



*Your Home Town Utility*

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**2011 – 2014 CDM Strategy**

**Ontario Energy Board File No. EB-2010-015**

**November 1, 2010**

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## Background

As part of the Green Energy and Green Economy Act (“GEGEA”), the Ontario Government issued a directive to the Ontario Energy Board (the “Board”) to establish Conservation and Demand Management (“CDM”) targets to all licensed electricity distributors. In addition, the Board was to amend the licenses of electricity distributors to include the condition that specifies that each electricity distributor must meet its CDM targets through the delivery of Board approved CDM Programs (“Board-Approved CDM Programs”) and the delivery of CDM programs made available and under contract with the Ontario Power Authority (“OPA”) (“OPA-Contracted Province-Wide CDM Programs”) or a combination of the two. Furthermore the directive requires the Board to issue a code that includes rules relating to the reporting requirements and performance incentives associated with CDM Program and to the planning, design, approval, implementation and the evaluation, measurement and verification (“EM&V”) of Board-Approved CDM programs and to such other matters as the Board considers appropriate.

On June 22, 2010, the Board issued the Electricity Conservation and Demand Management Targets EB-2010-0216 (the “Targets”) for comment, with comments to be submitted by July 7, 2010. On September 22<sup>nd</sup>, 2010, the Board issued a letter to all licensed electricity distributors and all other interested parties regarding the Conservation and Demand Management Code For Electricity Distributors and Electricity Conservation and Demand Management Targets Board File Numbers EB-2010-0215 / EB-2010-0216, stating that the Board expects all electricity distributors to use the proposed CDM Targets set out in the June 22, 2010 letter to develop the CDM Strategy document in advance of receiving the finalized CDM Targets. The Board will be issuing the finalized CDM Targets in the near future, at which time the Board expects that each electricity distributor will be able to incorporate the final CDM Targets into their CDM Strategy in advance of the November 1<sup>st</sup>, 2010 deadline.

The proposed Conservation and Demand Management Code for Electricity Distributors EB-2010-0215 was issued for comment on June 22, 2010. On September 16, 2010 the Board released the final version of the Conservation and Demand Management Code for Electricity Distributors EB-2010-0215 (the “Code”). Section 2.1 of the code details the requirements distributors are required to meet when filing their CDM Strategy with the Board, which must be filled by all distributors on or before November 1, 2010.

## **Introduction**

Erie Thames Powerlines Corporation (“Erie Thames”) is “Your Home Town Utility” to nearly 14,500 customers, in 11 communities, across 7 municipalities. Erie Thames has been successfully designing and/or delivering a portfolio of CDM programs to their customers for the past five years, where Erie Thames CDM strategy was to *Educate, Encourage, Equip* and *Empower* customers.

### **Erie Thames CDM Strategy – *Educate, Encourage, Equip and Empower***

#### ***Educate***

Customers require education on three key relationships, the first being consumption and cost, and the second being consumption and the time the consumption occurs and the third being the impact the two (consumption and time of consumption) have on the electricity industry.

#### ***Encourage***

Giveaways, exchanges and incentives are all mechanisms to *encourage* customers to evaluate energy efficient technologies and/or change in behaviour. The objective is that customers use the technology/implement the change in behaviour; observe the results first hand; and then adopt the technology and/or the change in behaviour and implement additional energy efficient technologies and/or changes in behaviour.

#### ***Equip***

*Customers need to be Equipped with the* tools that communicate and demonstrate electricity consumption and cost information in a meaningful and useful format; a tool to build the relationship and make the connection between consumption and cost. The tools provide customers with the means to easily and effectively measure changes as a result energy efficiency measures as well as make decisions based on the consumption and pricing information.

#### ***Empower***

Through *Education, Encouragement and Equipment*, Erie Thames has and will continue to *Empower* customers with the information, the incentives and the tools to make educated decisions energy management decisions and purchases. This empowerment will continue to drive the development of the conservation culture in Ontario and a society focused on sustainability.

## CDM Targets

Erie Thames proposed conservation targets as outlined in a letter from the Board dated June 22, 2010 are shown in table 1 below compared to the provincial CDM Targets of 6,000,000 Megawatt Hours and 1,330 Megawatts of 2014 Summer Peak Demand Savings.

Table 1 – Erie Thames CDM Targets

Erie Thames 2011-2014 Energy Savings Target (kWh)	Overall Portion of Provincial Total (%)	Erie Thames 2014 Summer Peak Demand Savings Target (MW)	Overall Portion of Provincial Total (%)
20,000	0.33	4.0	0.30

## CDM Strategy

Erie Thames CDM Strategy has been developed within the context of the CDM Code using the proposed CDM Targets as indicated by the Board and the best information available with respect to the CDM Targets, CDM Code, OPA Province-Wide CDM Programs and Program Budgets. In addition the experience gained through the program design, delivery, reporting and verification of CDM Programs over the past five year, coupled with the lessons learned, increased customer awareness, customer demand and market development, will be leveraged for the implementation of Erie Thames 2011 – 2014 CDM Strategy.

The intent of this strategy is to provide a high level overview of how Erie Thames intends to achieve the CDM Targets issued by the Board.

The three guiding objectives of Erie Thames strategy are to:

- Deliver a portfolio of cost effective CDM Programs that deliver deep, sustainable results;
- Offer programs that address the needs of all customer types, which include, but is not limited to low income, consumer, commercial and institutional, and industrial; and
- Further the development of the conservation culture of Ontario.

Additionally, objectives for each customer segment (i.e. consumer, commercial and institutional and industrial) have also been identified. The objectives of the consumer segment programs are to help consumers improve the efficiency of their homes; empower consumers to better manage their energy consumption through increased information and choice, and provide Erie Thames and/or the Independent Electricity System Operator with the ability to manage a consumers demand. This will be accomplished through the use of efficient technology and the proper sizing and installation of efficient equipment; the intelligent management of electricity usage through the use of pricing signals and load control devices; and integrating the home with respect to reducing electricity and other forms of energy through the design and new and innovative ways to use energy.

As with the consumer segment programs, one of the main objectives of the commercial and institutional programs is to enable efficiency and due to the diverse make up of the customers within the segment there are specific challenges and barriers that make it the most complex. This will be accomplished through the purchase, installation and operation of energy efficient equipment. In addition, there is a specific focus on reducing demand with these customers through energy efficient equipment as well as through demand reduction, via demand response initiatives. Education of this customer segment will be significant, with a specific focus on tenants and occupants, with regards to in suite energy efficiency and demand response opportunities, all in order to facilitate

the culture of conservation amongst this customer segment and supply chain that serve them.

The objectives of the CDM programs targeting the industrial customer segment are closely aligned with those in the commercial and institutional segment, but with a greater emphasis on achieving maximum cost effective peak demand reduction. Again a significant objective is to increase conservation awareness in this segment and contribute to the creation of a culture of conservation in Ontario.

