



IESO Grid Innovation Fund, Conservation Fund, and Technology Development Fund Project Portfolio							
Proponent	Project Title	Summary	Sector	Amount Awarded	Total Budget	Year	Status
City of Toronto	Waterfront Neighbourhood Centre Deep Energy Retrofit	This deep energy retrofit will demonstrate a commercial-scale lake-based geothermal system. The demonstration will produce valuable quantitative and qualitative information on the technology, and deep energy retrofits more broadly, to inform future deployments.	Commercial & Institutional	\$ 500,000	\$ 1,161,300	2018	Active
Opus One Solutions	Transactive Energy Network	This project, in collaboration with three Local Distribution Companies, will develop and demonstrate the ability to generate locational price signals at the distribution system level to facilitate the economically efficient integration of energy storage, microgrids, smart EV supply equipment, and other resources into the electricity system while protecting local grid reliability.	Various	\$ 1,000,000	\$ 5,050,000	2018	Active
NRStor	Local Distributed Energy Resource (DER) Integration and Rental Program Pilot	This pilot will demonstrate a rental model for deploying behind-the-meter energy storage in an electrically constrained urban neighbourhood. The project will explore how this model can make energy storage affordable for homeowners while providing valuable services to the local and provincial bulk electricity system.	Residential	\$ 475,000	\$ 1,090,590	2018	Active
Opus One Solutions	Smart Energy Community Microgrid Project	This project is a unique approach to residential community development. The entire project considers developing a community from the transmission station down to the individual homes, providing feeder visibility to the Local Distribution Company to monitor the feeder and optimize microgrid resources, including energy storage and EV supply equipment, according to real-time conditions to provide grid benefits. The project will generate valuable learnings for electricity network planners and operators, municipal planners, and developers, on the value of microgrids.	Residential	\$ 500,000	\$ 3,141,000	2018	Active
Innovia	Pile-Integrated Geo-Exchange System	The objective of this demonstration project is to compare the heating and cooling performance of helical steel geo-exchange piles versus conventional High Density Polyethylene (HDPE) ground loops in geothermal systems in a real-world setting in Ontario and to develop the local engineering and construction expertise for further implementations. Helical steel geo-exchange piles may offer significant installation cost, installation time, durability, and other benefits compared to conventional HDPE ground loops.	Commercial & Institutional	\$ 375,000	\$ 576,261	2018	Active
Goldcorp	Distributed Underground Air Compressors Demonstration	This project will seek to verify that small distributed air compressors can meet compressed air needs in mines using less than 50% of the energy compared to a conventional central surface compressor plant with associated underground distribution. The project will produce learnings on the business case and safe implementation of this novel approach.	Industrial	\$ 500,000	\$ 1,517,462	2018	Active
Ryerson University	IESO Distinguished Research Fellows	The Centre for Urban Energy (CUE) at Ryerson University will establish two research fellowships focusing on Energy Storage and Transactive Energy respectively to advance IESO and industry knowledge in these fields.	Institutional	\$ 721,550	TBD	2017	Active
UPlift: Toronto	Urban Living Futures	This project will pilot an alternative model for the IESO Conservation Fund to support CDM innovation providing additional non-financial support to projects and engaging private investment, while producing a round of field demonstrations of emerging technologies selected with input from the IESO.	Commercial & Institutional	\$ 499,375	\$ 816,425	2017	Active
Canadian Urban Institute	Improving Electricity Conservation in Small-Medium Municipal Water Distribution Systems across Ontario	As water and wastewater treatment and delivery becomes the single largest energy use for Ontario municipalities, this project will provide small-medium municipalities with a tool to enhance visibility into energy consumption in water distributions systems and identify energy efficiency and peak demand reduction opportunities.	Institutional	\$ 470,108	\$ 627,696	2017	Active
Enersion	Low-Cost Adsorption Chiller	This project will demonstrate a new technology with the potential to significantly reduce the costs of waste heat-to-cooling adsorption cooling.	Commercial & Institutional	\$ 348,100	\$ 614,900	2017	Active
York University	Impacts of Adopting Full Battery-Based Electric Transit Bus Systems on Ontario Electricity Grid	York University will develop modelling, simulation and optimization tools to study the integration of battery electric transit and school buses within existing electricity infrastructure and provide recommendations for local electric utilities and bus fleet owners/operators.	Commercial & Institutional	\$ 100,000	\$ 200,000	2017	Active



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EnerQuality Corporation	ENERGY STAR Multi-Family Buildings Pilot Program	With industry input, EnerQuality will design, develop and pilot a third party energy efficient certification program for mid/high-rise residential building new construction projects in Ontario leveraging the brand power of the ENERGY STAR label.	Multi-Unit Residential	\$ 437,800	\$ 778,500	2017	Active
RWDI	COMPASS: A Benchmarking Tool for Energy Models	This project will create a streamlined energy benchmarking and reporting tool for new construction projects at the design stage. By providing benchmarking analytics and data points aligned with electricity CDM and natural gas DSM program requirements, this tool will increase the energy literacy of the design and construction community and reduce soft costs of program participation to ultimately reduce electricity consumption and greenhouse gas emissions.	Commercial & Institutional	\$ 461,091	\$ 636,320	2017	Active
North Bay Hydro Services	North Bay Community Energy Park	This project will establish a microgrid and district energy system serving a number of North Bay community facilities. North Bay Hydro Services and its partners will perform a series of tests exploring the capabilities of the microgrid and its electricity CDM, greenhouse gas reduction, and resiliency benefits.	Commercial & Institutional	\$ 1,000,000	\$ 2,074,221	2017	Active
The Atmospheric Fund	Pumping Energy Savings Phase II: Demonstration and Scale-up Strategy	This project will evaluate the performance of heat pumps within the context of deep energy retrofits and develop best practice metrics to advance their adoption across the electrically-heated multi-unit residential building (EMURB) sector in Ontario. The strategies taken to transform the market for heat pumps will include: increasing market confidence, verifying performance in real-world environments; identifying and showcasing financing options; and developing a scale-up strategy that identifies and addresses the remaining market barriers.	Multi-Unit Residential	\$ 500,000	\$ 1,632,700	2017	Active
Alectra Utilities	Smart Electric Vehicle Charging Pilot for Workplaces	Through demonstrations at different buildings, this project will investigate how smart charging systems at workplaces can minimize the customer and utility impacts of transportation electrification.	Commercial & Institutional	\$ 933,300	\$ 2,706,022	2016	Active
Multiple Local Distribution Companies (LDCs)	Local Achievable Potential Studies Allocation	IESO will make available funding for LDC-lead Local Achievable Potential Studies for specific areas with identified capacity needs. The plans will assess the feasibility and costs of using CDM and other Distributed Energy Resources as Non-Wires Alternatives to defer or negate the need for additional investment in transmission and distribution system infrastructure. Study findings will inform the Integrated Regional Resource Planning process.	Various	\$ 1,000,000	\$ 1,000,000	2016	Active
National Research Council (NRC)	High Performance Buildings Program Recommitment	Through resource-efficient collaboration with critical and high profile stakeholders representing commercial building owners and operators, technology vendors, utilities and governments, the NRC-managed program will define, scope and execute collaborative demonstration and validation projects. These industry-driven projects will establish the value of retrofit solutions to potential early adopters for building owners and managers, provide the technical and market insight that participating companies and organizations need to support commercialization for vendors and service providers, and provide program design and delivery information for utilities and governments.	Commercial & Institutional	\$ 2,000,000	\$ 17,997,461	2016	Active
Brickworks Communications	Freezer Temperature Modification	The goal of this experimental research project is to measure the energy savings benefit, and assess any impacts on food quality, associated with a 3 degree Celsius increase in the standard temperature set-point in commercial freezers. A successful outcome from this project will show significant electricity savings ~10% with no concerns related to food quality, allowing regulators to adjust the required set-point generating significant electricity and customer financial savings. This project may lead to opportunities in residential refrigeration as well.	Commercial & Institutional	\$ 166,450	\$ 253,900	2016	Complete
CanmetENERGY	Enhancing RETScreen Expert to Further Meet the Needs of Ontario Energy Professionals	Building on the initial success of the RETScreen Expert tool, this project will add new building and project archetypes requested by Ontario energy professionals. Additionally enhancements will support data import using the Green Button standard and integration with the popular Portfolio Manager benchmarking tool. Cumulatively these enhancements will reduce the time and expense required by Ontario's business and institutions to identify energy efficiency opportunities, track project savings, and report on energy performance.	Industrial, Commercial & Institutional	\$ 400,000	\$ 911,000	2016	Active
SensorSuite	Development and Demonstration of Intelligent MURB Energy Management System	This project will demonstrate an energy management system for Multi-Unit Residential Buildings that leverages in-suite sensors, big data, machine learning algorithms, and IESO demand/price data to proactively manage building load while maintaining occupant comfort.	Multi-Unit Residential	\$ 498,250	\$ 1,195,400	2015	Active



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Ontario Clean Water Agency	Pay-for-Performance Pilot Initiative	This pilot will extend the IESO's testing of the pay-for-performance model as a potential approach to Conservation and Demand Management program delivery under the Conservation First Framework. Complementing the customer-level pay-for-performance pilots currently underway in the commercial retail and office sectors, this pilot will assess the application of the model at the program delivery agent-level to determine if it offers a more cost-effective, lower-risk means of effectively reaching challenging Industrial, Commercial & Institutional subsectors compared to traditional approaches.	Institutional	\$ 1,000,000	\$ 5,860,000	2015	Active
Alectra Utilities	Evolution of Advantage Power Pricing	This project will extend and expand Alectra's Smart Grid Fund-supported dynamic pricing pilot with price-responsive home technology to produce the financial, energy, and implementation data necessary to inform decisions about the introduction of dynamic pricing as a voluntary, all-year, alternative to the TOU rate structure for residential customers.	Residential	\$ 999,000	\$ 1,999,558	2015	Complete
Alectra Utilities	Residential Solar Storage Pilot	This project will install 20 residential solar storage units in the Alectra service area to evaluate their benefits to customers, the distribution system and the provincial grid. Public reports on conservation outcomes, electricity system benefits and LDC business models will be produced and shared publicly with all Ontario LDCs.	Residential	\$ 500,000	\$ 1,393,605	2015	Complete
Electrale Innovation Ltd.	Hydraulic Air Compressor (HAC) Demonstrator Project	A 30-metre high Hydraulic Air Compressor (HAC) Demonstrator rig will be installed in a former elevator shaft at Science North's earth sciences centre, Dynamic Earth. The project will measure and verify electricity savings of new HAC technology primarily for deep mining applications, and will provide opportunities for large industrial mining customers to learn more about the technology, which may lead to increased uptake and eligible projects through the Industrial Accelerator Program.	Industrial	\$ 499,000	\$ 2,555,367	2015	Complete
BEworks Inc.	Bills that Save: Nudging Energy Conservation and Demand Shifting Through Effective Communication of Time Use Pricing	Building on an Ontario Energy Board-commissioned project comparing the effectiveness of different LDC bills in communicating energy consumption and Time-of-Use (TOU) pricing information, this project will create a primer on best practices for bill design and conduct a field trial testing if optimized billing designs can cost effectively increase the desired customer response to TOU pricing.	Residential	\$ 450,000	\$ 600,000	2015	Active
Toronto Water	Advancing Energy Efficient Water Services in Toronto	This project will assess Toronto's water distribution network with the objective of developing a model to enable the use of pressure management strategies and price signals to improve the operational efficiency of Toronto's water system. Results and best practices will be shared with municipalities across Ontario to assist them in implementing a similar approach to energy conservation.	Institutional	\$ 100,000	\$ 148,000	2015	Complete
Hydro Ottawa	Conservation Voltage Regulation Leveraging AMI Data	This demonstration project will determine if Conservation Voltage Regulation (CVR) tools leveraging data from utility smart meter networks can deliver precise voltage regulation that produces quantifiable electricity savings for customers.	Various	\$ 305,681	\$ 312,231	2014	Active
Toronto Atmospheric Fund	Pumping Energy Savings	In collaboration with utilities, public and private building owners/manager, and other stakeholders, TAF will characterize Ontario's electrically-heated Multi-Unit Residential Building stock and develop tools and resources to support conversion to air- and ground-source heat pumps.	Multi-Unit Residential	\$ 260,700	\$ 388,300	2014	Complete
D+R International	Home Appliance Market Lift	D+R International will pilot a new mid-stream program approach designed to mitigate free-ridership issues that have challenged traditional efficient appliance incentive programs, while leveraging retailer expertise in product promotion.	Residential	\$ 498,688	\$ 666,088	2014	Complete



