initiative provides a new opportunity for Sunnybrook to contribute to the overall reliability of Ontario’s power system and generate new revenue to help sustain our services – all without

impacting the comfort of our patients or our employees,” Michael Young, the hospital’s chief administrative officer, said at an October 31 launch event.

The hospital joins other big power users in the aggregate Grid Balance initiative, including McMaster University, Confederation Freezers, Wal-Mart, Atlantic Packaging and Collingwood Public Utilities. ENBALA has been contracted by the OPA to provide up to four megawatts (MW) of demand response power.

The growth of the ENBALA network reinforces the decision by the OPA to offer a \$300,000 grant from its Conservation Fund.

“We see a lot of promise in this technology,” said the fund’s manager, Jenni Myllynen. “We expect it to help not only make Ontario’s electricity grid smart but also to engage the demand side, large industrial users because it offers them a financial incentive to participate in a program that responds to the needs of the grid.”

Ron Dize, former president and CEO of ENBALA, said the investment by the Conservation Fund is providing value back to the provincial power system. “With the fund’s support, we have engaged leading Ontario organizations such as Sunnybrook Health Sciences Centre, McMaster University and Confederation Freezers in a province-wide grid initiative that is supporting the real-time balance of electricity supply and demand,” he said. 



GEMINI House in Toronto



CONSERVATION FUND

Zoning in on energy savings

This story was originally published in the February, 2014 edition of Arc.

It's part renovation, part science experiment.

With the help of a grant from the OPA's Conservation Fund, faculty and students of Ryerson University and the University of Toronto (U of T) have come together with a team of housing and design industry professionals to retrofit an 1870s single-family home.

Old homes are generally considered drafty relics difficult to make energy efficient. But the goal of GEMINI House, in the heart of U of T's downtown St. George campus, is to change that by developing and taking to market a cost-effective, low-energy design alternative for the building sector.

"Ontario homes account for about a third of the electricity used in the province, with heating and cooling accounting for over half of that," said Jenni Myllynen, Conservation Fund manager with the OPA. "The GEMINI house project offers an exciting opportunity to demonstrate a design concept dramatically reducing energy consumption that's suitable for both new and older homes."

Known as Nested Thermal Envelope Design (NTED), the U of T-owned house has been renovated to create two zones within its newly insulated walls. One is the interior, or core, which contains the primary living space, such as bedrooms, the kitchen and dining room. The other is the exterior, or perimeter, containing the secondary areas, including the vestibule, guest bedroom and a home office.

In a typical house, there is just one zone, meaning everything is heated to the same temperature. But in GEMINI House – named for the astrological sign of the twins because of its dual personality – when weather is extreme outside, people have the option of living just within the core of the house at a comfortable thermostat setting while perimeter temperatures are maintained closer to those outdoors.

The heat – or, in summer, cool air – lost from the core is then moved back from the perimeter by a heat pump located between the two zones. Although the pump runs on electricity, it takes less energy to move heat than to generate it.

While the house will be monitored over the next year to determine its exact energy efficiency, modelling in recent weeks has shown the NTED design, along with triple-glazed windows and radiant floor heating, will yield electricity savings of about one-third compared to a similar-sized Ontario home.

The retrofit, which took about 10 months to complete, is part of the Conservation Fund's commitment to financially support projects aimed at creating a culture of conservation by enabling Ontario residents, businesses and institutions to cost-effectively reduce their demand for electricity. The fund provided a grant of \$200,000 to GEMINI House.

"This was a very unique project as it was a living lab," said Anne Macdonald, director, ancillary services, at the U of T. "It was being prototyped every step of the way."

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

For more information on GEMINI House, please visit:
<http://www.civil.engineering.utoronto.ca/research/building/science/gemini.htm>



Sean Brady of the OPA (first right of sign), greets Community Conservation Award winners from London, Peel Region and Halton Hills at AMO conference.