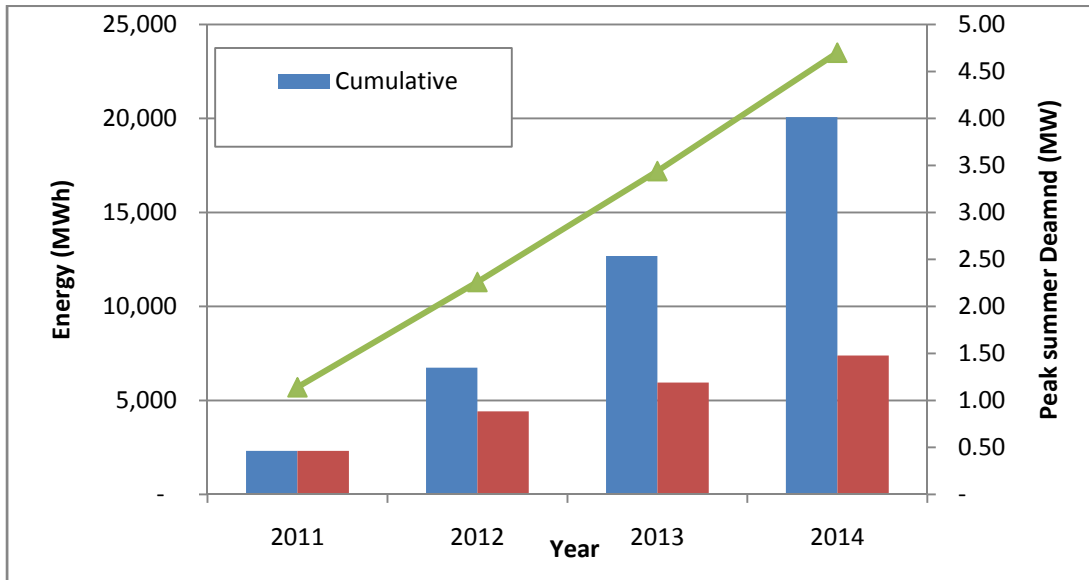
The objectives for the low income programs are similar to the consumer segments in so much as making their homes more efficient, intelligent and integrated. This customer segment faces significant challenges, which include a lack of information, lack of control, and lack of financial resources which makes to make their homes more efficient and turn make their energy expenses affordable and reasonable. Overcoming the challenges will be accomplished by educating this segment with regards to in suite energy efficiency and demand response opportunities and by making energy efficient technologies and equipment accessible and affordable.

Based on Erie Thames percentage of customers in the province, customer and market intelligence, and historical program participation, Erie Thames has projected portfolio energy and demand savings. The projected contribution to Erie Thames CDM Targets by the portfolio of programs is 20,072 MWh's and 4.71 MW as shown in table 2 and graph 1; while graphs 2 and 3 show the projected contribution to Erie Thames energy and peak summer demand CDM Targets by program segment.

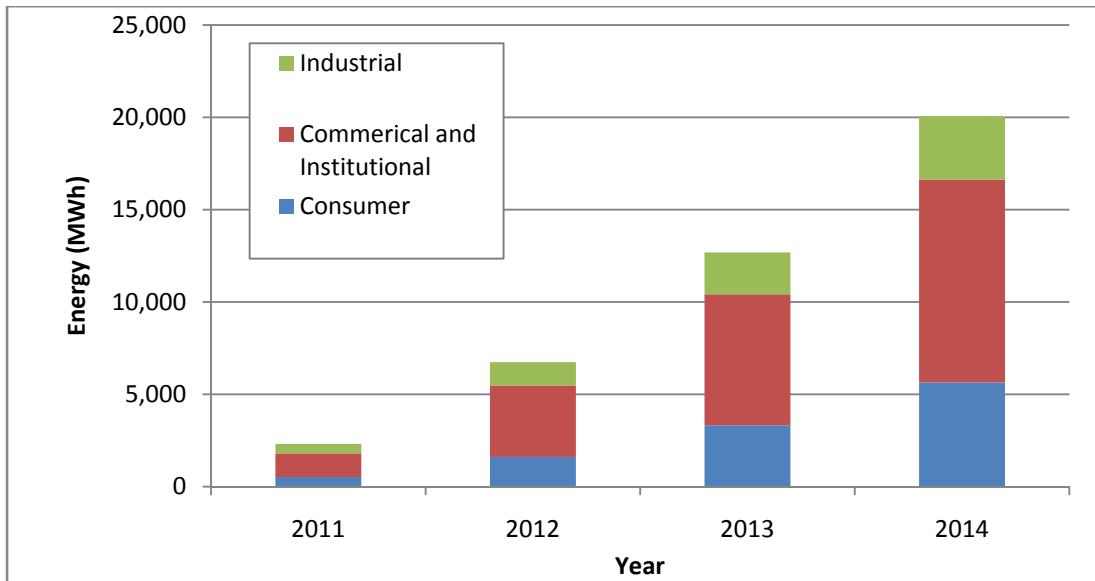
Table 2 – Projected Portfolio Contribution to Overall CDM Targets

	2011	2012	2013	2014
Energy (MWh) – Annual Contribution	2,318	4,421	5,946	7,387
Energy (MWh) – Cumulative Contribution	2,318	6,739	12,685	20,072
Peak Summer Demand (MW)	1.14	2.26	3.44	4.70