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Evergreen CityWorks	Tower Renewal Showcase Project	As part of a broader, three-phased Tower Renewal initiative, this Phase 1 project works with tower owners to develop scalable financing models using three MURB sites as case studies.	Multi-Unit Residential	\$ 150,000	\$ 340,000	2014	Complete
Canadian Urban Institute	The Ontario Parking Area and Garage Project	Building on its success with municipal street lighting, CUI will extend the LightSavers model of establishing and educating a peer network of early adopters to accelerate the adoption of Light-Emitting Diode (LED) technology with adaptive controls in Ontario's outdoor parking areas, multi-story parking structures, and underground garages.	Commercial & Institutional	\$ 134,934	\$ 179,230	2014	Complete
EnWin Utilities	Recommissioning of Commercial Buildings	The pilot will evaluate the benefits of offering retrocommissioning services to commercial customers beyond the incentives for chilled water system retrocommissioning currently offered through the Save on Energy EXISTING BUILDING COMMISSIONING initiative. Participants will be provided with expert analysis on the function of their building systems with recommendations for operational improvements and capital investments. Energy savings would be quantified to determine cost effectiveness.	Commercial	\$ 700,000	\$ 700,000	2014	Complete
EnWin Utilities	HAP Water Integration	The project will evaluate the benefits of enhancing the existing Home Assistance Program for Low Income customers by providing free water conservation measures in addition to the standard energy efficiency measures. The project seeks to capture the energy savings from reducing water consumption both at point-of-use (due to reduced water heating) and upstream in the water/waste water treatment process. Additionally it would try to establish the value of such a program to water utilities with the aim of securing financial support to deliver an integrated conservation program.	Residential	\$ 150,000	\$ 150,000	2014	Complete
Hydro Ottawa	Residential Demand Response Wi-Fi Thermostat Pilot	This pilot with Honeywell will test both a new delivery model and technology for Residential Demand Response. Rather than a direct install approach, the pilot will leverage retail and HVAC contractor partners' relationships to offer a rebate covering 60-70% of a new peaksaver PLUS-integrated, two-way communicating, Wi-Fi-enabled thermostat. Compared to the traditional peaksaver PLUS offer, the pilot expects to find great market uptake due to customer preference for the Wi-Fi device, reduced program administration costs, and greater confidence in the demand response thanks to the validation opportunity provided by the two-way communication functionality. The pilot will also test the potential for energy efficiency savings with the user-friendly programmable thermostat.	Residential	\$ 987,379	\$ 987,379	2014	Complete
Kitchener-Wilmot Hydro	Direct Install of Demand Control Ventilation Control System in Kitchens	The pilot would quantify the energy savings from retrofitting commercial kitchens with demand control ventilation controls and determine whether the direct install model can be cost effectively implemented for commercial customers. Demand ventilation controls can reduce fan energy consumption by optimizing equipment start/stops and exhaust fan speeds based upon building needs.	Commercial & Institutional	\$ 207,042	\$ 207,042	2014	Complete
Niagara on the Lake Hydro	Direct Install Energy Efficiency Measures for the Agricultural Sector	Commercial greenhouse, wineries, and other agricultural businesses have shown limited participation in the Save on Energy programs to date. This pilot will investigate whether a sector-specific, direct install approach can increase uptake and deliver cost-effective energy savings.	Commercial	\$ 683,538	\$ 683,538	2014	Complete
Cambridge and North Dumfries Hydro	Residential Demand Response Smart Thermostat Pilot	This pilot with Nest Labs will test both a new delivery model and technology for residential demand response using two-way communicating Nest Thermostats. Instead of a peaksaver PLUS style direct-install offer of a one-way communicating thermostat and incentive In-Home Display, consumers will be offered a rebate covering 80% of the cost of a new Nest device conditional on signing up for Nest's Rush Hour Rewards DR program. The pilot will determine if consumer preference for the device drives greater market uptake compared to historical Residential DR programs, evaluate the program administration advantages of using retailers and contractors as the delivery channel, and analyze consumer opt-out frequency and duration when an easy opt-out option is available. The pilot will also seek to capture the energy efficiency savings accruing from the Nest device's "learning" functionality.	Residential	\$ 910,625	\$ 910,625	2014	Complete



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EnWin Utilities	Operation Savings-Based C&I Rewards Pilot	This pilot will test a pay-for-performance model for operational savings in certain C&I subsectors by establishing an energy baseline for participant facilities and providing rewards for tracked improvements. Included subsectors are Automotive, Hospitality, Hospital, University, Multi-Unit Residential Buildings, Pharmaceutical, Agri-food, and Municipal.	Commercial & Institutional	\$ 271,294	\$ 271,294	2014	Complete
Canadian Manufacturers & Exporters Ontario	Energy Pathfinder Initiative	The Energy Pathfinder Research Initiative is designed to identify common opportunities to improve, control or optimize energy intensive processes for industry, and develop new best practices to realize efficiency improvements at low cost.	Industrial	\$ 289,500	\$ 499,000	2014	Active
Ecospex	Development of an Online Industry Platform for Verified Energy Efficient Products and Knowledge Transfer	Ecospex aims to accelerate the penetration of energy efficient products in the Ontario building industry by creating a free online resource of performance verified products with integrated gas and electricity conservation program incentive information allowing easy and confident evaluation and comparison of products. By centralizing and verifying information on available green building products, Ecospex believes its service will significantly reduce the time and risk entailed with procuring "green" materials and equipment.	Commercial & Industrial	\$ 100,790	\$ 145,933	2014	Complete
Waterfront Toronto	Building Sustainable Communities : Energy Performance Tracking Project at New Toronto Waterfront Buildings	The goal of this project is to collect and analyze energy and water data from new, LEED-certified commercial and residential buildings in Toronto's designated waterfront area, and prepare a white paper analyzing the datasets.	Commercial	\$ 34,650	\$ 141,300	2014	Complete
Toronto and Region Conservation Authority	Performance Based Conservation Pilot Program	This project will pilot a strategic concept using large-scale energy benchmarking diagnostics to enhance conservation program performance for an entire region and drive the adoption of energy benchmarking as a standard practice in the Ontario Commercial & Institutional sector.	Commercial & Institutional	\$ 250,000	\$ 383,348	2014	Active
SUMARAN	Zoned Distribution Strategies and the Use of Gravel bed Thermal Storage with Cold Climate Air Source Heat Pumps and Air Conditioners to Reduce Peak Load Demand and Annual Energy Consumption in Low-Rise Housing	The project will assess the potential for zoning, cold climate air source heat pumps (CC-ASHPs) and low cost thermal storage to reduce residential peak load demand and annual energy consumption, using test facilities in Ottawa and computer modeling.	Residential	\$ 242,000	\$ 569,000	2014	Complete
Globe Electric	Upstream Lighting Pilot	Resulting from a strategic call for pilots, this project will pilot a new "upstream" program delivery model for high efficiency lighting products that shows potential to reduce program administration costs and expand retailer participation compared to traditional incentive programs.	Residential	\$ 100,000	Confidential	2014	Complete
OSRAM SYLVANIA	Upstream Lighting Pilot	Resulting from a strategic call for pilots, this project will pilot a new "upstream" program delivery model for high efficiency lighting products that shows potential to reduce program administration costs and expand retailer participation compared to traditional incentive programs.	Residential	\$ 100,000	Confidential	2014	Complete
Toronto Hydro	Determining the Impact of Demand Response in the Multi-Unit Residential Building Sector- Further Testing	Leveraging installed measurement and load control equipment, this project extends Toronto Hydro's MURB DR pilot to learn more about suite and common area load control and energy management.	Multi-Unit Residential	\$ 169,850	\$ 169,850	2014	Complete



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Toronto Hydro	Commercial Energy Management and Load Control (CEMLC) to Determine the Impact of Demand Response in the 50-400 kW Commercial Sector	To test the effectiveness of a demand response and energy management program for 50-400 kW C&I customers using Roof-Top Units for space heating and cooling. Pilot will initially feature the installation of load control devices and programmable communicating thermostats at 12 sites divided by C&I subsector (Office, Retail, Hospitality, Institutional), with later expansion to up to 50 sites in total. DR activation will be in alignment with peaksaver PLUS.	Commercial	\$ 543,900	\$ 543,900	2013	Complete
CanmetENERGY	Ontario Archetypes for RETScreen Expert	This project will populate the new RETScreen Expert software with Ontario-specific building archetype and cost data to provide provincial consumers with access to an expert decision intelligence software platform which can provide financial and technical evaluation for energy efficiency projects over the entire project life cycle.	Industrial, Commercial & Institutional	\$ 402,000	\$ 884,175	2013	Complete
ASE Smart Energy	RetroSAVE Emerging Technology Demonstration	The project will install a wireless HVAC zoning technology called RetroSAVE into 35 homes (25 in Toronto, 10 in Ottawa) for a one-year demonstration project designed to measure impacts on energy use and occupant comfort.	Residential	\$ 182,300	\$ 714,800	2013	Complete
Strategic Energy Group	Continuous Energy Improvement – Industrial Pilot	The Industrial CEI project will put in place a continuous improvement process that creates and verifies behavior based energy efficiency savings of 5 to 15 % in addition to conventional equipment savings.	Industrial	\$ 500,000	\$ 754,075	2013	Complete
EnerNOC	Strategic Energy Management – Commercial & Institutional	The project is a collaboration between EnerNOC, the OPA, and Local Distribution Companies (LDCs) to engage medium and large commercial and industrial companies in Ontario in strategic energy management.	Commercial & Institutional	\$ 417,271	\$ 688,226	2013	Complete
City of Toronto	Energy Retrofit Financing Pilot	The proposed City of Toronto Energy Retrofit Financing pilot program will test the residential housing market's receptivity towards a comprehensive energy efficiency program that utilizes local improvement charge (LIC) financing and neighborhood-based marketing to encourage property owners to undertake energy efficiency investments. The pilot's participation-related goals include the completion of energy assessments, the installation of energy efficiency measures and acceptance of LIC (property-assessed) financing offered by the City for 200 single family homes and 2 multi-residential buildings (representing approximately 200 housing units).	Residential	\$ 458,000	\$ 914,000	2013	Complete
Loblaws Properties Limited	Results-Based Performance Optimization Program	The pilot program will test a new approach to encouraging commercial stores to identify areas for potential energy efficiencies through improvements focusing on daily operations, systems and equipment upgrades. Actions undertaken in individual stores will be motivated by a 'pay for performance' incentive through which actual, not forecasted, energy savings are rewarded. The intent is to capture incremental efficiency gains from optimization associated with store-specific upgrades and improvements, and to validate the potential of pay for performance models as a next generation approach to conservation programming.	Commercial	\$ 1,000,000	\$ 3,000,000	2013	Complete
McMaster University, DeGroot School of Business	The Electric Heating Benefits of Thermal Energy Storage	For the benefit of low income customers, McMaster University in partnership with Hydro One will examine the conservation and load shifting benefits of thermal energy storage (TES) under current time of use (TOU) rates. The pilot will test customer interaction with TES units and determine its potential as a next generation offering for low income customers.	Residential	\$ 375,443	\$ 615,943	2013	Complete
Ryerson University	Centre for Urban Energy	As a founding sponsor of the Centre for Urban Energy (CUE) at Ryerson, the OPA will support the three fellowship positions and student awards focused on: Integration of Energy and Urban Planning, Integrated Delivery of Electricity, Gas and Water Conservation and Energy Storage.	Various	\$ 1,800,000	TBD	2013	Complete