CONSERVATION

Innovative communities honoured

Halton Hills, London and Peel Region are recipients of this year's Community Conservation Awards (CCA), which celebrate the leadership and innovation that municipalities across the province are demonstrating to support 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 three winners received their awards at AMO's recent annual general meeting in London.

OPA CEO Colin Andersen said the awards showcase the hard work that communities across Ontario are doing to achieve province-wide conservation goals.

"We are pleased to recognize these communities for their achievements in energy conservation and commitment towards ensuring long-term energy sustainability," he said. "Halton Hills, London and Peel Region have taken the initiative to promote conservation in their local communities and demonstrate their leadership province-wide."

"We are pleased to recognize these communities for their achievements in energy conservation and commitment towards ensuring long-term energy sustainability."

The winning submissions from this year's recipients include:

- Halton Hills' new library in Acton, which is a 9,000-square-foot LEED gold-certified building with energy and water conservation features
- London's Arenas Energy Savings Challenge, which challenges arena staff to become energy-efficient and reduce energy consumption
- Peel Region's Water Pumping Optimization Project, which aims to maximize pumping efficiency, as well as minimize electricity costs

The awards are open to all cities, towns and municipalities in Ontario. Participating municipalities were required to provide a written submission that outlined their conservation efforts, as well as a recent case study highlighting a specific conservation initiative undertaken in their community.

For more information on the Community Conservation Awards, please visit: powerauthority.on.ca/ccs

CONSERVATION

LDCs get tools for energy efficiency

Ontario's local distribution companies (LDCs) have been provided with the draft Conservation First Framework Tool Kit.

The Tool Kit, which is a set of rules, guidelines, and tools based on elements the LDCs indicated they needed to develop conservation plans for 2015-2020, was provided to the LDCs on July 31. The OPA also posted the draft Tool Kit on its website: <http://www.powerauthority.on.ca/2015-2020-conservation-first-framework>.

The posting of the Tool Kit represents a significant step forward in implementing the direction from Energy Minister Bob Chiarelli to establish a new conservation framework for the years 2015 to 2020. This framework gives utilities greater autonomy, the flexibility to align conservation programs to local needs and incentives to pursue regional collaboration.

"Preparing the Tool Kit required a significant amount of work and, based on feedback from six regional LDC workshops in August, was very well-received by our LDC partners," said OPA Conservation vice-president Andrew Pride.

The new framework goes into effect January 1. It sets a province-wide target for annual energy savings of 7 terawatt-hours (TWh) the equivalent of 7 billion kilowatt-hours (kWh) by December 31,

ANNUAL ENERGY SAVINGS

7 TWh
(7 billion kWh)

2020. Each LDC will have its own target and budget; targets are influenced by the achievable potential in each LDC's service territory. The LDCs will develop cost-effective, six-year conservation plans that can offer a mix of province-wide programs as well as programs suited to local and/or regional needs.

"This is a new world for LDCs, and a challenging world for the OPA as we ensure rigour and good governance while enabling flexibility," said Mr. Pride. "We all learned tremendously from the current framework through our development of processes, protocols, and strategies, and through our strong partner relationships. We are beginning the new framework in an excellent position, poised for success. Our goal is to ensure **saveONenergy** programs are available to all customers, and the OPA and LDCs are jointly committed to customer satisfaction."

For access to information on current programs, visit www.saveonenergy.ca.

OPA to merge with IESO

Energy Minister Bob Chiarelli has advised the chairs of the OPA and the Independent Electricity System Operator (IESO) to say he expects, subject to government approval, the merger of the two organizations will come into effect on January 1, 2015.

In late July, the Legislature passed the government's budget, which contained the merger proposal.

Mr. Chiarelli said the government's goal is to ensure any disruption to each entity's staff, stakeholders and the market is minimized during the transition period.

The merger is intended to improve efficiency and reduce costs and was not created as a staff reduction exercise. The legislation that was passed as part of the budget includes the objectives of both the OPA and the IESO, and the expectation is for these objectives to continue to be met under the new agency.