Graph 1 – Portfolio Contribution to Overall CDM Targets

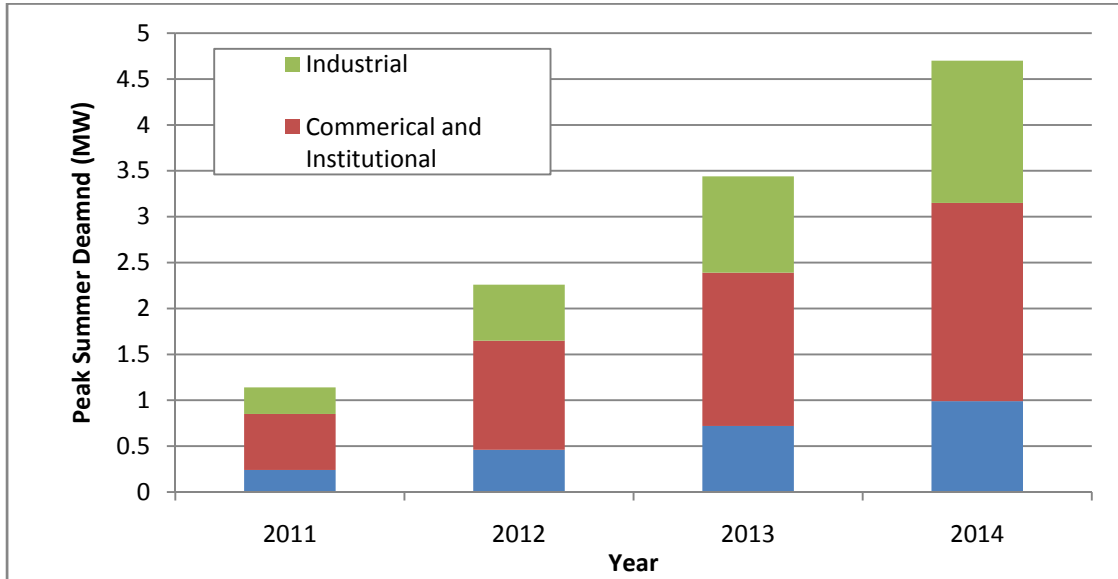


Graph 2 – Energy Contribution by Program Segment to Overall CDM Targets





Graph 3 – Peak Summer Demand Contribution by Program Segment to Overall CDM Targets



## OPA-Contracted Province Wide CDM Programs

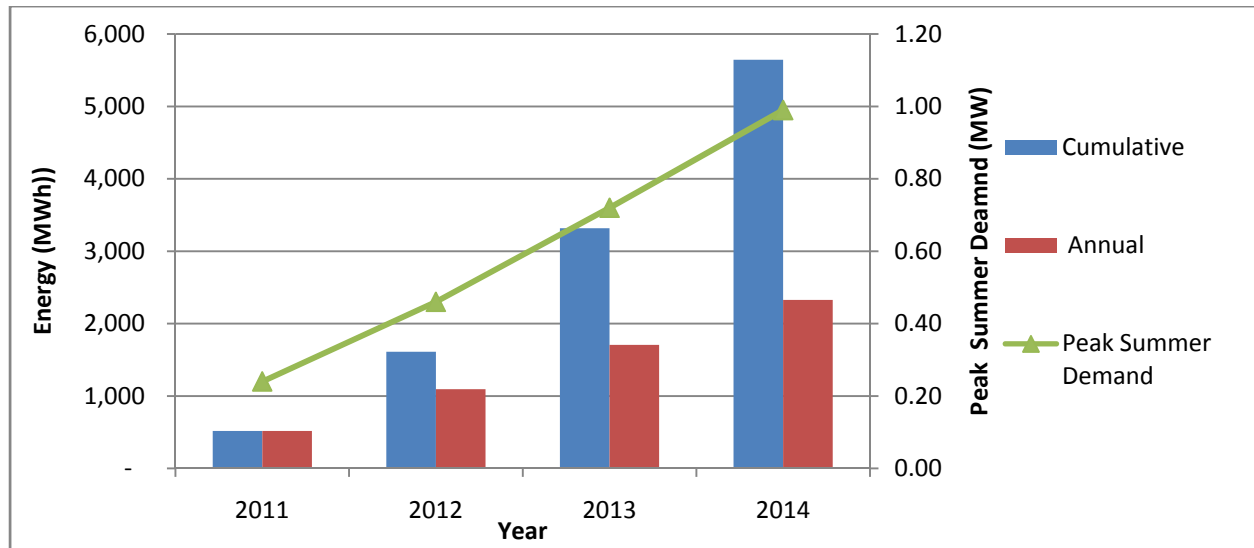
### Consumer Programs

The consumer program consists of 6 initiatives, directed at making homes efficient, intelligent and integrated. Erie Thames will be delivering all of the OPA Province-Wide Consumer Program initiatives beginning in 2011 and continuing until the end of 2014. Based on Erie Thames percentage of residential customers in the province, customer and market intelligence, and historical program participation, the projected contribution by the consumer program is 5,645 MWh's and 0.99 MW's of Peak Summer Demand. A detailed breakdown of the consumer program's contribution annually is illustrated in table 3 and graph 4.

Table 3 – Consumer Programs Contribution to CDM Targets

	2011	2012	2013	2014
Energy (MWh) – Annual Contribution	518	1,094	1,705	2,328
Energy (MWh) – Cumulative Contribution	518	1,612	3,317	5,645
Peak Summer Demand (MW)	0.24	0.46	0.72	0.99

Graph 4 - Consumer Programs Contribution to CDM Targets



Erie Thames will be offering the following consumer initiatives. For a complete description of the initiatives please see Appendix A.

## **Appliance Retirement/Exchange**

The Appliance Retirement/Exchange initiative is a carry over and enhancement of the Great Refrigerator Roundup program that Erie Thames has offered since its inception in 2007. The initiative provides customers with free pick-up and decommissioning of old, inefficient, working, qualifying appliances.

The Exchange Events portion of the initiative is a carry forward and enhancement of exchange events previously hosted by retailers. Customers participating in the events will receive coupons towards the purchase of a high efficiency replacement units or gift cards.

## **Instant Discounts (Rebates)**

The Instant Discount initiative is a carry forward of the Power Savings Events with some enhancements. The initiative is designed to help participants get more for their energy dollar through the wise use of energy efficient products, by way of instant discounts (rebates) on energy efficient products such as energy start light fixtures and power bars with integrated timers. A Conservation Discount Card is also being developed as a replacement for the coupons.

## **HVAC Discounts (Rebates)**

The HVAC Discounts initiative is a carry forward of the existing Cool Savings Rebate initiative with some enhancements. The initiative provides participating customers with discounts (rebates) for replacing inefficient air conditioning and/or heating systems. Discounts vary based on the level of replacement. Participants must use participating, qualified HVAC contractors to ensure quality installation.

## **Demand Response**

The Demand Response initiative is a re-design of *peaksaver*<sup>®</sup>, the residential demand response initiative. For the first 6 months of 2011, the existing initiative will continue with the re-designed program tentative to launch in July of 2011. The existing program provides customers with a free programmable thermostat, free professional installation and a \$25 bill credit in exchange for allowing their air conditioning system to be cycled down during peak demand times.

The re-designed *peaksaver*<sup>®</sup> initiative will provide customers with two primary options for participating. The first option will have customers reducing their demand via load control devices, in what is known as demand response. Customers will receive free load control devices, free installation and real time consumption and price information (on-line), with the option of a rebate, an in-home display or a subsidy towards an in-home display. The second option allows customers to participate but without reducing their demand. Under this option customers have the opportunity to access real-time consumption information as well as receive a subsidy towards a home energy interface in the form of an in-home or on-line display.

### Mid-Stream Incentives

The Mid-Stream Incentives are a carryover of the midstream television incentive from the Power Savings Event with enhancements. The initiative provides incentives to retailers to promote energy efficient televisions; to satellite and cable providers to use high-efficiency set-top boxes and network configurations; and to pool contractors for the installation of “right sized” pool equipment. Customers benefit indirectly from the initiative through the energy savings they will achieve through the use of energy efficient and right sized equipment.