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Toronto Hydro	Determining the Impact of Demand Response in the Multi-Unit Residential Building Sector- Further Testing	To test the effectiveness of demand response and whole building energy efficiency in multi-unit residential buildings. The pilot will incorporate the following: <ul style="list-style-type: none"> <li>• Demand Response – control of suite and common area cooling loads aligned with the peaksaver PLUS activation rules</li> <li>• Energy Efficiency – leveraging of installed demand response equipment for energy efficiency and the promotion of a holistic approach to energy efficiency by requiring audits of lighting and hydronic systems</li> </ul>	Multi-Unit Residential	\$ 606,000	\$ 606,000	2013	Complete
Niagara Peninsula Energy	Electric Vehicle Load Shifting Pilot	NPEI is conducting a pilot to verify the demand savings from a load shifting program that would install timers to allow golf courses and industrial facilities with electric vehicles to shift charging to off peak hours. The potential demand savings from the pilot are 330 kW.	Commercial	\$ 250,000	\$ 250,000	2013	Complete
Toronto Hydro	Local Demand Management Pilot Study	To create a model to determine the avoided generation, transmission, and distribution costs provided by a local DR capability and to develop an activation protocol for Local DR events harmonized with the transmission system and IESO-administered DR capabilities.	Various	\$ 99,844	\$ 133,125	2013	Complete
Hydro One Networks & Opower	Social Benchmarking Pilot Program	Hydro One Networks and Opower are collaborating to deliver an opt-out program to 50,000 Hydro One customers. Central to the program is the Home Energy Report, a printed paper report that will be delivered to participating customers via the mail. These reports will include a normative comparison that compares that customer to efficient neighbors and other neighbors. In addition, customers will have access to a website that enables them to explore their energy usage in detail and to receive energy efficiency information.	Residential	Confidential	Confidential	2012	Complete
Milton Hydro & Simple Energy	Milton Hydro Social Benchmarking Pilot Program	Milton Hydro and Simple Energy are collaborating to deliver an opt-in program to the customers of Milton Hydro. Up to 10,000 Milton residential customers who sign up to participate will receive personalized reports by email. These reports will include normative energy use comparisons, energy savings tips, and the ability to earn rewards points for energy savings performance. Customers that register for the service will have the ability to compete against other registered customers, and will have the opportunity to participate in both individual or team challenges. These customers will have access to a web portal that will allow them to create a user profile and access their energy usage information, compete with other customers, and view rewards activity. To raise awareness and encourage participation in the program, Milton Hydro will run a school challenge to engage local students to motivate their households to participate in the program and save energy.	Residential	Confidential	Confidential	2012	Complete
Horizon Utilities Corp. & Simple Energy	Horizon Utilities Social Benchmarking Pilot Program	Horizon Utilities and Simple Energy are collaborating to deliver an opt-out program to 50,000 Horizon Utilities customers. The Program seeks to empower customers to drive energy conservation utilizing behavioral science, gaming mechanics, and rewards, including AIR MILES for Social Change. The program will be delivered via web portal and email to engage and motivate customers in the places where they already spend their time. Personalized energy reports for each participating customer will be emailed on a periodic basis and participating customers will also have access to a web portal that will allow them to create a user profile and access their energy usage information, compete with other customers, and view rewards activity.	Residential	Confidential	Confidential	2012	Complete
Ekologix	Energy efficient apparatus for the treatment of wastewater	Ekologix is piloting its Plunge-Aero-Mix™ (PAM) technology in an Energy efficient apparatus for the treatment of wastewater project, which enhances mixing and aeration systems in a municipal wastewater treatment plants. It is anticipated that this process innovation will result in 60% energy savings in treatment plants.	Commercial	\$ 375,000	\$ 500,000	2012	Complete
National Research Council (NRC)	High Performance Buildings Program	Through resource-efficient collaboration with critical and high profile stakeholders representing commercial building owners and operators, technology vendors, utilities and governments, the NRC-managed program will define, scope and execute collaborative demonstration and validation projects. These industry-driven projects will establish the value of retrofit solutions to potential early adopters for building owners and managers, provide the technical and market insight that participating companies and organizations need to support commercialization for vendors and service providers, and provide program design and delivery information for utilities and governments.	Commercial	\$ 2,000,000	\$ 18,495,175	2012	Complete



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EnerQuality	Green Renovator Market Characterization Study	The goal of EnerQuality's Green Renovator Market Characterization Study is to acquire an in-depth understanding of the industry landscape for renovations in order to determine the potential market opportunity, feasibility, and go-to-market strategy for energy efficient and sustainable construction renovator training in Ontario.	Residential	\$ 100,000	\$ 163,700	2012	Complete
Avvasi Inc.	Energy-Efficient Video Traffic Management	Avvasi's goal is to manufacture and test its video optimization technology, the Q-SRV, which is anticipated to be up to 40 times more efficient than competing technologies at managing streaming video traffic.	Commercial	\$ 273,333	\$ 537,999	2012	Complete
Caneta Research Inc.	Residential Furnace Fan Motor Retrofit Feasibility Study	This strategic research project will evaluate the potential energy and demand savings associated with retrofitting existing Permanent Split Capacitor (PSC) furnace fan motors to higher efficiency Electronically Commutated Motors (ECMs). Caneta will quantify the electricity usage associated with furnace fan operation in typical homes, from which the total usage associated with furnace fan operation across Ontario will be extrapolated. To accomplish this, Caneta will determine the proportion of existing homes that have PSC motors installed compared with existing ECM installations. Caneta's analysis will determine whether ECM furnace fans require an incentive to be cost effective, and will detail any practical implementation barriers associated with this type of retrofit.	Residential	\$ 30,000	\$ 30,000	2012	Complete
Ontario Centres of Excellence (OCE)	OCE Energy Conservation Connections	Ontario Centers of Excellence's Energy Conservation Connections project facilitates the partnerships of final year post-secondary students with electricity sector clients to work on real-world energy conservation projects. The best projects are showcased at the OCE's annual Energy Connections event, which brings together universities and commercial entities for technological innovations.	Various	\$ 248,800	\$ 2,917,800	2012	Complete
ArcelorMittal Dofasco (AMD)	Innovative Efficiency Improvement in Large Industrial Motor Cooling System	ArcelorMittal Dofasco (AMD) in Hamilton is conducting a detailed pilot field study to assess whether large industrial motors can be safely cooled through the application of variable speed drive technology. Optimizing the cooling systems by using variable speed drive controlled fans may potentially reduce the energy associated with these systems, thus reducing the overall energy consumption at the AMD Hot Mill by an estimated 4,200 MWh.	Industrial	\$ 381,054	\$ 534,246	2011	Complete
ArcelorMittal Dofasco (AMD)	Innovative Application of LED Technology to Industrial High Bay Lighting Retrofits	ArcelorMittal Dofasco (AMD) in Hamilton is installing and testing an innovative lighting system that uses LED technology based on the bulb/ballast design of current industrial High Bay lighting. The expected outcomes of this retrofitting project are increased lamp life, better lighting at floor level, and good system component serviceability in the extreme environment of industrial mill high bay lighting.	Industrial	\$ 92,630	\$ 144,318	2011	Complete
Canada Green Building Council (CaGBC-GTC)	Sustainable Communities – Regional Toolkit & website	The Canada Green Building Council (Greater Toronto Chapter) is facilitating information sharing in their Sustainable Communities project through creation of a web-based resource centre, called the Ontario Green Policy Hub ( <a href="http://www.ogph.ca">www.ogph.ca</a> ). This publically available tool will contain case studies and policy language to use in green building and sustainable community planning across Ontario municipalities.	Various	\$ 45,000	\$ 57,500	2011	Complete
Green Light on a Better Environment (GLOBE) with SHSC	Utilities Management Program (UMP)	Green Light on a Better Environment (GLOBE) is developing a Utilities Management Program tool for the low-income social housing sector. Through integration with Portfolio Manager this tool will enable energy performance benchmarking and assist housing providers in improving building performance.	Multi-Unit Residential	\$ 361,000	\$ 651,000	2011	Complete
Horizon Utilities Corp.	CDM Electric Energy Density Mapping: City of St. Catharines and City of Hamilton	Horizon Utilities Corporation is using geographic information system (GIS) technology to develop energy density maps that correlate electricity consumption with building square footage in St. Catharines and Hamilton. Once completed, these maps could be used to effectively target the deployment of conservation and demand management programs, including the OPA's Tier 1 programs.	Commercial	\$ 525,435	\$ 821,570	2011	Complete





IESO Grid Innovation Fund, Conservation Fund, and Technology Development Fund Project Portfolio							
Proponent	Project Title	Summary	Sector	Amount Awarded	Total Budget	Year	Status
Town of Caledon	Development and implementation of a "sustainable community" policy framework for new residential developments based on best practices, and stakeholder consultation	The Town of Caledon is developing and implementing a sustainable community policy framework for new residential developments based on best practices and stakeholder consultation. Once completed, this document may help municipalities reduce the long term energy demand of new residential developments and has the potential to feature a number of water and energy-related measures.	Residential	\$ 29,500	\$ 48,650	2011	Complete
Ontario Centers of Excellence (OCE)	OCE Energy Conservation Connections	To both stimulate student interest in electricity sector careers and facilitate the recruitment of new engineers and technicians, the Ontario Centers of Excellence Energy Connections program will partner final year post-secondary students with electricity sector clients for whom the student teams will work on real-world projects.	Various	\$ 315,500	\$ 3,215,000	2011	Complete
PCS Utilidata and Flakeboard	Industrial Voltage Optimization	Flakeboard will install and test an industrial voltage optimization system at their MDF production facility in Sault Ste. Marie. The potential for electricity savings will be verified and recommendations for the creation of voltage optimization conservation programs will be provided.	Industrial	\$ 499,170	\$ 570,570	2011	Complete
CivicAction	Race to Reduce	The "Race to Reduce" encourages landlord-tenant collaboration, the implementation of energy saving measures, and sector benchmarking through use of Portfolio Manager. The goal is for commercial buildings in the GTA to achieve a 10% reduction in overall energy use over four years.	Commercial	\$ 675,000	\$ 1,520,400	2011	Complete
St. Lawrence	Investigation of Electricity Conservation Achieved from Water Conservation Measures	St. Lawrence College's Sustainable Energy Applied Research Centre worked with Utilities Kingston to quantify the energy consumption (kWh) per cubic meter of water sourced, treated, and delivered by the utility. Additionally SEARC provided a report detailing what water conservation measures are offered in jurisdictions across North America with an analysis of those most appropriate for integration into energy conservation efforts.	Commercial	\$ 99,800	\$ 156,680	2011	Complete
Canadian Urban Institute	Lightsavers Ontario: Accelerating Adoption of LEDs and Adaptive Controls in Outdoor Lighting	The Canadian Urban Institute is entering into the third phase of the "LightSavers Ontario" program, which involves the development of a number of tools for the accelerated adoption of advanced lighting technologies, such as LEDs, and smart adaptive controls in outdoor lighting by Ontario municipal governments, MASH sector institutions, and companies that own large lighting assets such as parking lots and garages.	Commercial & Institutional	\$ 65,000	\$ 110,000	2011	Complete
Torrefuels	Carbon Neutral Fuels Through Direct Firec Torrefaction using Various Biomass Feedstocks - Torrecoal from Torremax	Torrefuels is developing and analyzing the combustion and torrefaction processes associated with various low grade feedstocks in a project entitled "Carbon Neutral Fuels Through Direct Fired Torrefaction using Various Biomass Feedstocks". Additionally, the project aims to design an integrated system for its demonstration plant.	Industrial	\$ 250,000	\$ 504,450	2011	Complete
Greening Greater Toronto/ Toronto City Summit	Greening Greater Toronto Procurement of Energy Efficient Products Initiative ("GGT Procurement Initiative")	Greening Greater Toronto's Procurement project aims to increase corporate procurement of energy efficient products and services in the GTA by holding events, developing an online document repository, and convening a leadership group to promote solutions.	Commercial	\$ 175,000	\$ 716,000	2010	Complete
Five Nations Energy Inc.	First Nations Energy Conservation Program	An energy conservation and education program model focused on public education and residential housing retrofits will be piloted by Five Nations Energy Inc. with the goal of reducing electricity consumption and costs for customers in the First Nation communities on the west coast of James Bay.	Residential	\$ 235,000	\$ 644,500	2010	Complete