Each agency will remain a separate legal entity and existing activities will continue until the merger is in effect. A working group comprising representatives from the OPA, IESO and the Ministry of Energy has been formed to implement the merger.

The new organization will be known as the Independent Electricity System Operator and its responsibilities will include those of both agencies, including:

- Directing the operation and maintaining reliability of the IESO-controlled grid
- Operating the IESO-administered markets and engaging in activities related to settlements and contract payments
- Procuring electricity supply, capacity and conservation resources
- Promoting electricity conservation and the efficient use of electricity
- Forecasting demand and adequacy and reliability of the system over the short and long terms
- Supporting the goal of ensuring adequate, reliable and secure electricity supply and resources in Ontario
- Planning for Ontario's generation, demand management, conservation and transmission needs
- Establishing and enforcing reliability standards related to the integrated power system
- Facilitating diverse sources of electricity supply by promoting cleaner energy technologies.

BRIEFLY

Incentive for industrial expansion

Stream 3 of the Industrial Electricity Incentive (IEI) program is being launched by the OPA. It is for new and existing industrial consumers in Ontario who will build a new eligible facility or expand an existing facility in certain sectors – greenhouses, refrigerated warehousing, data processing, mining, quarrying, oil and gas extraction and manufacturing companies. Final documents were posted in September with an application period that ends on November 10. 

Details: <http://www.powerauthority.on.ca/iei/stream-3>

IEI program aids plant re-opening

A Pembroke medium-density fibreboard (MDF) plant has produced its first board since 2008 with the help of the Industrial Electricity Incentive (IEI) program. Pembroke MDF Inc. had stopped producing MDF when it was facing lower demand and higher input costs. IEI encourages load management in Ontario by offering incentives to eligible companies to take advantage of Ontario's strong electricity supply. As a successful applicant under IEI Stream 2, Pembroke MDF expects to save about \$4 million a year for the next five years. The re-opened plant will create about 140 jobs. 

Video of Pembroke MDF re-start: <https://www.youtube.com/watch?v=gIhJNaBRqzo&feature=youtu.be>

FIT 3 contracts offered

The OPA is ready to offer 500 new renewable energy contracts under the FIT 3 program, representing 123.5 megawatts (MW) of power. More than 95 per cent of the successful applications received resolutions of support from municipal councils. The contract offers were for 490 solar photovoltaic project, eight bioenergy projects, one wind energy project and one waterpower project. Of these projects, 257, representing 60 MW, are with Aboriginal participation, 81 (21.5 MW) are with community participation and 161 (42 MW) are with municipal or public sector-entity participation. In addition, the OPA is ready to offer 63 contracts to applicants to the Unconstructed Rooftop Solar Pilot program, which has a separate procurement target of up to 15 MW. 

Details: <http://fit.powerauthority.on.ca/what-feed-tariff-program>

Education and capacity-building grants awarded

The OPA is awarding \$770,208 through the Education and Capacity Building program to facilitate the participation of Aboriginal communities, municipalities, public-sector entities and co-ops in Ontario's renewable energy sector. Eleven proposals were selected to receive funding for initiatives that include workshops, conferences, e-learning tools, training and educational resources. 

Details: <http://powerauthority.on.ca/ecb>

Energy storage initiative

The OPA is proceeding with the second phase of a two-stage procurement process for energy storage. The Long-Term Energy Plan, released by the Ministry of Energy in December 2013, included the procurement of 50 MW of energy storage in two phases. The Independent Electricity System Operator announced in July the results of its procurement of up to 35 MW. The OPA will procure the remainder of the target with a Request for Qualification stage followed by a Request for Procurement stage. 

Details: www.powerauthority.on.ca/generation-procurement/energy-storage.