### New Construction

The New Construction initiative is a new initiative that provides incentives for builders to construct new homes to energy efficient standards above the current building codes. Incentives will vary based on the efficiency standards the builder incorporates in the new home.

### Commercial and Institutional Programs

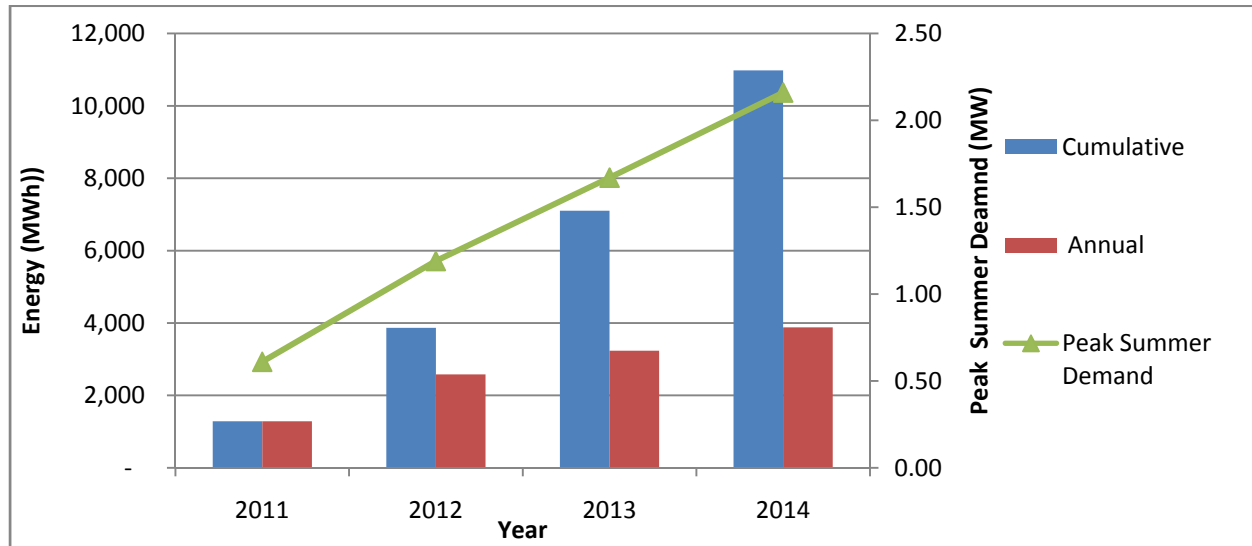
The commercial and institutional program consists of 8 initiatives that are intended to encourage and enable energy efficiency, reduce demand and educate this diverse customer segment about energy efficiency. Erie Thames will be delivering all of the OPA Province-Wide Commercial and Institutional Program initiatives beginning in 2011 and continuing until the end of 2014.

Based on Erie Thames percentage of commercial and institutional customers in the province, customer and market intelligence, and historical program participation, projected contribution by the commercial and institutional program is 10,981 MWh’s and 2.16 MW’s of Peak Summer Demand. A detailed breakdown of the programs contribution annually is illustrated in table 4 and graph 4.

Table 4 – Commercial and Institutional Programs Contribution to CDM Targets

	2011	2012	2013	2014
Energy (MWh) – Annual Contribution	1,284	2,582	3,236	3,879
Energy (MWh) – Cumulative Contribution	1,284	3,866	7,102	10,981
Peak Summer Demand (MW)	0.61	1.19	1.67	2.16

Graph 5 – Commercial and Institutional Programs Contribution to CDM Targets



Erie Thames will be offering the following commercial and institutional initiatives. The initiatives have been grouped into three categories, Existing Building Retrofits – Small Business Customers, Existing Building Retrofits – Medium and Large Business Customers, and Industrial Accelerator. For a complete description of the initiatives please see Appendix B.

### Existing Building Retrofit Projects – Small Business Customers

#### ***Direct Installed Lighting***

The Direct Installed Lighting initiative is a carryover of the Power Savings Blitz initiative with enhancements. The initiative provides customers with an assessment of their facility and up to \$1,000 in equipment upgrades at no charge. In addition customers are also eligible for standard prescriptive incentives for eligible equipment retrofits beyond the \$1,000 limit. Customers must be classified as general services with a demand of less than 50 kW to participate in the program.

#### ***Direct Serviced Space Cooling***

The Direct Serviced Space Cooling initiative is a new initiative and similar in nature to the Direct Installed Lighting initiative in the sense that it provides customers with equipment servicing and labour up to \$750 at no charge. Customers with roof-top and/or ground-mounted air conditioning systems with a capacity of 25 tons or less and confirm that they do not have an existing service agreement for their air-conditioning unit and that the unit was not serviced during the previous calendar year are eligible.

#### ***Demand Response***

The Demand Response initiative is a re-design of *peaksaver*<sup>®</sup>, the residential demand response initiative. For the first 6 months of 2011, the existing initiative will continue

with the re-designed program tentative to launch in July of 2011. The existing program provides customers with a free programmable thermostat, free professional installation and a \$25 bill credit in exchange for allowing their air conditioning system to be cycled down during peak demand times.

The re-designed *peaksaver*<sup>®</sup> initiative will provide customers with two primary options for participating. The first option will have customers reducing their demand via a load control device, in what is known as demand response. Customers will receive free load control devices, free installation and real time consumption and price information (on-line), with the option of a rebate, an in-home display or a subsidy towards an in-home display. The second option allows customers to participate but without reducing their demand. Under this option customers have the opportunity to access real-time consumption information as well as receive a subsidy towards a home energy interface in the form of an in-home or on-line display.

## **Existing Building Retrofit and Commissioning Projects – Medium and Large Business Customers**

### ***Pre-Project Assessments***

The Pre-Project Assessments initiative provides participants with incentives to complete energy audits or studies of potential energy and demand savings from equipment replacement projects, operational practices and procedures, and participation in demand response initiatives. The incentives are intended to cover up to 50% of the cost of the energy audit, based on requirements proportionate with the size and complexity of the buildings. The energy audits must be completed by a professional engineer, a certified engineering technologist, an architect, or a Certified Energy Manager. Irrespective of the type of energy audit conducted, it is intended that the energy audit address all electricity efficiency opportunities for the building, so the customer can consider all possible options.

### ***Equipment Replacement***

The Equipment Replacement initiative is a carryover of the existing ERIP program with enhancements. The initiative provides participants receive incentives for retrofitting or replacing old, inefficient equipment and can participate in the program under three approaches, prescriptive, engineered or custom. The prescriptive approach utilizes a list of specific measures for which the incentive is prescribed. The engineered approach will provide the customer with potential for additional incentives for the equipment to be installed and will provide a more straight-forward process than the Custom approach, with simplified calculations of energy and demand savings. The custom approach requires a more sophisticated, and in some cases complex, process to determine the potential for demand reductions or energy savings.