IESO Grid Innovation Fund, Conservation Fund, and Technology Development Fund Project Portfolio							
Proponent	Project Title	Summary	Sector	Amount Awarded	Total Budget	Year	Status
Centre for Environmental Sustainability in Healthcare	Healthcare Energy Management Program	To determine its potential to reduce energy consumption at four healthcare service providers, the project will pilot a healthcare-specific energy monitoring system that provides baseline and ongoing energy consumption and demand monitoring functionality.	Commercial & Institutional	\$ 99,996	\$ 520,911	2010	Complete
EnerQuality	Renovator Energy Efficiency Training Pilot	A training program for renovators and trade contractors will be piloted with the goal of increasing the availability of the technical, managerial and business development skills required to service the demand for energy efficient home renovations and retrofits.	Residential	\$ 85,000	\$ 171,000	2010	Complete
Hatch Ltd.	Industrial Energy Design Pilot Project	By measuring the impact of cross-functional energy efficiency and renewable energy design reviews of industrial sites in Ontario, Hatch Ltd. developed a business case for conducting Industrial Energy Design reviews prior to industrial facility development or expansion. Results webinar attended by reps from many of province's largest industrial energy consumers.	Industrial	\$ 210,000	\$ 440,000	2010	Complete
Tower Labs @ MaRS	Tower Labs™ @ MaRS	To accelerate the adoption of innovative green building solutions in Toronto's high-rise buildings, the Tower Labs @ MaRS project will facilitate pilot and demonstration projects of new and emerging energy efficient technologies.	Commercial	\$ 149,321	\$ 230,000	2010	Complete
Ontario Centers of Excellence	Energy Connections	To both stimulate student interest in electricity sector careers and facilitate the recruitment of new engineers and technicians, the Ontario Centers of Excellence Energy Connections program will partner final year post-secondary students with electricity sector clients for whom the student teams will work on real-world projects.	Various	\$ 250,000	\$ 1,123,079	2010	Complete
Toronto Hydro	Small Scale Ice Storage	To determine the potential of thermal storage as a tool for managing summer peak demand, this Small Scale Ice Storage project by Toronto Hydro will evaluate the technical feasibility of small-scale ice storage combined with rooftop cooling units.	Commercial	\$ 352,750	\$ 687,800	2010	Complete
Toronto and Region Conservation Authority	Partners in Project Green – Energy Management Co-op Program	The Toronto and Region Conservation Authority Partners in Project Green program is designed to develop and implement a cooperative Energy Management education program for post-secondary school students with the purpose of providing work placements in energy management.	Industrial	\$ 36,500	\$ 101,000	2010	Complete
Waterfront Toronto	Climate Positive Development – Waterfront Toronto Green Building Requirements	By developing a Carbon Tool and Minimum Green Building Requirements, Waterfront Toronto aims to provide planners with the ability to better assess the sustainability and performance implications of new development.	Commercial	\$ 253,399	\$ 543,399	2010	Complete
Alliance of Manufacturers and Exporters (Marbek)	Adapting Lean Manufacturing to Support Implementation of ISO 50001 Energy Management Systems Standard	To facilitate implementation of the ISO 50001 energy management standard by Ontario's manufacturing sector, Marbek will both identify opportunities for the adoption of Lean Manufacturing practices and develop mechanisms to better support Lean Manufacturing for ISO 50001 Energy Management adoption.	Industrial	\$ 90,000	\$ 110,235	2010	Complete



## IESO Grid Innovation Fund, Conservation Fund, and Technology Development Fund Project Portfolio

Proponent	Project Title	Summary	Sector	Amount Awarded	Total Budget	Year	Status
Energent	Monitoring and Targeting - A managed approach to energy conservation	Energent's Managed Approach to Energy Conservation project will assess how providing four industrial clients with a holistic energy "one-stop-shop" program increases participation in conservation. The monitoring and targeting program will include audit and engineering services, mentorship, and training and education.	Commercial	\$ 414,596	\$ 1,529,990	2010	Complete
Hydratek	Towards Municipal Sector Conservation: A Pump Efficiency Assessment and Improvement Pilot Study	Hydratek conducted high accuracy pump-efficiency testing across the province with the goal to encourage investments by Ontario municipalities in electricity conservation via pump efficiency improvements and proactive energy management of their water and wastewater systems.	Commercial & Institutional	\$ 246,000	\$ 556,410	2010	Complete
Morgan Solar	Sun Simba HCPV Concentrating Solar Power Module: Optical Efficiency	The goal of Morgan Solar's technology development project is to certify and patent its "Sun Simba High Concentration Photovoltaic Concentrating Solar Power Module" technology.	Commercial	\$ 250,000	\$ 1,107,600	2010	Complete
McMaster University	Extended Utility Controlled Zone Field Trial	McMaster University will determine through this "Extended Utility Controlled Zone Field Trial" if zoned forced air systems under utility control can reduce peak demand from residential air conditioners.	Residential	\$ 66,397	\$ 528,862	2010	Complete
Ryerson University	Building Performance Assessment Using Occupant Questionnaires and Energy Data	The ultimate goal of this project is to formalize a building performance evaluation protocol which relies on both user-generated and quantitative data to uncover efficiencies that have not yet been realized by building designers, managers, and occupants. The result will be a software tool that practitioners can use to understand occupant behavior (a major barrier currently) and to evaluate design and management decisions.	Commercial	\$ 61,958	\$ 122,108	2010	Complete
Electrovaya	Demonstration of Utility-Scale Advanced Battery Electricity Storage for Renewable and Clean Energy Applications	Electrovaya's "Demonstration of Utility-Scale Advanced Battery Electricity Storage for Renewable and Clean Energy Applications" project aims to demonstrate utility-scale electricity storage based on modular Li-ion polymer battery technology commonly used in electric vehicle applications.	Commercial	\$ 450,000	\$ 8,185,000	2010	Complete
CEATI	Biomass Torrefaction/Carbonization #0530	CEATI will evaluate the commercial potential of torrefied/ carbonized biomass for use in pulverized coal combustion facilities.	Industrial	\$ 100,000	\$ 2,100,000	2010	Complete
GEMCO (Glenbarra)	Solar Cooling and Dehumidification to Reduce Summer Cooling Peak Load and Displace Conventional Air Conditioners in Urban Communities	To reduce summer cooling peak loads and displace conventional air conditioners in urban communities, GEMCO will demonstrate a solar triple-state absorption thermal heating/cooling system at the Shouldice Hospital.	Commercial	\$ 250,000	\$ 1,300,000	2010	Complete
Enerworks	Oxford Gardens Retirement Village - Solar Cooling Project	Enerworks will demonstrate a "plug and play" solar thermal cooling controller as part of Canada's largest solar thermal cooling project at the Oxford Gardens Retirement Village in Woodstock, Ontario.	Commercial	\$ 112,500	\$ 745,000	2010	Complete



## IESO Grid Innovation Fund, Conservation Fund, and Technology Development Fund Project Portfolio

Proponent	Project Title	Summary	Sector	Amount Awarded	Total Budget	Year	Status
Enbala Power Networks	Ancillary Services from Municipal Water/Wastewater Facilities	In cooperation with the Ontario Clean Water Agency and a network of municipal water treatment and wastewater plants, this ancillary services project will demonstrate Enbala Power Network's potential to provide regulation services to Water and Wastewater facilities.	Industrial	\$ 300,000	\$ 1,068,510	2010	Complete
Temporal Power	Long Duration Flywheels for Distributed Grid-Scale Energy Storage	Temporal Power's "Long Duration Flywheel" electricity storage device will be modified to facilitate the integration of grid-scale intermittent renewable generation by distribution and transmission utilities in Ontario.	Industrial	\$ 300,000	\$ 1,136,829	2010	Complete
ARDA Power	Advanced Integrated Solar Photovoltaic and Battery Energy Storage	In response to the need for safe rooftop solar photovoltaic systems, ARDA Power is demonstrating a low-cost, high-efficiency "plug-in electrical energy storage" solution that harvests energy from solar PV modules at low voltages.	Various	\$ 232,000	\$ 510,400	2010	Complete
TRIAS Innovations	A Dual-Rotor Small Wind Energy Converter	In collaboration with the University of Ottawa, TRIAS Innovations will deliver an international workshop on small wind energy converters and a research report on the Ontario market for small wind turbines for their dual-rotor small turbine.	Commercial	\$ 50,000	\$ 1,050,000	2010	Complete
University of Toronto	Efficient, low-cost solar cells: Prototype engineering to enable customer validation and investor diligence	The University of Toronto is developing a pre-commercial prototype of low-cost, high efficiency quantum dot solar cells for external validation and demonstration.	Commercial	\$ 100,000	\$ 650,000	2010	Complete
InMotive	Mechatronic Variable Speed Drive (MVSD) Commercialization Project	To improve the energy efficiency of heating, ventilation and air conditioning systems in office, commercial, industrial, institutional and multi-unit residential buildings, InMotive will be testing and certifying its "Mechatronic Variable Speed Drive" (MVSD), leading to commercialization of this product.	Commercial	\$ 350,000	\$ 1,544,640	2010	Complete
Canadian Urban Institute	Integrated Energy Mapping for Ontario Communities	The Canadian Urban Institute, through the "Integrated Energy Mapping for Ontario Communities" (IEMOC) project, developed energy land-use maps for the municipalities of Barrie, Guelph, Hamilton and London. These maps, through increased data analyses and visual representations, were designed to assist in the long term energy land-use planning goals of reducing energy demand within the constructed environment and encouraged renewable energy sources.	Commercial & Institutional	\$ 400,000	\$ 800,568	2009	Complete
Ontario Centers of Excellence (OCE)	Energy Connections	Ontario Centers of Excellence's (OCE) "Energy Connections" project facilitated the partnerships of final year post-secondary students with electricity sector clients to work on real-world energy conservation projects.	Various	\$ 250,000	\$ 750,000	2009	Complete
Ecos Consulting	Ecos Qualified Technical Solutions Program	The "Ecos Qualified Technical Solutions Program" developed by Ecos Consulting enlisted utilities and computer manufacturers to integrate more energy-efficient power supplies into desktop computers, desktop-derived servers, data center servers, and computer peripherals. This program design provided utility rebate incentives upstream to the computer manufacturer to decrease the cost of more expensive power supplies, which was anticipated to be more cost effective than providing incentives to end consumers due to the smaller per unit incentive cost.	Commercial	\$ 400,000	\$ 1,050,000	2009	Complete



## IESO Grid Innovation Fund, Conservation Fund, and Technology Development Fund Project Portfolio

Proponent	Project Title	Summary	Sector	Amount Awarded	Total Budget	Year	Status
Enerquality Corporation	Home Builders' Association Local Energy Efficiency Partnership Project (HBA LEEP Project) and Technology Adoption Pilot (TAP)	Through the Enerquality Corporation, the Home Builder Association (HBA) "Local Energy Efficiency Project" (LEEP) aims to identify barriers that builders face in adopting new energy efficiency and renewable energy technologies, and to create strategies that will enable the builders to overcome these barriers. One such strategy - the Technology Adoption Pilot (TAP) - is a training initiative that introduces new energy efficiency/renewable energy technologies to R-2000 builders.	Residential	\$ 200,000	\$ 550,000	2009	Complete
Hatch Ltd.	Application of ANSI/MSE 2000/2008 to manufacturing plants in Ontario	Hatch Ltd. worked with five manufacturing plants in Ontario to develop a business case for implementing the American National Standards Institute's Management System for Energy - ANSI/MSE 2000/2008. Additionally, Hatch developed a public version of an International Organization for Standardization (ISO) diagnostic software tool and worked with one manufacturing plant toward compliance with ISO 50001.	Industrial	\$ 398,000	\$ 2,167,000	2009	Complete
OntarioGreenSpec.ca c/o Mindscape Innovations	Home Sweet Home Competition	Mindscape Innovations developed a green building competition, the "Home Sweet Home Competition", to engage post-secondary architecture and design students in applying energy saving principles to innovative home designs.	Residential	\$ 69,200	\$ 163,800	2009	Complete
Retail Council of Canada	Market Characterization Study of Energy Conservation in the Ontario Retail Sector	The Retail Council of Canada conducted a market characterization study of the Ontario retail sector in order to determine how to best approach this sector in terms of energy reduction initiatives.	Commercial	\$ 149,175	\$ 174,900	2009	Complete
Canadian Plastics Industry Association (CPIA)	(Additional funds to complete 2007.13 project)	The Canadian Plastics Industry Association undertook this project to identify and employ electricity reduction strategies in the plastic processing sector. Some of the strategies identified were education and identification opportunities, as well as engaging employees to foster a 'conservation culture'.	Commercial	\$ 39,750	\$ 49,688	2009	Complete
Carleton University	E3 : Education for Energy Programming and Evaluation	Carleton University's School of Public Policy and Administration developed and piloted a professional development training entitled "E3: Education for Energy Programming and Evaluation", which targeted professionals who design and evaluate energy programs.	Commercial	\$ 265,000	\$ 496,000	2009	Complete
Energysop	Energy Efficiency for Swimming Pools	Energysop assessed the market for energy efficiency designs and technologies, such as variable speed motors, for residential swimming pools.	Residential	\$ 258,300	\$ 283,250	2009	Complete
Toronto Atmospheric Fund	Lightsavers Phase II	The Toronto Atmospheric Fund worked with Greater Toronto Area lighting asset managers to create clarity on solid state lighting (SSL) opportunities in public garages and roadways. This project, entitled "Lightsavers Phase II", also aimed to overcome policy and regulatory barriers for advanced lighting.	Commercial & Institutional	\$ 49,500	\$ 186,440	2009	Complete
Toronto Community Housing Corporation	Electricity Sub-Metering Pilot for Multi-Family Residential Buildings	Toronto Community Housing Corporation conducted research on policy and social issues related to electricity sub-metering for multi-family residential buildings in Ontario and developed recommendations for sub-metering initiatives in social housing units.	Multi-Unit Residential	\$ 400,000	\$ 922,500	2009	Complete