Coupons offer savings

The fall **saveONenergy** COUPON EVENT at participating retail stores will kick off September 26 and run until October 26. The coupons will be available at participating retail stores and online through the **saveONenergy** website <https://www.saveonenergy.ca/>. Valued at more than \$100, 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. 

Price review and extension of FIT3 procurement

Energy Minister Bob Chiarelli has directed the OPA to extend the FIT 3 procurement by allocating up to 100 megawatts (MW) of the 150 MW 2014 FIT procurement target to applicants meeting certain criteria. This includes those applications that: were received through the FIT 3 application period; were deemed complete and eligible and were not included in the offer list posted on July 30, 2014, provided there is available connection capacity.

The remaining 50 MW from the 2014 FIT procurement target will be added to the 2015 FIT procurement target – resulting in a minimum 2015 FIT procurement target of 200 MW.

The direction also instructed the OPA to conduct the annual price review process immediately. The OPA is required to review the prices offered to generators under the FIT and microFIT programs on an annual basis to ensure both ratepayer value and a reasonable return on investment. The updated price schedules will be posted by this September 30 to be effective immediately for the FIT Program and to be effective on January 1, 2015 for the microFIT program.

To help develop the price schedules, the OPA is asking key stakeholders, organizations and associations, representing a wide membership from electricity consumers, developers, Aboriginal communities, generators and distributors, to complete a FIT pricing questionnaire. Their responses will form an important part of the price review and will help the OPA, together with the Ministry of Energy, develop the price schedules. 

Details: <http://www.powerauthority.on.ca/sites/default/files/page/MC-2014-1998.pdf>

LRP procurement proceeds

The OPA expects to announce on November 4 the list of qualified applicants under the competitive Large Renewable Procurement (LRP) process. This follows a Request for Qualifications (RFQ) process from July 14 to September 4. An engagement process on the development of a Request for Proposal (RFP) framework is also under way. The LRP will procure renewable energy projects generally greater than 500 kilowatts (kW). 

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

CONSERVATION FUND

A history of success

This is a sampling of projects supported by the Conservation Fund since it was established. For details on the projects: <http://www.powerauthority.on.ca/cfund/funded-projects>

2013

Residential: Demand Response in the Multi-Unit Residential Building Sector – Toronto Hydro-Electric System Limited; The Electric Heating Benefits of Thermal Energy Storage – McMaster University, DeGroote School of Business; Energy Retrofit Financing Pilot – City of Toronto; Residential Demand Response Smart Thermostat Pilot – Cambridge and North Dumfries Hydro Inc.; RetroSAVE Emerging Technology Demonstration – ASE Smart Energy; Water Conservation Integration into Home Assistance Program – EnWin Utilities Ltd. Commercial: Commercial Energy Management and Load Control Pilot – Toronto Hydro-Electric System Limited; Electric Vehicle Load Shifting Pilot – Niagara Peninsula Energy Inc.; Results-Based Performance Optimization Program – Loblaw's Properties Limited; Strategic Energy Management – EnerNOC. Industrial: Continuous Energy Improvement – Strategic Energy Group (SEG) Various: Local Demand Management Pilot Study – Toronto Hydro-Electric System Limited; Ontario Archetypes for RETScreen Expert – CanmetENERGY.

2012

Residential: Green Renovator Market Characterization Study – EnerQuality Corporation; Hydro One Networks Inc. Social Benchmarking Pilot Program – Hydro One Networks Inc. & Opower, Inc.; Milton Hydro Social Benchmarking Pilot Program – Milton Hydro Distribution Inc. & Simple Energy, Inc.; Horizon Utilities Corp. Social Benchmarking Pilot Program – Horizon Utilities Corporation & Simple Energy, Inc.; Residential Furnace Fan Motor Retrofit Feasibility Study – Caneta Research Inc. Industrial: Optimization of a Low Temperature Waste Heat Power Generation System – Dyverga Energy Corporation. Commercial: Energy Efficient Video Traffic Management – Avvasi Inc. Institutional: Energy Efficient Apparatus for the Treatment of Wastewater – Ekologix Earth-Friendly Solutions Inc. Various: Energy Conservation Connections – Ontario Centres of Excellence, Inc.