### ***Existing Building Commissioning***

The Existing Building Commissioning initiative provides participating customers with incentives for commissioning services as they relate to chilled water plants. Customers in the general service >50 kW or large user account categories with single buildings/premises greater than 50,000 square feet in size and with chilled water plants will be eligible to participate in the initiative. The services that would qualify include (i) the development of a plan for commissioning activities, (ii) the procurement of devices and/or software associated with commissioning activities, and (iii) third party services for building commissioning.

### ***Demand Response 1 (DR 1)***

The Demand Response 1 (DR 1) initiative provides distribution-connected electricity customers to voluntarily provide demand reductions to reduce system peak demand and increase system reliability. To participate in the DR 1 initiative, customers must have a demand of 50 kW or greater with at minimum an hourly interval meter. DR 1 participants must adhere to a set of program elements and receive payments for their availability and utilization based on their demand response capacity.

### ***Demand Response 3 (DR 3)***

The Demand Response 3 (DR 3) initiative, which is similar in concept to the DR 1 initiative, in that it provides distribution-connected electricity customers to provide demand reductions to reduce system peak demand and increase system reliability. The difference is that customers are mandated to provide the demand reductions based on the contract they enter into with the OPA. In exchange for the mandated demand reduction, participants receive a much greater availability and utilization payment due to the fact that they have guaranteed their participation in the program.

To participate customers must have a demand of 50 kW or greater with at minimum interval meters supported by recorders with 5 minute interval capability. DR 3 participants must adhere to a set of program elements and receive payments for their availability and utilization based on their demand response capacity. In addition DR3 participants can be penalized for non-participation.

## **Industrial Programs**

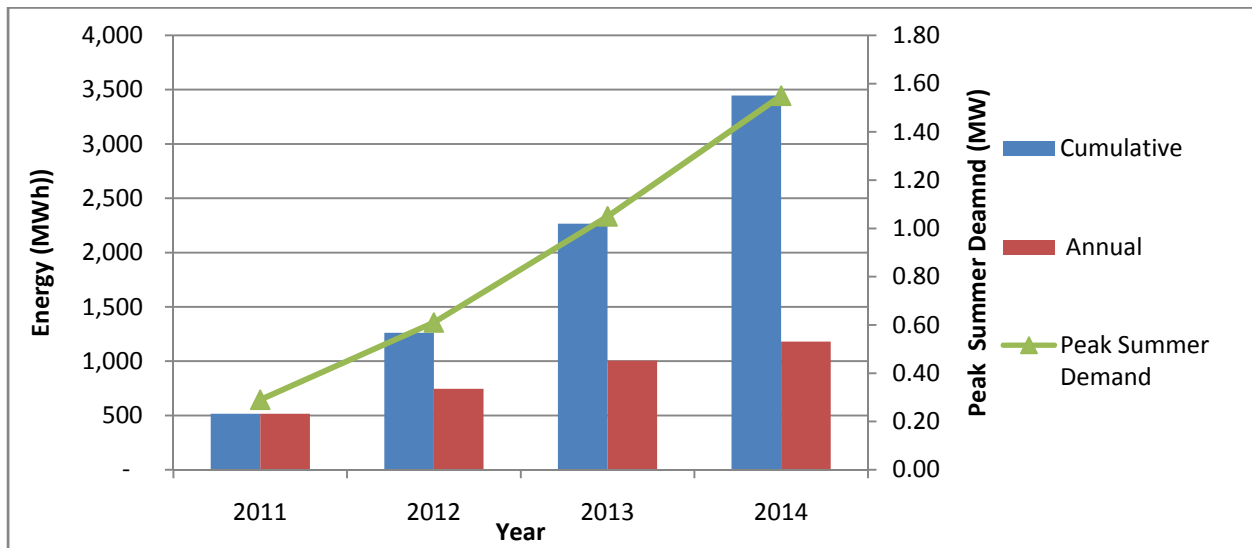
The industrial program consists of 4 initiatives that are intended to encourage and enable energy efficiency, with an emphasis on achieving maximum cost effective peak reduction. Erie Thames will be delivering all of the OPA Province-Wide Industrial Program initiatives beginning in 2011 and continuing until the end of 2014.

Based on Erie Thames percentage of industrial customers in the province, customer and market intelligence, and historical program participation, projected contribution by the industrial program is 3,446 MWh's and 1.55 MW's of Peak Summer Demand. A detailed breakdown of the programs contribution annually is illustrated in table 5 and graph 6.

Table 5 – Industrial Programs Contribution to CDM Targets

	2011	2012	2013	2014
Energy (MWh) – Annual Contribution	516	745	1,005	1,180
Energy (MWh) – Cumulative Contribution	516	1,261	2,266	3,446
Peak Summer Demand (MW)	0.29	0.61	1.05	1.55

Graph 6 – Industrial Programs Contribution to CDM Targets



Erie Thames will be offering the following industrial initiatives. For a complete description of the initiatives please see Appendix C.

### Demand Response 1 (DR 1)

The Demand Response 1 (DR 1) initiative provides distribution-connected electricity customers to voluntarily provide demand reductions to reduce system peak demand and increase system reliability. To participate in the DR 1 initiative, customers must have a demand of 50 kW or greater with at minimum an hourly interval meter. DR 1 participants must adhere to a set of program elements and receive payments for their availability and utilization based on their demand response capacity.

### Demand Response 3 (DR 3)

The Demand Response 3 (DR 3) initiative, which is similar in concept to the DR 1 initiative, in that it provides distribution-connected electricity customers to provide demand reductions to reduce system peak demand and increase system reliability. The difference is that customers are mandated to provide the demand reductions based on the contract they enter into with the OPA. In exchange for the mandated demand



reduction, participants receive a much greater availability and utilization payment due to the fact that they have guaranteed their participation in the program.

To participate customers must have a demand of 50 kW or greater with at minimum interval meters supported by recorders with 5 minute interval capability. DR 3 participants must adhere to a set of program elements and receive payments for their availability and utilization based on their demand response capacity. In addition DR3 participants can be penalized for non-participation.

### **Industrial Accelerator (IA)**

The Industrial Accelerator initiative is aimed at improving the energy efficiency of equipment and production processes and is designed for the very large industrial, commercial and institutional customers. The initiative is multifaceted and offers capital incentive and enabling incentives which offers initiatives which include the following:

- Preliminary Engineering Study and Detailed Engineering Study
- Energy Manager and Roving Energy Manager
- Key Account Manager
- Monitoring & Targeting Systems
- Metering and Instrumentation Library
- Training

Please reference appendix C for a full detailed description of the program.