## IESO Grid Innovation Fund, Conservation Fund, and Technology Development Fund Project Portfolio

Proponent	Project Title	Summary	Sector	Amount Awarded	Total Budget	Year	Status
Waterloo Region Green Solutions	Residential Energy Efficiency Project (REEP) House Project	Waterloo Region Green Solutions' "Residential Energy Efficiency Project - the REEP House" - supported and promoted residential energy efficiency through a community-based storefront model, which demonstrated training and energy efficiency programs to the public.	Residential	\$ 212,800	\$ 288,800	2009	Complete
Fifth Light Technologies	Web-based intelligent dimming and lighting management system	The goal of Fifth Light's project was to demonstrate its web-based intelligent dimming and lighting management system. This test involved dimming all types of linear fluorescent light and other types of indoor light sources, while eliminating the undesirable side effects such as reduced power factor, and excessive heat dissipation.	Commercial & Institutional	\$ 250,000	\$ 1,000,000	2009	Complete
Whalepower	Applying Tubercle Technology to Small and Medium Sized fans	Whalepower's project measured efficiency gains produced by the application of its Tubercle technology to small and medium sized fan blades (8 cm to 30 cm in length).	Commercial	\$ 59,000	\$ 119,000	2009	Complete
Unified Corp	The Ultra Fridge Project	Unified Corp tested the 'Ultra Fridge', which integrates a loop heat pipe (LHP) into standard refrigeration platforms with simple modifications. Reductions in electricity consumption of 50% are anticipated by determining when to capture the outdoor 'cold' for refrigeration and when to create 'artificial' refrigeration.	Residential	\$ 249,555	\$ 611,610	2009	Complete
University of Waterloo	North House Prototype Construction	The University of Waterloo built a prototype solar powered home - the North House - designed for northern climates. The North House served as a public demonstration project for education in new technologies, solar living, and energy conservation. It also operated as a living laboratory for extensive monitoring, testing and evaluation of these technologies and systems. The goal of North House was to provide the building industry with much needed data for high performance residential buildings.	Residential	\$ 125,000	\$ 778,500	2009	Complete
Whirlpool Corporation	Smart Dryer: DR Capable Smart Appliance Technology Development and Demonstration	Whirlpool worked to develop, demonstrate and verify its new "Smart Dryer" appliance technology, which includes smart metering infrastructure for potential demand response applications.	Commercial	\$ 250,000	\$ 555,000	2009	Complete
Converted Carbon of Canada	Bioenergy Integrated Production System	Converted Carbon of Canada tested its "Bioenergy Integrated Production System" for its ability to mitigate high volumes of CO2 and cultivating large quantities of algae in a closed tank bioreactor. The continuous process converted algae biomass to electrical energy and clean water. The pilot plant consisted of one bioreactor without a wet gasification reactor.	Industrial	\$ 250,000	\$ 7,000,000	2009	Complete
OCE - Queen's University	Biomass Energy From Field to Grid (Matovic-LaFarge) #50938	OCE and Queen's University's "Biomass Energy From Field to Grid" project aimed to have direct impact on all stages of the biomass-to-energy path in Ontario. The key to sustainable economics for biomass-to-energy industry is keeping supply local to use. The small and medium scale production units were planned to exploit co-generation potential by placing the energy-producing unit close to the potential users of lower-grade energy.	Industrial	\$ 185,000	\$ 847,500	2009	Complete
OCE - Queen's University	OCE - Energy Efficient Primary Power Distribution Systems for Data Centers (Jain) #10042 / 51888	This OCE and Queen's University "Energy Efficient Primary Power Distribution Systems for Data Centers" project developed hardware to significantly improve IPC conversion efficiency from its current level of 55% to 75% by introducing a new concept: multi-port power processing that reduces the number of power conversion stages.	Commercial	\$ 250,000	\$ 2,700,000	2009	Complete



IESO Grid Innovation Fund, Conservation Fund, and Technology Development Fund Project Portfolio							
Proponent	Project Title	Summary	Sector	Amount Awarded	Total Budget	Year	Status
CEATI	High Percentage Biomass Utilization in Coal-Fired Power Plants	CEATI's "High Percentage Biomass Utilization" project in coal-fired power plants identified and prioritized the main knowledge gaps and technology challenges for high percentage biomass utilization in existing and future coal fired plants.	Industrial	\$ 55,000	\$ 258,000	2009	Complete
Lumentra	Nanomaterial development for LED applications	Lumentra's project aims to develop quantum dots in the form of nanoparticles as they have been found to be versatile in color temperature tuning.	Commercial	\$ 240,000	\$ 734,000	2009	Complete
University of Toronto	Gemini Nested Thermal Envelope	The Gemini Nested Thermal Envelope (NTED) project from the University of Toronto plans to modify an existing low-rise building by incorporating the NTED building system concept.	Residential	\$ 200,000	\$ 490,650	2009	Complete
Clean Air Foundation (CAF)	Piloting integration of Air Conditioner and Dehumidifiers into EKC	The Clean Air Foundation's "Keep Cool" pilot project is a market transformation/energy conservation program that encouraged residents to permanently retire and recycle their old, inefficient room air conditioners (RACs) and dehumidifiers and to replace them with more efficient cooling options.	Residential	\$ 125,386	\$ 268,236	2008	Complete
Toronto Community Housing Corporation (TCHC)	Low income housing	This Toronto Community Housing Corporation (TCHC) low income housing project tested the importance of tenant and staff education in achieving electricity conservation in social housing. Working with the Social Housing Services Corporation and housing providers in Ottawa and Windsor-Essex, TCHC's module measured the impact on electricity consumption that social marketing techniques and staff training can bring to a variety of building types and levels of tenant responsibility for utility bills.	Multi-Unit Residential	\$ 250,000	\$ 474,000	2008	Complete
World Wildlife Fund (WWF)	Living Planet @ work	The "Living Planet @ Work" initiative from the WWF motivated and supported employee networks and executive leaders in reducing tenant electricity use in office workplaces. Using a web-based tool, workspace metering and social marketing techniques in a number of different workplaces, WWF supported employee networks in businesses that wish to conserve electricity while exploring how tenants and landlords can work together to save on utility costs.	Commercial & Institutional	\$ 399,525	\$ 722,973	2008	Complete
York Catholic District School Board	Incentive Program Administrator	The York Catholic District School Board (YCDSB) "Incentive Program Administrator" project applied an economy of scale to support school boards across the province and leverage incentive programs for electricity-saving retrofits. YCDSB also hosted a worker to assist school boards in developing building retrofit plans and applying for incentives to increase their cost-effectiveness as well.	Commercial & Institutional	\$ 250,000	\$ 500,000	2008	Complete
Centennial Energy Institute	Training Tomorrow's Industrial and Building Energy Efficiency Specialists (T2IBEES)	"Training Tomorrow's Industrial and Building Energy-Efficiency Specialists" program from the Centennial Energy Institute addressed Ontario's need for trained energy-efficiency specialists in the industrial and building management sectors through the use of self-paced training modules adapted from the U.K.'s "Training in Energy Management Through Open Learning" program. The adapted program provided students with an understanding of energy issues and was augmented by mentored audits of facilities and limited in-class instruction.	Industrial	\$ 285,500	\$ 809,300	2008	Complete
University of Windsor	UWin APCEM	The University of Windsor's Advanced Professional Certificate in Energy Management (APCEM) provided leading-edge energy manager training in accessible and convenient weekend courses. These courses were intended for members of the workforce whose work involves energy management but who have not been formally trained in the subject. With the benefit of training, these workers were able to manage their organization's energy use more effectively.	Industrial	\$ 230,000	\$ 317,000	2008	Complete



IESO Grid Innovation Fund, Conservation Fund, and Technology Development Fund Project Portfolio							
Proponent	Project Title	Summary	Sector	Amount Awarded	Total Budget	Year	Status
Metis Nation of Ontario (MNO)	Métis Energy Conservation Workforce Project	The "Métis Energy Conservation Workforce" Project used the housing portfolio administered by the Métis Nation of Ontario (MNO) to develop a hands-on apprenticeship in energy-efficiency auditing and retrofits for college-level Métis students. A key element of the project was to learn how energy-efficiency retrofits can leverage other housing programs to increase the quality of off-reserve housing. This initiative was piloted with the MNO's Housing Branch in Thunder Bay and endeavoured to expand to other housing portfolios in the second year.	Residential	\$ 250,000	\$ 600,000	2008	Complete
Seneca College	Seneca's BEST: Building Energy Savings Training	Seneca College's "BEST: Building Energy Savings Training" program delivered customized energy conservation training to building operators in their own buildings, rather than in a classroom. By interacting with, and managing, building systems on a daily basis, these professionals are the guarantors of sustainable, efficient energy use in this sector.	Commercial	\$ 67,370	\$ 154,740	2008	Complete
World Green Building Council	International Education & Training in Green Building: A University Pilot Program	"International Education & Training in Green Building" is an interdisciplinary pilot program from the World Green Building Council that equipped post-secondary students with the knowledge and training required to enter the green building industry upon graduation. The program offered a full-credit undergraduate level course and a three-month internship with select employers or Green Building Councils around the world.	Commercial	\$ 101,000	\$ 419,800	2008	Complete
National Set-top Box Initiative Working Group: BC Hydro/OPA/DSMA	National ENERGY STAR® Set-Top Box Initiative	BC Hydro, Manitoba Hydro, the OPA, Hydro-Québec and Natural Resources Canada collaborated on a national project to accelerate the penetration of ENERGY STAR® Tier 1 and 2 compliant set-top boxes (STBs). This project was initiated as a result of the mandatory transition from analog to digital and high-definition broadcasting signals in August 2011, which was expected to increase the number of high-energy consuming STBs in Canada by 30-50%. This initiative worked with cable service providers and manufacturers to reduce the electricity consumption of the STBs while maintaining unit functionality. This was among the first Conservation Fund initiatives to focus upstream of the customer and will be studied for replication across other end-uses.	Residential	\$ 130,000	\$ 353,000	2008	Complete
Local Enhancement and Appreciation of Forests (LEAF)	Residential Shade Tree Planting Program	"The Cool Communities: Residential Shade Tree Planting Program", initiated by the Local Enhancement and Appreciation of Forests (LEAF), aimed to reduce residential electrical demand from air conditioners through the design and implementation of a strategic urban reforestation program. This project tested three delivery models to determine the most effective means of delivering a potential province-wide shade-tree planting program in Ontario.	Residential	\$ 198,130	\$ 460,255	2008	Complete
The Now House Project Inc.	The Now House Project, Windsor 5	The Now House Project retrofitted, to near zero energy use, five wartime homes from the Windsor Essex Community Housing Corporation's social housing portfolio. This project aimed to replicate the achievements from the first Now House, completed in September 2008, which was retrofitted to achieve a near zero energy use, including a 60-percent reduction in electricity and a 5.4-tonne reduction in carbon-dioxide emissions.	Residential	\$ 284,000	\$ 1,026,088	2008	Complete
District School Board of Niagara	Ambassadors for Conservation of Energy (ACE)	The "Ambassadors for Conservation of Energy" (ACE) program delivered by the District School Board of Niagara aimed to develop a new "Specialist High Skills Major" program that introduced secondary school students to careers in the energy sector through experiential learning, co-operative education, and mentorship. Working alongside industry professionals, students also actively participated in industry-recognized training, energy audits and retrofits.	Commercial	\$ 184,000	\$ 369,000	2008	Complete
The Toronto Renewable Energy Co-operative (TREC)	Green Collar Co-ops	"Green Collar Co-ops" is a collaborative effort between the Toronto Renewable Energy Co-operative (TREC) and the Toronto District School Board (TDSB) to introduce students to green energy jobs through both the grade 10 career studies curriculum and to grade 11 and 12 co-op training opportunities. With the ultimate goal of providing students and at-risk youth with pathways to the green energy industry, this project will also develop a green energy job fair and web-based green energy job portal that will be made available to youth across Ontario.	Commercial	\$ 159,840	\$ 360,840	2008	Complete
OCE	The Solar Venture - Low Cost, High Performance Thin Film PV Solar Cells #50713	OCE with the Solar Venture Inc. examined the use of nanostructures to enhance high performance thin film (plastic) PV solar cell efficiency while maintaining a low cost. These nanowires can offer an efficient energy absorbing media as well as electron transport media.	Industrial	\$ 250,000	\$ 3,321,444	2008	Complete