2011

Residential: CDM Electric Energy Density Mapping – City of St. Catharines and City of Hamilton – Horizon Utilities Corp. Industrial: Innovative Application of LED Technology to Industrial High Bay Lighting – ArcelorMittal Dofasco; OCE Energy Conservation Connections – Ontario Centres of Excellence; Innovative Efficiency Improvement in Large Industrial Motor Cooling System – ArcelorMittal Dofasco; Industrial Voltage Optimization – Flakeboard. Commercial: Race to Reduce – CivicAction; Utilities Management Program – Green Light on a Better Environment (GLOBE). Institutional: Sustainable Community Policy Framework for New Residential Developments – Town of Caledon; Sustainable Communities – Regional Toolkit & Website – Canada Green Building Council; Investigation of Electricity Conservation Achieved from Water Conservation Measures – St. Lawrence College.

2010

Commercial: Small Scale Ice Storage – Toronto Hydro; Greening Greater Toronto Procurement of Energy Efficient Products Initiative – Greening Greater Toronto/ Toronto City Summit; Climate Positive Development – Waterfront Toronto Green Building Requirements; Partners in Project Green – Energy Management

Co-op Program; Tower Labs @ MaRS – MaRS. Institutional: Towards Municipal Sector Conservation: A Pump Efficiency Assessment and Improvement Pilot Study – Hydratek; Healthcare Energy Management Program – Centre for Environmental Sustainability in Healthcare

2009

Residential: Home Sweet Home Competition – Mindscape Innovations Group; (HBA LEEP Project) and Technology Adoption Pilot – EnerQuality Corporation. Industrial: Application of ANSI/MES 2000/2008 to Manufacturing Plants in Ontario – Hatch Ltd.; Energy Connections – Ontario Centres of Excellence. Commercial: Ecos Qualified Technical Solutions Program – Ecos Consulting; Market Characterization of Energy Conservation in the Ontario Retail Sector – Retail Council of Canada. Institutional: Integrated Energy Mapping for Ontario Communities – Canadian Urban Institute.

2008

Residential: Energy Savings through Education and Training – Toronto Community Housing Corporation; National ENERGY STAR® Set-Top Box Special Initiative – National Set-Top Box Initiative Working Group; Cool Communities: Residential Shade Tree Planting Program – LEAF; Pilot integration of Keep Cool Appliance Retirement into EKC Power Savings Event – Clean Air Foundation; Métis Energy Conservation Workforce Project – Métis Nation of Ontario; The Now House Project, Windsor 5 – The Now House Project Inc. Industrial: Training Tomorrow's Industrial and Building Energy Efficiency Specialists – Centennial Energy Institute; University of Windsor Advanced Professional Certificate in Energy Management – University of Windsor; Raising the Bar for Sustainability Performance in Ontario's Food & Beverage Processing Sector – GFTC/OCETA. Commercial: Good Life @ Work – WWF Canada (World Wildlife Fund); Seneca's BEST: Building Energy Savings Training – Seneca College; International Education & Training in Green Building – World Green Building Council; Green Collar Careers – Toronto Renewable Energy Co-operative. Institutional: Energy Efficiency Program Facilitator – Aggregator Resource – York Catholic District School Board; Ambassadors for Conservation of Energy – District School Board of Niagara.