### **Industrial Equipment Replacement**

The Equipment Replacement initiative is a carryover of the existing ERIP program with enhancements. The initiative provides participants receive incentives for retrofitting or replacing old, inefficient equipment and can participate in the program under three approaches, prescriptive, engineered or custom. The prescriptive approach utilizes a list of specific measures for which the incentive is prescribed. The engineered approach will provide the customer with potential for additional incentives for the equipment to be installed and will provide a more straight-forward process than the Custom approach, with simplified calculations of energy and demand savings. The custom approach requires a more sophisticated, and in some cases complex, process to determine the potential for demand reductions or energy savings.

### **Low Income Program**

At the time of the development of Erie Thames CDM Strategy, the OPA had only released basic information which provide a brief over view of the program but did not provide any detailed program information, a tool to project CDM program demand and energy savings or budget information.

Program details available as of the October 19<sup>th</sup>, 2010 Low income Program update presentation presented by the OPA include the following:

- Program will be delivered in a similar manner as the current Small Commercial Direct Install program where all program participants receive a free home energy audit, with the audit including a component on in-home education with regards to energy efficiency.
- A comprehensive eligible energy efficiency measures list that focus on deep, sustainable savings has been developed (includes appliance replacement and building envelop improvements) and will be used as the guide for the home energy audit.
- Program participants will receive free professional installation of energy efficient measures.
- A per home incentive cap will be established, with LDC's having the ability to go above the cap, on a case-by-case basis.
- The program will feature simplified eligibility criteria for social housing applicants.

## **Board-Approved CDM Programs**

Although Erie Thames has projected to achieve their targets through the delivery of the OPA Province-Wide CDM Programs, and are not applying to the Board for Board-Approved CDM Programs at this time, they have not ruled out the possibility of developing and delivering Board-Approved CDM Programs.

Erie Thames will begin delivering the OPA Province-Wide Programs and perform a gap analysis to identify areas where needs are not being addressed or where potential savings exist. Erie Thames speculates that potential Board-Approved CDM Programs, that is tier 2 and tier 3 programs will be developed to address particular needs of a customer segment, region or community, where the programs are economical and cost effective. Potential programs include targeting accent, sign, street and parking lot lighting as well as providing significant education on the impending Time-of-use (“TOU”) rates and how consumers can benefit from reducing and shifting their energy consumption.

## Program Mix

Erie Thames CDM strategy will initially consist of offering all of the OPA Province-Wide CDM Programs, which as interpreted, cover all customer types, including but not limited to low income, consumer (i.e. residential), commercial and institutional (i.e. small business, light industrial and institutional) and industrial (i.e. large industrial, commercial and institutional). Erie Thames will reevaluate their strategy as necessary to ensure all customer types are receiving CDM Programs and that the CDM Programs are meeting their needs. In addition, the strategy reassessment will allow Erie Thames the opportunity to address any CDM gaps that may have arisen as well as meet evolving customer demands and enhancements and advancements in equipment, technology and the regulatory market.

Attention will be focused on the customer segments proportionally based on customer segment size and the customer segments contribution to Erie Thames CDM Targets. Erie Thames customer mix based on the OPA Province-Wide CDM Program categories has been shown in table 6.

Table 6 - Erie Thames Customer Mix by OPA Province-Wide Program Category

Program Category	Quantity	Percentage (%)
Consumer	12,765	89.12
Commercial and Institutional	1,409	9.84
Industrial	150	1.05

Please note that low income customers fall in both the consumer and institutional program categories and have been included. As noted in the OPA Province-Wide Program section, Erie Thames will be offering the low income OPA Province-Wide CDM Program as part of their CDM Strategy.

## **CDM Program Co-ordination**

Erie Thames will actively pursue efficiencies with several aspects of their CDM Strategy including strategy development, OPA Province-Wide OPA Program management (including but not limited to administration, marketing and delivery), and annual reporting. From past experience efficiencies provide Erie Thames with opportunities to increase program exposure and customer participation, maximize program budgets through economies of scale, leverage existing market and technology expertise, and enhance program delivery. Furthermore, efficiencies improve customer experience as program messaging, processes, procedures, and program delivery agents; can be consistent and consolidated across regions where cross marketing and promotion exists.

### ***Local Distribution Companies and Other Energy Distributors***

Efficiencies will be sought with neighboring LDC's through the potential development of a regional LDC network, where LDC's will work collaboratively towards attaining program efficiencies; share knowledge and potential develop regional CDM Programs. In addition, Erie Thames will approach local natural gas and water distribution organizations to explore potential efficiencies for CDM program design and delivery as well as cross promotional opportunities.

### ***OPA***

In the past the OPA has brought administration efficiencies with various tools for program planning, customer assessments and reporting. In addition, the OPA has assisted to coordinate CDM activities between LDC's through the facilitation of knowledge sharing sessions, mediating and assisting with resolving program issues, and working with numerous organizations to provide LDC's with market research on their customers and the CDM marketplace. Erie Thames will continue to utilize the administrative tools to gain administrative efficiencies as well as actively participate in OPA CDM coordinating activities.

### ***Channel Partners***

Channel partners such as contractors, service providers, distributors, suppliers and retailers skills sets, expertise and existing networks will be leveraged to expand program exposure and increase customer participation at no or low cost as both the channel partner and Erie Thames benefit from the relationship.

### ***Government and Non-Government Agencies***

Erie Thames will work closely with both government and non-government agencies such as various social service organizations and community support groups. Erie Thames will leverage the agencies specialized market knowledge and experience for administration and coordination of CDM activities specifically with the low income program. Erie Thames will approach these agencies to assist with identifying, targeting and reaching this customer segment.

## Appendix A - Consumer Programs Detailed Initiative Descriptions

### Appliance Retirement/Exchange

This Appliance Retirement/Exchange initiative is a carry forward and enhancement of the Great Refrigerator Roundup. The initiative provides customers with free pick-up and decommissioning of old, inefficient, working, appliances. Appliances that qualify include:

- Refrigerators that are at least 15 years old in 2011 and 2012 and 20 years old in 2013 and 2014.
- Freezers that are at least 15 years old in 2011 and 2012 and 20 years old in 2013 and 2014.
- Room air conditioners (only picked up if a fridge/freezer is also scheduled to be picked up at same time).
- Dehumidifiers (only picked up if a fridge/freezer is also scheduled to be picked up at same time).

Erie Thames also has the opportunity to integrate municipal appliance pick-up services as well as appliance pick-up services from appliance retailers.