IESO Grid Innovation Fund, Conservation Fund, and Technology Development Fund Project Portfolio							
Proponent	Project Title	Summary	Sector	Amount Awarded	Total Budget	Year	Status
OCE - U of Western/ U of Waterloo	Large Scale Solar PV Integration in T&D Networks (Accumetrics- Varma) #50712	OCE with the University of Western Ontario and the University of Waterloo worked to develop comprehensive solutions that would help grid operators integrate large-scale PV solar farms onto their networks.	Industrial	\$ 125,000	\$ 6,250,000	2008	Complete
CEATI - National Research Council	Development of Guidelines for Effective Solar Shadings of Residential Windows	CEATI and the National Research Council of Canada developed guidelines to use effective solar shadings of residential windows. The project addressed thermal peak loads and energy consumption of new and retrofit Canadian houses, energy costs and paybacks, thermal and visual comfort of house occupants, potential moisture condensation on windows and durability of window products.	Residential	\$ 10,000	\$ 160,000	2008	Complete
OCE - U of Waterloo	Energy Hub Management System (Rowlands) #50681	This project between the OCE and the University of Waterloo developed and implemented an "Energy Hub Management System" allowing static energy users to effectively manage their energy requirements. Individual energy hubs were empowered so that they can contribute to the development of a sustainable society through the real-time management of their energy demand, production, storage and resulting energy import or export.	Residential	\$ 250,000	\$ 3,503,600	2008	Complete
Ivaco Rolling Mills	Trail and Testing of a New 4 Gate Door for the Arc Furnace	The concept on trial from Ivaco Rolling Mills is the replacement of the Arc Furnace door with 2 sets of water cooled gates assembly. The top set provides an improved air seal to minimize cold air infiltration therefore reducing consumption of process energy inputs, specifically electric energy consumption, and lowering the volume of polluting hot exhaust gases. The bottom set of gates controls removal of slag reducing energy and steel loss and overall improving safety and working conditions.	Industrial	\$ 175,000	\$ 475,000	2008	Complete
CEATI - National Resources Canada	Very Low Head Turbine #0522	CEATI and Natural Resources Canada developed and promoted the technology breakthrough of the Very Low Head (VLH) turbine through an on-site demonstration of its performance, cost-effectiveness, fish-friendliness at a VLH hydro site in Ontario. A report on the regulatory approval process followed the technology demonstration.	Industrial	\$ 250,000	\$ 3,104,000	2008	Complete
CEATI - Tweedsmuir Green Power	Very Low Head Displacement	CEATI and Tweedsmuir Green Power worked on creating an economically viable very low head displacement project which is a turbine technology typically under 1 MW. In Canada, no fish-friendly turbine had yet been installed which is something this project also aimed to address.	Commercial	\$ 250,000	\$ 480,000	2008	Complete
REGEN	Peak Demand Management and Response Tech Demonstration	REGEN Energy Inc. examined the peak demand management and response tech demonstration cost of the solution per KW and the consumer acceptance of the solution. Pilot facilities were commercial, industrial and retail consumers with typical (greater than 50 KW) spanning. The REGEN units reciprocate simple messages to each other to enable frequent, autonomous decisions to be made in order to provide a flexible and resilient network.	Commercial	\$ 240,000	\$ 6,128,942	2008	Complete
OCE	H2Green - Development of a Grid Interface for Intermittency Mitigation Device	OCE's "H2Green" project developed a grid interface for an intermittency mitigation device called the Hydrolyser™, which is a scalable system consisting of grid interface, energy storage, and electrical regeneration sub-systems. This project provided the initial development of the envisioned multi-mode grid-interface subsystem that allowed the Hydrolyser™ to rapidly respond to the energy intermittency in both local and system wide environments.	Industrial	\$ 250,000	\$ 800,000	2008	Complete
CEATI - NR Can	High EER AC Unit Demonstration #7042	The intent for this CEATI and Natural Resources Canada technology demonstration project was to install a number of 'high EER' central air conditioners (AC) and compare their performance with a similar number of control houses. Proper AC sizing and blower speed selection are critical to AC performance. High EER equipment benefits homeowners by providing more effective humidity reduction and lower operating costs during both cooling and heating periods.	Commercial	\$ 74,000	\$ 148,000	2008	Complete



## IESO Grid Innovation Fund, Conservation Fund, and Technology Development Fund Project Portfolio

Proponent	Project Title	Summary	Sector	Amount Awarded	Total Budget	Year	Status
CEATI - UBC	Solar Canopy Development	CEATI and the University of British Columbia developed "The Solar Canopy Illumination System" which provides daylight to the core (i.e. interior regions) of multi-floor office buildings in order to substantially reduce the need for electric lighting. This project aimed to design and demonstrate an extremely lightweight and comparatively inexpensive core daylighting system.	Commercial	\$ 80,000	\$ 289,000	2008	Complete
Energy Efficient Contractors Network (EECN)	Energy Efficiency Education Program for Trade Contractors Serving SME Sector	The Energy Efficient Contractors Network (EECN) created an "Energy Efficiency Education Program for Trade Contractors Serving the SME Sector". The education program involved defining retrofit projects, developing cost/benefit analyses, accessing existing incentives from gas and electric LDCs through an information website, and offering the total package to their existing customer base and to other members of the sector.	Various	\$ 150,675	\$ 538,900	2007	Complete
EnerQuality Corporation	ENERGY STAR® for New Homes	The goal of this EnerQuality "ENERGY STAR for New Homes" project was to transform the way all houses are built in Ontario by converting the largest, most influential builders to building 100% ENERGY STAR qualified homes.	Residential	\$ 240,000	\$ 616,490	2007	Complete
Faith and the Common Good (FCG)	Greening Sacred Spaces - Phase II	This FCG project was designed to build on the success of phase I of the "Greening Sacred Spaces" project by piloting the development of a single 'package deal' of service provisions for greening faith communities, and focusing on energy audits and retrofits. It aimed to scale this initiative by liaising with 100 faith communities. At the end of the project, FCG aimed to be in the position to promote a service that can quickly grow to meet the electricity reduction needs of the 7,000 places of worship in the province.	Commercial	\$ 244,000	\$ 805,315	2007	Complete
GreenSaver	Market-Driven Incentives for the Residential Sector - Pilot Project	GreenSaver's 'Market-Driven Incentives for the Residential Sector' pilot project encouraged the home resale supply chain to promote and endorse energy efficiency as an important consideration in determining the price of a home by educating real estate agents and encouraging financial institutions to offer special lending options for energy efficiency home retrofits.	Residential	\$ 152,000	\$ 274,500	2007	Complete
GreenSaver	Direct Install Small Business Pilot Project	GreenSaver's "Direct Install Small Business Pilot Project - No Catch to Conserve" was targeted to reduce electrical summer peak demands in the York Region small business sector. The 'No Catch to Conserve' pilot program identified low-cost energy reduction opportunities (such as energy assessments), tested the impact of energy education on the sector, provided incentives to participating businesses, and engaged clients in the energy upgrade process. Energy upgrades and installations were facilitated and recommendations and design data for launching a full-scale provincial incentive program were made as well.	Commercial	\$ 250,000	\$ 362,200	2007	Complete
Ontario Forest Industries Association (OFIA)	OFIA 2007 Energy Management Program	Building on the success of the 2006 OFIA energy management program, and the positive response to the interim program, OFIA drove the achievement of tangible energy savings at the mills to further encourage continued participation and to expand the number of participants within the sector. Site teams were encouraged to institute the cultural changes required to sustain these energy savings so the industry could overcome typical implementation barriers.	Commercial	\$ 168,475	\$ 462,720	2007	Complete
University Health Network (UHN)	Energy management and engagement program for University Health Network hospitals	The purpose of this University Health Network (UHN) energy management and engagement program was to develop a replicable model for energy efficiency in UHN hospitals.	Commercial	\$ 250,000	\$ 611,895	2007	Complete
Peterborough Green Up	Green Solar Audit	The "Green Solar Audit" from Peterborough Green Up is a program to research, design, market and deliver solar site audits and information kits for residential housing covering domestic solar hot water heating and solar photovoltaic power. These audits advised the property owner as to the suitability of their site for a solar installation and provided a detailed information kit showing the economic and environmental benefits of a particular project and listing local product suppliers and contractors. The main goal was to decrease the use of electricity and fossil fuels to heat domestic hot water thereby reducing electrical load requirements.	Residential	\$ 54,329	\$ 82,514	2007	Complete



IESO Grid Innovation Fund, Conservation Fund, and Technology Development Fund Project Portfolio							
Proponent	Project Title	Summary	Sector	Amount Awarded	Total Budget	Year	Status
Colleges Ontario	Ontario Colleges Energy Conservation Secretariat (OCECS)	Colleges Ontario's "Energy Conservation Secretariat" developed a model for a sector approach to the municipalities, academic institutions, school boards, and health and social service providers (MASH) sector for energy management and retrofitting that would lead to greater energy efficiency and enable meeting requirements under the Energy Conservation Leadership Act.	Commercial	\$ 250,000	\$ 1,750,000	2007	Complete
St. Lawrence College	Small School Deep Energy Audit and Retrofit Project	St. Lawrence College (SLC) developed a "Small School Deep Energy Audit and Retrofit Project" that would feed into their three-year-old Energy Systems Engineering Technician program which prepares students for work in the renewable-energy technology sector by providing such projects and real world learning opportunities.	Commercial	\$ 148,937	\$ 366,637	2007	Complete
Ontario Association of Physical Plant Administrators	Energy Benchmarking in Ontario Universities	The Ontario Association of Physical Plant Administrators established a benchmarking system for energy usage for each of the 19 Ontario universities plus OCAD. This data could then be used to facilitate energy planning and management at both the institutional and system level allowing the sector to better monitor their usage and the overall impact of energy reduction initiatives.	Commercial	\$ 250,000	\$ 450,000	2007	Complete
Canadian Plastics Industry Association (CPIA)	Ontario Plastics Sector Energy Conservation Outreach Program	This project was designed to reduce electricity use in the plastic processing sector on an ongoing basis and improve competitiveness in this SME dominated sector. This will be achieved both by stimulating action by processors in direct response to education and identification of opportunities as well as, in the longer term, by the development of a conservation culture in the sector, which will perpetuate the enthusiasm that will be generated by the activities of this project.	Industrial	\$ 247,950	\$ 434,800	2007	Complete
Federation of Rental Housing Providers of Ontario (FRPO) (cancelled)	Rental Housing Conservation Pilot	This "Rental Housing Conservation Pilot" from the Federation of Rental Housing Providers of Ontario wished to develop an appropriate approach for achieving energy savings in private rental housing buildings. The four components of the project were: measurement and monitoring to develop benchmarks, education and engagement of residents/ staff with conservation action awareness, implementation of physical conservation measures (sub-metering of electricity and appliance replacement), and the recommendation of a long-term approach to private rental housing energy conservation based on the pilot results.	Commercial	\$ 232,335	\$ 499,750	2007	Complete
Mt. Sinai (TC LHIN)	Toronto Central Local Health Integration Network Energy Management Program	Through the "Toronto Central Local Health Integration Network Energy Management Program", Mt. Sinai hospital brought energy conservation awareness, behavior change, knowledge transfer events, and measurement tools to 3 Local Health Integrated Networks to build a culture of energy conservation within the Local Health Integration Network.	Commercial	\$ 247,950	\$ 397,000	2007	Complete
Ontario Centers of Excellence (UofT)	Nanowire-based Solar Cells	The University of Toronto, in tandem with the OCE, developed a new type of nanowire based solar cell that can operate cost effectively at a relatively high efficiency to ultimately improve power generation efficiency. This research addressed developing fabrication techniques for nanowires whose absorption will be tuned to cover the solar spectrum, and exploring methodologies to incorporate them into efficient organic structures showing good carrier transport and built-in fields for carrier separation.	Commercial	\$ 100,000	\$ 673,200	2007	Complete
Ontario Centers of Excellence (U of Waterloo) 50671	Improving Technologies for Deployment of Energy Conservation & Demand Management Programs	The OCE, with the University of Waterloo, aimed to improve energy conservation and demand management program deployment technology according to the implementation of industrial conservation programs in Ontario. Conservation and demand management programs present financial benefits, despite their uptake gap, and so this project addressed the need and opportunity for the development and deployment of technologies and services provided by performance contracting industries.	Various	\$ 31,489	\$ 83,000	2007	Complete
Ontario Centers of Excellence (OCIT/ Marnoch) #50667	High-Pressure Prototype of Marnoch Thermal Power Apparatus	Marnoch, with OCE, developed a high-pressure thermal energy conversion apparatus. This allowed thermal energy sources that cannot be harnessed with other current technologies to produce electricity. A prototype and a mathematical model to verify the viability of the power generation device was developed at UOIT.	Commercial	\$ 89,000	\$ 270,000	2007	Complete