2007

Residential: ENERGY STAR® for New Homes – EnerQuality; Green Solar Audit – Peterborough Green Up; Market-Driven Incentives for the Residential Sector – Pilot Project – GreenSaver; Rental Housing Conservation Pilot – Federation of Rental Housing Providers of Ontario. Industrial: Ontario Plastics Sector Energy Conservation Outreach Program – Canadian Plastics Industry Association; OFIA 2007 Energy Management Program – Ontario Forest Industries Association. Commercial: Energy Efficiency Education Program for Trade Contractors Serving SME Sector – Energy Efficient Contractors Network; Direct Install Small Business Pilot Project – GreenSaver; Energy Benchmarking in Ontario Universities – Ontario Association of Physical Plant Administrators. Institutional: Energy Management and Engagement Program for University Health Network hospitals – University Health Network; Greening Sacred Spaces – Phase II – Faith and the Common Good; LHIN Energy Management Program – Mount Sinai Hospital; Ontario Colleges Energy Conservation Secretariat – Colleges Ontario; Small School Deep Energy Audit and Retrofit Project – St. Lawrence College.

2006

Agricultural: Demand Side Management Energy Program-Agricultural Sector "Learning Locations" – AgEnergy Cooperative Inc. Residential: Efficient Sudbury: A Retail/Consumer Level Community Conservation Program – EarthCare Sudbury; Net-Zero Energy homes – Building Capacity in Ontario – Net-Zero Energy Home Coalition. Industrial: Compressed Air System Audit and Sustainable Air Leak control program – Ontario Mining Association; Conservation through Dialogue and Design – Association of Major Power Consumers in Ontario; OFIA Interim Energy Management Program – Ontario Forest Industries Association; Pilot Energy Program (PEP) for Food Processors – Alliance of Ontario Food Processors. Commercial: greenTbiz – The Toronto Association for Business Improvement Areas; Skills for Energy Efficient Construction – Clean Air Partnership. Institutional: Energy Drill Schools Program – Toronto Catholic District School Board; Greening Health Care: Creating Conservation Action Plans in the Hospital Sector – Toronto Region Conservation Authority; Greening Sacred Spaces – Faith and the Common Good – Toronto School of Theology; Re-Wire: Applying Community-Based Social Marketing Tools to Reduce Electricity Use at U of T – The Sustainability Office at the University of Toronto.

2005

Agricultural: On-farm Energy Audits – Ontario Ministry of Agriculture, Food and Rural Affairs; Residential: Combined Heat and Power for High-rise Condominiums – Toronto Region Conservation Authority; ENERGY STAR® for New Homes – EnerQuality Corporation; Chill Out: Appliance Exchange Program – London Hydro; First Nations Conservation Project: Chippewas of Georgina Island – WindFall EcoWorks; Flick Off! / Unplug! Text-Messaging Pilot – Summerhill Group; Project Porchlight – One Change; Reduce the Juice – Power Up Renewable Energy. Industrial: Forest Industry Energy Manager and CDM Pilot – Ontario Forest Industry Association. Commercial: Convenience Stores Conservation Pilot – Ontario Convenience Stores Association and the Clean Air Foundation; Developing an Ontario Energy Efficiency Contractors Network – Sustainable Buildings Canada; Energy Benchmarking and Best Practices in the Ontario Wine Industry – Wine Council of Ontario; Energy Management Best Practices in Multi-Use Facilities – Ontario Energy Association; Restaurants and Green Grocers Energy Efficiency Pilot – GreenSaver; Rogers Centre Charette – Sustainable Buildings Canada. Institutional: Energy Efficiency Secretariat for the College System – Association of Colleges of Applied Arts and Training of Ontario; Energy Savings & Capital Renewal Symposium – Association of Colleges of Applied Arts and Training of Ontario; Feasibility of Expanding the Toronto Atmospheric Fund – Clean Air Partnership; Greenlearning.ca – Pembina Institute; Hospital Energy Conservation Program – Ontario Hospitals Association; Hospital Energy Efficiency Report – Ontario Hospitals Association; Sustainable Schools – Toronto Region Conservation Authority; Virtual Power Plant: Exploring the Potential for Aggregated Cogeneration – Canadian Energy Efficiency Alliance. Local Distribution Company: Effective Demand Side Management (DSM): Webinar Series – Canadian Energy Efficiency Alliance.