The Exchange Events portion of the initiative is a carry forward and enhancement of exchange events previously hosted by retailers and includes exchange events held biannually at participating retailers for room air conditioners and dehumidifiers. The spring exchange event will feature a \$50 coupon toward the purchase of a high efficiency replacement unit; the fall event will feature a \$25 gift card. The initiative will also include local marketing and may include engagement opportunities for Erie Thames.

### Instant Discounts (Rebates)

The Instant Discount initiative is a carry forward of the Power Savings Events with some enhancements. The initiative is designed to help participants get more for the energy dollar through the wise use of energy efficient products, through instant discounts on energy efficient products. A Conservation Discount Card is being developed as a replacement for coupons. Further information on the Conservation Discount Card will be provided when available.

Erie Thames will conduct local marketing; and may provide an in-store presence in participating retailers throughout their community.

### HVAC Discounts (Rebates)

The HVAC Discounts initiative is a carry forward of the existing Cool Savings Rebate initiative with some enhancements. The initiative provides participating customers with discounts (rebates) for replacing inefficient air conditioning and/or heating systems.

Discounts vary based on the level of replacement. Participants must use participating, qualified HVAC contractors to ensure quality installation.

Erie Thames will be included in the recruitment of contractors, supported by OPA recruitment efforts. Erie Thames will also have the opportunity to conduct local marketing and participating in engagement events. In addition, the OPA will be providing contractors with education and training on quality installation principles.

### **Demand Response**

The Demand Response initiative is a re-design of *peaksaver*<sup>®</sup>, the residential demand response initiative. For the first 6 months of 2011, the existing initiative will continue with the re-designed program tentative to launch in July of 2011. The existing program provides customers with a free programmable thermostat, free professional installation and a \$25 bill credit in exchange for allowing their air conditioning system to be cycled down during peak demand times. Further details will be provided at the conclusion of pilot in December 2010. The initiative has been re- designed to include two options available to consumers for participation as outlined below:

- *Option A: Participation with Demand Response* – Under this option, four end uses will be eligible for load control participation:
  - central air conditioners
  - electric water heaters
  - room air conditioners
  - pool pumps

Participants will get load control devices (Home Energy Interface (HEI)) installed free and they will have access to real time consumption and price information. This information will be accessible on an in-home device (IHD) or on-line, depending on the customer's choice. When developed, a Dashboard will also be available under Option A. A Dashboard is a single device that includes load control capabilities and IHD. Consumers will receive subsidized Dashboards.

- *Option B: Participation without Demand Response* – Under this option, customers will have the opportunity to access price and real-time consumption information. Participants will receive a subsidy towards a HEI and can opt for an IHD or on-line display.

### **Mid-Stream Incentives**

The Mid-Stream Incentives initiative is a carryover of the midstream television incentive from the Power Savings Event with enhancements. The initiative provides incentives to the following:

- Retailers to promote energy efficient televisions,
- Satellite and cable providers to use high-efficiency set-top boxes and network configurations; and
- Contractors for the installation of “right sized” pool equipment.

Customers benefit indirectly from the initiative through the energy savings they will achieve through the use of energy efficient and right sized equipment.

### **New Construction**

The New Construction initiative is a new initiative that provides incentives for builders to construct new homes to energy efficient standards above the current building codes. Incentives will vary based on the efficiency standards the builder incorporates. The energy efficient standards fall into four categories, which include:

- Prescriptive measures:
  - “All-off” Switches
  - ECM Motors
  - SEER 15 CAC
  - Lighting Control Products
  - Energy Efficient Lighting Fixtures
  - Residential Demand Responses Devices (subject to results of the pilots)
- Custom Projects (incentive will be based on a per \$/kW or per \$/KWh subject to eligibility criteria) (i.e. solar hot water heating where it can be demonstrated as a cost-effective measure)
- Performance Incentives:
  - EnerGuide 83
  - EnerGuide 85
- Enabling Initiatives:
  - Training on Energy Efficiency Building Techniques and Practices
  - Consumer Education (no incentives)

### **Enabling Tools**

In addition to the specific initiatives, another important feature of the consumer program is Enabling Tools aimed at consumers and industry. The Enabling Tools include:

#### *Consumer-focused Enabling Tools*

- Education
  - Web-based material
  - Information integrated into marketing materials
  - Cross-promotion of initiatives



- Audit Tool
  - New, on-line home audit tool that examines energy use, including electricity and gas
  - Tool will have robust education component
  - LDCs will be able to host the audit tool on their website through an interface

#### *Industry-focused Enabling Tools*

- HVAC Quality Installation
  - When installing rebated HVAC measures, quality installation metrics will be required
  - Opportunities for a quality installation certification program will be investigated, including the possible provision of incentives for industry training
- Mid-stream
  - Cross-promoting of initiatives whenever there is an interaction with the consumer

#### **Capability Building**

The consumer program also includes a number of supply chain capability initiatives, which include:

- *HVAC Contractor Capability Building*
  - This focuses on quality installation in the HVAC industry to ensure the efficiency designed into products are not jeopardized by the installation. This will be achieved by:
    - implementing a quality installation standard
    - a training program for existing technicians
    - influencing apprenticeship and journeyman training
- *Builder Training*
  - This training will focus on “building in” energy efficiency and green attributes to new homes. Currently 15-20% of the builders already build to higher levels of energy efficiency but the aim is to increase the penetration beyond the 20%.

## Appendix B - Commercial and Institutional Detailed Initiative Descriptions

### Existing Building Retrofit Projects – Small Business Customers

#### *Direct Installed Lighting*

The Direct Installed Lighting initiative is a carryover of the Power Savings Blitz initiative with enhancements. The initiative provides customers with an assessment of their facility and up to \$1,000 in equipment upgrades at no charge. In addition customers are also eligible for standard prescriptive incentives for eligible equipment retrofits beyond the \$1,000 limit. Customers must be classified as general services with a demand of less than 50 kW to participate in the program.

Customers can participate in this initiative one of three ways:

- Door-to-door approach: An LDC representative, Assessor or Lighting Contractor would visit potential participants and, where the customer is determined to be eligible for the component, the assessment would proceed directly or be scheduled. This is the approach commonly used for the Power Savings Blitz.
- Self-selection approach: Through the new on-line registration system (iCon), by creating a user profile for this Program and choosing to apply for this initiative. Upon submission the application would be forwarded to the LDC that services the customer's business location as determined by postal code. The LDC would instruct a service provider (i.e., an Assessor or Lighting Contractor) to contact the customer to schedule an on-site assessment.
- Referral approach: In connection with the Direct Serviced Space Cooling initiative, an LDC representative, Assessor, or HVAC Contractor may identify an opportunity for a customer to participate in the Direct Installed Lighting initiative. Should the customer desire to participate, the customer would proceed as per either the self selection approach or the door-to-door approach.