IESO Grid Innovation Fund, Conservation Fund, and Technology Development Fund Project Portfolio							
Proponent	Project Title	Summary	Sector	Amount Awarded	Total Budget	Year	Status
Ontario Centers of Excellence (UofT/ InVisage Technologies) #50392	Infrared Solar Cells Made by Solution-Coating	With OCE, InVisage Technologies and the University of Toronto investigated and demonstrated the efficacy of infrared solar cells made by Solution Coating.	Commercial	\$ 100,000	\$ 541,150	2007	Complete
Centre for Energy Advancement through Technological Innovation (UBC/ UofT) #7033	Electrical Energy Reduction in Mechanical Pulping and Pulp Processing	CEATI has developed a 5 year, \$2M multi-disciplinary research program with UBC and University of Toronto with the goal of reducing electrical energy consumption in mechanical pulping by 20% through scientific discovery and the development of new technology while maintaining or improving product quality and production to ensure the long term competitiveness of the Canadian mechanical pulping industry.	Industrial	\$ 100,000	\$ 2,000,000	2007	Complete
Centre for Energy Advancement through Technological Innovation (Hydro Quebec IREQ LTE) #7028	Benchmark study to establish a test protocol for determining the efficiency of variable frequency drives (VFDs)	CEATI worked with Hydro Quebec to report a benchmark study of 3 variable frequency drive sizes (VFDs) from 5 different manufacturers and to establish a common test protocol for determining the efficiency of the VFDs. This proposed test protocol would form the basis of a new standard, CSA C838: Variable Frequency Drives. Different configurations of different sized VFD-motors (10, 50 and 100 hp) was conducted during this project.	Industrial	\$ 24,000	\$ 126,312	2007	Complete
Centre for Energy Advancement through Technological Innovation (Enbridge Gas Distribution) #7035	Micro-CHP in a Residential Application	CEATI, with Enbridge Gas Distribution, focused on developing a micro-CHP system in a residential application with domestic hot water, automatic backup power, and dispatch capabilities, and 5,000 hours p.a. of operation.	Residential	\$ 70,000	\$ 680,000	2007	Complete
Centre for Energy Advancement through Technological Innovation (UBC) #7036	Solar Canopy/ Development of a Lightweight Solar Canopy Illumination System	CEATI and UBC developed a lightweight solar canopy illumination system providing daylight to the core (i.e. interior regions) of multi-floor commercial office buildings in order to substantially reduce the need for electric lighting.	Commercial	\$ 20,000	\$ 75,000	2007	Complete
Centre for Energy Advancement through Technological Innovation (Leapfrog)	High frequency electromagnetic interference generated by power electronic equipment at the farm environment and its effect on stray voltage	CEATI and Leapfrog Sustainability Inc. conducted a study and analysis of the electromagnetic interference (EMI) issues and associated stray voltage effects in a farm environment due to presence of power electronic equipment for load control and energy efficiency improvements (such as variable frequency drives, solid-state switches, compact fluorescent lamps etc.). The goal was to provide recommendations for effective EMI mitigation and or prevention.	Industrial	\$ 15,000	\$ 67,000	2007	Complete
Centre for Energy Advancement through Technological Innovation (TAF)	TAF Lightsabers LED Market Transformation Initiative	CEATI and the Toronto Atmospheric Fund's launched a 'Lightsabers' market transformation acceleration initiative in the outdoor LED lighting sphere with a focus on end-users in the public sector to engage a network of partners across the Greater Toronto Area. This initiative also aimed to develop a common monitoring protocol for evaluating advanced lighting technologies, and to establish, monitor, and report on advanced outdoor lighting field tests in multiple GTA cities.	Commercial & Institutional	\$ 100,000	\$ 950,000	2007	Complete
Centre for Energy Advancement through Technological Innovation (CORE)	Cornwall Ontario River Energy (CORE) Project	Through the Cornwall Ontario River Energy project, Verdant Power demonstrated their proprietary "River Kinetic Hydropower System", which employs arrays of underwater axial-flow turbines to generate electricity from the kinetic energy of naturally-flowing river currents. This is not a run-of-river system and does not require any dams, impoundments or major civil works, nor does it dramatically alter or redirect the flow of the river.	Industrial	\$ 54,000	\$ 2,000,000	2006	Complete
AgEnergy	Demand Side Management Energy Program- Agricultural Sector "Learning Locations"	AgEnergy developed and employed a "Learning Locations" demand side management Energy program for the agricultural sector aimed to reduce energy volume by more than 10% through natural gas and electricity conservation, identify energy consumption through audits, and identify efficiencies and electricity load shifting at selected "Learning Locations".	Commercial	\$ 147,800	\$ 313,000	2006	Complete



IESO Grid Innovation Fund, Conservation Fund, and Technology Development Fund Project Portfolio							
Proponent	Project Title	Summary	Sector	Amount Awarded	Total Budget	Year	Status
Clean Air Partnership (CAP) (with Canadian Urban Institute)	Skills for Energy Efficient Construction	The Clean Air Partnership with the Canadian Urban Institute examined the capacity of the workforce in the Toronto region to engage in a large-scale program of new energy-efficient construction, energy retrofits of existing buildings, and the integration of renewable energy systems into those buildings.	Various	\$ 26,000	\$ 149,500	2006	Complete
Toronto Region Conservation Authority	Greening Health Care: Creating Conservation Action Plans in the Hospital Sector	The 'Greening Health Care' program created conservation action plans in the hospital sector by enabling Ontario hospitals to actively improve energy and water use efficiency through quarterly workshops that benchmarked their current energy efficiency, identified energy conservation potential, shared best practices, and evaluated technologies.	Commercial & Institutional	\$ 62,000	\$ 180,000	2006	Complete
EarthCare Sudbury	Efficient Sudbury - A Retail/Consumer Level Community Conservation Program	EarthCare Sudbury organized and implemented "Efficient Sudbury - A Retail/Consumer Level Community Conservation Program" to increase retailer and consumer level awareness of products and services that enhance energy conservation and promote efficiency.	Residential	\$ 69,154	\$ 204,580	2006	Complete
Faith and the Common Good - Toronto School of Theology	Greening Sacred Spaces	The "Greening Sacred Spaces" project from the Faith and the Common Good Toronto School of Theology project aimed to engage faith communities to 'green' their sacred spaces, through reduced energy consumption, and the promotion of a greener, less energy-intensive lifestyle to their members.	Commercial & Institutional	\$ 122,500	\$ 200,500	2006	Complete
Ontario Mining Association	Compressed air system audit and sustainable air leak control program.	This air leak control program from the Ontario Mining Association audited compressed air use and set up benchmarking programs and best practices for distribution to industry and government.	Industrial	\$ 210,538	\$ 432,260	2006	Complete
The Sustainability Office at the University of Toronto	Re-Wire: Applying Community-Based Social Marketing Tools to Reduce Electricity Use at U of T	The "Re-Wire" project by the Sustainability Office at the University of Toronto piloted a more effective approach to reduce electricity consumption by applying community-based social marketing tools to make simple changes in the daily behaviors of individuals. This results-based project involved hundreds of campus members in fostering a culture of conservation on campus. The tools used in Re-Wire will create transferable best-practice toolkits that can be widely applied across sectors.	Commercial & Institutional	\$ 54,400	\$ 128,400	2006	Complete
Toronto Catholic District School Board (TCDSB)	The Energy Drill Schools Program	The Toronto Catholic District School Board with IndEco Strategic Consulting promoted the "Energy Drill Schools Program": a demand-response program modeled after fire drills. An energy drill is triggered by such events as extreme temperatures, smog, electricity supply constraints and high market prices and schools respond by carrying out a number of energy conservation measures. The program provides an education opportunity for all participants and a tangible demand reduction at times of need that is documented with report cards to the schools.	Commercial & Institutional	\$ 159,290	\$ 301,090	2006	Complete
Association of Major Power Consumers in Ontario (AMPSCO)	Conservation through Dialogue and Design	AMPSCO's "Conservation Through Dialogue and Design" held consultation sessions, outreach meetings, and workshops designed to raise conservation awareness at senior levels, among energy/ plant managers, and small-large industrial consumers, gather comprehensive data related to industrial electricity users, and generate recommendations on conservation activities. Deliverables included data and analysis and the development of a comprehensive communications and implementation strategy for conservation action programs.	Industrial	\$ 114,100	\$ 195,050	2006	Complete
The Toronto Association for Business Improvement Areas (TABIA)	greenTbiz	The Toronto Association of Business Improvement Areas (BIAs) provided programs and services to Toronto BIAs through the "greenTbiz" project, which developed and delivered energy and environmental conservation programs to improve the bottom line of the businesses and properties.	Commercial	\$ 92,500	\$ 169,000	2006	Complete



## IESO Grid Innovation Fund, Conservation Fund, and Technology Development Fund Project Portfolio

Proponent	Project Title	Summary	Sector	Amount Awarded	Total Budget	Year	Status
Alliance of Ontario Food Processors (AOFF)	Pilot Energy Program (PEP) for Food Processors	The Alliance of Ontario Food Processors piloted an energy program by the designing and implementing monitoring and tracking capacity in 5 food processing plants. The project identified and implemented suitable metering equipment and programs, as well as critical sub-metering points for a range of food processing establishments.	Industrial	\$ 160,000	\$ 474,000	2006	Complete
Net Zero Energy Home Coalition	Net-Zero Energy Homes - Building Capacity in Ontario' Consultation Forums	Net-Zero Energy Homes Coalition researched, designed, and executed two Ontarian building capacity consultation forums. These forums were held in Toronto and Ottawa on net zero energy home (NZEH) design and integration by leveraging the ENERGY STAR labeling program. Net zero energy homes build upon ENERGY STAR by integrating energy efficiency and renewable energy technologies in residential home design. These forums aspired to engage the residential builder community in Southern Ontario and advance sustainable design in this sector through identifying and conveying tenets for NZEH specification that build on existing ENERGY STAR qualification attributes.	Residential	\$ 40,000	\$ 95,581	2006	Complete
Ontario Forest Industries Association	OFIA Interim Energy Management Program	The Ontario Forest Industries Association (OFIA) Interim Energy Management Program was designed to keep the momentum for energy conservation going at mills that participated in the 2006 conservation pilot, and to lay the foundation for an effective implementation program in 2007. This interim approach was expected to help sites apply their knowledge to realize energy savings from identified opportunities to make effective use of the proposed implementation assistance funding for 2007.	Industrial	\$ 49,000	\$ 54,000	2006	Complete
Ontario Centers of Excellence (HAWT)	Smart Hot Water Storage & Delivery System	Heat and Water Technologies Inc.'s "Smart Hot Water Storage & Delivery System" involved the development of the device and control systems to be added to hot water tanks allowing them to be heated above 98°C. This technology allows for the use of lower cost electricity generated at off-peak periods to produce and store enough hot water for long periods of time, ultimately shifting demand load from peak hours.	Residential	\$ 29,497	\$ 87,195	2006	Complete
Ontario Centers of Excellence (ABB)	Reactive Power Ancillary Service Markets & Dispatch	OCE and Asia Brown Bovy (ABB) implemented a "Reactive Power Ancillary Service Markets & Dispatch" project involving analysis and modeling work around the creation of an energy management system for reactive power in North America. This research is expected to provide critical insights into the proper purchase and dispatch of reactive power sources in the context of competitive electricity markets. It is also expected to lead to the prototyping and eventual full development of new tools for the energy management systems used by system operators to maintain stability.	Various	\$ 50,098	\$ 152,197	2006	Complete
Ontario Centers of Excellence (Whalepower)	Proof of Engineering Principle for Turbulec Airfoils on Rotating Platforms	OCE and Whalepower Corp tested whether turbulec enhanced airfoils work as well on rotating platforms as they do on static airfoils. Whalepower has retrofitted commercial turbine blades and is testing their performance at the Wind Energy Institute of Canada (WEICan) on Prince Edward Island.	Industrial	\$ 71,398	\$ 161,380	2006	Complete
Ontario Centers of Excellence (REGEN)	Maestro Pilot Installations & Energy Reduction Analysis.	REGEN Energy Inc. with OCE conducted an energy reduction analysis which gathered operational data on the "Maestro" controllers - an expected low-cost, peak demand response technology designed to automatically shift load in buildings without management intervention in order to maintain a maximum peak demand below a pre-established ceiling.	Commercial	\$ 61,500	\$ 160,500	2006	Complete
Ontario Centers of Excellence (LES Smart Ballast)	L.E.S. Smart Ballast	This technology development project with the OCE focused on "L.E.S. Smart Ballast", which is a new microchip technology that replaces ballasts and in existing fluorescent fixtures thereby reducing energy use and extending bulb life.	Commercial	\$ 51,675	\$ 240,855	2006	Complete
Ontario Centers of Excellence (DY Refrigeration)	Development of a new thermally-driven heat pump unit for combined heating and cooling supply	In conjunction with the OCE, DY Refrigeration developed a thermally driven refrigeration unit heat pump. This technology allows heat from renewable sources such as geothermal, solar thermal, biomass, or waste heat from engines to drive the refrigeration cycle, thereby replacing the mechanical compressor and reducing the electrical load associated with current refrigeration technologies.	Commercial	\$ 99,900	\$ 570,200	2006	Complete



## IESO Grid Innovation Fund, Conservation Fund, and Technology Development Fund Project Portfolio

Proponent	Project Title	Summary	Sector	Amount Awarded	Total Budget	Year	Status
Centre for Energy Advancement through Technological Innovation (Powertech)	Performance and Efficiency Testing of Electronic HID Ballasts	This CEATI project identified the appropriate performance and efficiency testing requirements of electronic HID ballasts for metal halide and high pressure sodium lamps. An efficiency and performance standard was developed and employed in laboratory testing of 15 North American ballasts of 50 to 400W, and was compared with the efficiency and performance of the different models.	Commercial	\$ 12,600	\$ 67,000	2006	Complete
Ontario Energy Association (OEA)	Energy Management Best Practices in Multi-Use Facilities	Rogers Centre, under the direction of the Ontario Energy Association, undertook a general engineering study to identify and prioritize energy efficiency and conservation opportunities. The project team also undertook a communications campaign to showcase the study and its findings to a broader industrial/ commercial audience to promote the value of energy efficiency and conservation.	Commercial	\$ 30,000	\$ 30,000	2005	Complete
Ontario Hospitals Association (OHA)	Hospital Energy Efficiency Report	The Ontario Hospitals Association (OHA) undertook the hospital energy efficiency project to summarize the barriers and best energy management practices in Ontario hospitals. The OHA identified conservation and demand management opportunities and made recommendations for an energy efficiency strategy for Ontario's publicly funded hospitals.	Commercial	\$ 23,500	\$ 23,500	2005	Complete
London Hydro	Chill Out: Appliance Exchange Program	London Hydro launched the 'Chill Out: Appliance Exchange Program' with the target of exchanging 3,500 fridges, freezers and air conditioners. For this project, participants received cash incentives to turn over their inefficient appliances in exchange for energy-efficient ones. This program included a primary refrigerator exchange program (homeowners and multi-residential buildings), a secondary refrigerator bounty program (homeowners), a freezer disposal (homeowners), and a room air conditioner bounty program.	Residential	\$ 52,046	\$ 1,405,500	2005	Complete
Toronto Region Conservation Authority (TRCA)	Combined Heat and Power for High-rise Condominiums	The Toronto Region Conservation Authority (TRCA) established a business case for providing distributed generation in high-rise condominiums through a design and operating feasibility study for a project under Tridel development. This initiative provided a template for other multi-unit residential developers to use to increase the energy efficiency of condominiums.	Multi-Unit Residential	\$ 46,628	\$ 90,740	2005	Complete
Ontario Convenience Store Association (OCSA)	Convenience Stores Conservation Pilot	Through a partnership between the Ontario Convenience Stores Association (OCSA) and the Clean Air Foundation (CAF), this project focused on developing a strategy for promoting energy efficiency within the convenience store sector of Ontario. This was accomplished through two approaches: 1) developing a sector profile through in-store assessments of 100 Ontario convenience stores and 2) test marketing an incentive-based program with 10 case study stores in Ontario. The results of these reports were communicated to the members of the OCSA at their annual conference.	Commercial	\$ 44,835	\$ 44,835	2005	Complete
Sustainable Buildings Canada (SBC)	Developing an Ontario Energy Efficiency Contractors Network	Sustainable Buildings Canada worked with key contractor associations to develop the Energy Efficiency Contractors Network. The network's purpose was to provide the information and expertise needed to turn contractors into energy efficiency promoters.	Commercial	\$ 15,340	\$ 15,340	2005	Complete
Canadian Energy Efficiency Alliance (CEEA)	Effective Demand Side Management (DSM): Webinar Series	The Canadian Energy Efficiency Alliance worked with the Electricity Distributors Association to deliver a series of forums and webinars for LDCs and other relevant stakeholders in Ontario to exchange ideas and experiences on conservation demand management (CDM) plans and programs. These sessions also provided partnership opportunities for LDCs to connect with not-for-profit organizations that have CDM programs or proposals.	Commercial	\$ 25,000	\$ 37,400	2005	Complete
Wine Council of Ontario (WCO)	Energy Benchmarking and Best Practices in the Ontario Wine Industry	The Wine Council of Ontario (WCO) conducted energy benchmarking at 25 wineries in the Niagara, Southwestern and Eastern areas of the province. The results were used to develop industry-wide performance measures that allowed each winery to compare its performance to a standard. Wineries that under-performed in certain areas were provided with knowledge and expertise to improve their energy efficiency.	Industrial	\$ 25,000	\$ 175,000	2005	Complete



## IESO Grid Innovation Fund, Conservation Fund, and Technology Development Fund Project Portfolio

Proponent	Project Title	Summary	Sector	Amount Awarded	Total Budget	Year	Status
Association of Colleges of Applied Arts and Training of Ontario (ACAATO)	Energy Efficiency Secretariat for the College System	The Association of Colleges of Applied Arts and Training of Ontario (ACAATO) provided funding for an energy efficiency coordinator to assist with developing college-specific energy efficiency plans, establishing a reporting and tracking system on energy consumption data, and reporting best practices to all members. An initial survey of 24 members in ACAATO identified ways of reducing electricity consumption by 25%, demand by 50% and natural gas consumption by 15%.	Commercial & Institutional	\$ 85,000	\$ 150,000	2005	Complete
Association of Colleges of Applied Arts and Training of Ontario (ACAATO)	Energy Savings & Capital Renewal Symposium	The Association of Colleges of Applied Arts and Training of Ontario, in partnership with the Ontario Council of Universities, mounted a 2-day event for key officials in the post-secondary education sector to share ideas and best practices related to the energy efficiency opportunities in capital renewal strategies. It also explored a range of existing financing opportunities and potential financial solutions for the sector.	Commercial	\$ 9,713	\$ 32,500	2005	Complete
EnerQuality Corporation	Energy Star for New Homes	Through this project EnerQuality sought to expand its 'ENERGY STAR for New Homes Program' across the province, which is a voluntary program that recognizes superior energy performance in new homes. The overall objective of this program is to offer consumers a more energy efficient housing alternative and encourage builders to improve the energy efficiency of their product offerings.	Residential	\$ 95,000	\$ 360,000	2005	Complete
Clean Air Partnership (CAP)	Feasibility of Expanding the TAF	The Clean Air Partnership produced a feasibility study that identified major sectors and sources for clean energy and conservation and demand management in the GTA. This report formed the basis of a plan to expand the Toronto Atmospheric Fund to all municipalities in the GTA.	Commercial	\$ 7,500	\$ 55,000	2005	Complete
WindFall EcoWorks	First Nations Conservation Project: Chippewas of Georgina Island	Windfall EcoWorks is delivered a conservation and demand management program that targeted at residents of the Chippewas of Georgina Island First Nation reserve, which is located 2 km off the south eastern shore of Lake Simcoe. Electricity demand reduction and conservation targets were achieved by performing home energy audits, a community load analysis, installing appropriate energy saving measures, and creating education opportunities at the community and household level.	Residential	\$ 55,000	\$ 372,000	2005	Complete
Summerhill Group	Flick Off/ Unplug: Text-Messaging Pilot	Flick Off/ Unplug was a pilot project that ran in Owen Sound and Toronto in July-August, 2005. Through a radio and public relations campaign and flyer distribution, people were encouraged to sign up for Flick Off/Unplug on their cell phone or on the internet. Participants then received alerts via email or a SMS text message that informed them to cut back electricity usage, provided tips on how to cut back, and dispelled myths around energy conservation.	Residential	\$ 25,000	\$ 110,000	2005	Complete
Ontario Forest Industries Association (OFIA)	Forest Industry Energy Manager and CDM Pilot	Ontario Forest Industries Association (OFIA) helped to improve the electrical energy efficiency of the forestry sector through the creation of an energy manager program, which involved the distribution of conservation and demand management information to association members, the establishment of energy benchmarking programs, research in best practices, and the mounting of an energy efficiency workshops. Ultimately, opportunities and priorities for electrical and other energy savings were identified in mills across Ontario.	Industrial	\$ 150,000	\$ 356,000	2005	Complete
Pembina Institute	Greenlearning.ca	This project aimed to expand the Pembina Institute's education program called "Greenlearning" to Ontario. Greenlearning provides teachers and students with web-based, curriculum-linked materials on energy and the environment.	Commercial	\$ 75,000	\$ 1,000,000	2005	Complete
Ontario Hospitals Association (OHA)	Hospital Energy Conservation Program	The Ontario Hospital Association mounted a 2-day conference for the hospital sector to help build momentum for the adoption of a culture of conservation. This project also involved the creation of a resource guide, which profiled some of the leading conservation projects in Ontario hospitals today	Commercial & Institutional	\$ 19,900	\$ 55,960	2005	Complete





## IESO Grid Innovation Fund, Conservation Fund, and Technology Development Fund Project Portfolio

Proponent	Project Title	Summary	Sector	Amount Awarded	Total Budget	Year	Status
Ontario Ministry of Agriculture, Food and Rural Affairs (OMAFRA)	On-farm Energy Audits	The Ontario Federation of Agriculture and the Ontario Ministry of Agriculture, Food and Rural Affairs collaborated with the Ministry of Energy and Hydro One to develop an on-farm energy audit program to assist Ontario farmers in saving energy. Sixty audits were delivered as part of this project, building on 30 audits conducted in an earlier phase funded by the Ministry of Energy in 2004.	Industrial	\$ 80,000	\$ 80,000	2005	Complete