A customer can qualify for Direct Installed Lighting incentives for a given building or premises only once during the Program period (through December 31, 2014). The customer can, however, take advantage of other Program initiatives including Equipment Replacement incentives (assuming they satisfy the criteria for the other initiative(s)) with regard to the particular building or premises.

New mandatory QA/QC procedures and protocols will be provided to validate the work being performed against the eligibility requirements of the initiative and the participant incentives being paid; and as well to ensure that corrective actions are being taken where potential issues are identified.

### ***Direct Serviced Space Cooling***

The Direct Serviced Space Cooling initiative is a new initiative and similar in nature to the Direct Installed Lighting initiative in the sense that it provides customers with equipment servicing and labour up to \$750 at no charge. Customers with roof-top and/or ground-mounted air conditioning systems with a capacity of 25 tons or less and confirm that they do not have an existing service agreement for their air-conditioning unit and that the unit was not serviced during the previous calendar year are eligible.

The initiative is intended to target the same customer base as the Direct Install Lighting initiative, although in some cases customers in the General Service >50 kW account category will also be eligible. Basing the eligibility criteria on air conditioner size is intended to simplify the determination of possible participants by HVAC Contractors.

Customers can participate in this initiative one of three ways:

- Door-to-door approach: An Erie Thames representative, Assessor or HVAC Contractor would visit potential participants and, where the customer is determined to be eligible for the component, the assessment would proceed directly or be scheduled.
- Self-selection approach: Through the new on-line registration system (iCon), by creating a user profile for this Program and choosing to apply for this initiative. Upon submission the application would be forwarded to the LDC that services the customer's business location as determined by postal code. The LDC would instruct a service provider (i.e., an Assessor or HVAC Contractor) to contact the customer to schedule an on-site assessment.
- Referral approach: In connection with the Direct Installed Lighting initiative, an Erie Thames representative, Assessor, or Lighting Contractor may identify an opportunity for a customer to participate in the Direct Serviced Space Cooling initiative. Should the customer desire to participate, the customer would proceed as per either the self selection approach or the door-to-door approach.

New mandatory QA/QC procedures and protocols will be provided to validate the work being performed against the eligibility requirements of the initiative and the participant incentives being paid; and as well to ensure that corrective actions are being taken where potential issues are identified.

A customer can qualify for Direct Serviced Space Cooling incentives for a given building or premises only once during the Program period (through December 31, 2014). Even if a customer participated in Direct Installed Lighting prior to or throughout 2011 to 2014, they are able to participate in Direct Serviced Space Cooling. The customer may also be eligible for other Program initiatives such as Equipment Replacement and Demand

Response (assuming they satisfy the criteria for the other initiative(s)) with regard to the particular building.)

New mandatory QA/QC procedures and protocols will be provided to validate the work being performed against the eligibility requirements of the initiative and the participant incentives being paid; and as well to ensure that corrective actions are being taken where potential issues are identified.

### ***Demand Response***

The Demand Response initiative is a re-design of *peaksaver*<sup>®</sup>, the residential demand response initiative. For the first 6 months of 2011, the existing initiative will continue with the re-designed program tentative to launch in July of 2011. The existing program provides customers with a free programmable thermostat, free professional installation and a \$25 bill credit in exchange for allowing their air conditioning system to be cycled down during peak demand times. The initiative has been re- designed to include two options available to consumers for participation as outlined below:

- *Option A: Participation with Demand Response* – Under this option, only central air conditioning systems will be eligible for load control participation. (For residential customers, other equipment will also be eligible.) Participants will get load control devices (identical to the Home Energy Interface (HEI) devices for residential customers) installed at no charge and they will have access to real time consumption and price information. This information can be accessed on an in-home/on-premises device (IHD) or on-line, depending on the customer's choice. When developed, a Dashboard will also be available under Option A. A Dashboard is a single device that includes load control capabilities and IHD. Customers choosing this option will receive subsidized Dashboards.
- *Option B: Participation without Demand Response* – Under this offer, customers have the opportunity to access price and real-time consumption information. Participants get a subsidized amount toward an HEI and can opt for an IHD or on-line display.

## **Existing Building Retrofit and Commissioning Projects – Medium and Large Business Customers**

### ***Pre-Project Assessments***

The Pre-Project Assessments initiative provides participants with incentives to complete energy audits or studies of potential energy and demand savings from equipment replacement projects, operational practices and procedures, and participation in demand response initiatives. The incentives are intended to cover up to 50% of the cost of the energy audit, based on requirements proportionate with the size and complexity

of the buildings. The energy audits must be completed by a professional engineer, a certified engineering technologist, an architect, or a Certified Energy Manager. Irrespective of the type of energy audit conducted, it is intended that the energy audit address all electricity efficiency opportunities for the building, so the customer can consider all possible options. Participant incentives for this initiative are as follows:

Eligibility (Building Size)	Type of Energy Audit	Incentive
<b>Medium and large buildings</b> (all sizes)	ASHRAE Level II Energy Audit	\$0.05/ft <sup>2</sup> , to a maximum of 50% of the energy audit cost or \$25,000
<b>Large Buildings</b> – >50,000 ft <sup>2</sup>	ASHRAE Level III Energy Audit (incorporates all requirements of a Level II Audit)	\$0.10/ft <sup>2</sup> to a maximum of 50% of the energy audit cost or \$35,000 (including the cost of a Level II Energy Audit)

Note that for smaller customers and buildings, pre-project assessments are inherently provided through the Direct Installed Lighting and Direct Serviced Space Cooling initiatives; smaller buildings will only be eligible for funding for energy audits where the customer is not a participant in either of these two initiatives.

Customers can participate in the Pre-Project Assessment initiative by creating a user profile for the C&I Program through iCon and applying for this initiative. The customer has the option of assigning a representative such as the Energy Auditor to complete the application process on their behalf. Where the customer does not have access to iCon, there is a process by which applications can be submitted in paper form. Upon submission, the application is forwarded to the LDC that services the customer’s business location as determined by the postal code.

A customer can qualify for Pre-Project Assessment incentives for a given building or premises only once during the Program period (through December 31, 2014).

***Equipment Replacement***

The Equipment Replacement initiative is a carryover of the existing ERIP program with enhancements. The initiative provides participants receive incentives for retrofitting or replacing old, inefficient equipment and can participate in the program under three approaches, prescriptive, engineered or custom. The Prescriptive approach utilizes a list of specific measures for which the incentive is prescribed. The Custom approach requires a more sophisticated, and in some cases complex, process to determine the

potential for demand reductions or energy savings. The Program will continue these two approaches, but will also include an Engineered approach.

The Engineered approach will provide the customer with potential for additional incentives for the equipment to be installed and will provide a more straight-forward process than the Custom approach, with simplified calculations of energy and demand savings. The incentives available under the Engineered approach are the same as for the Custom approach, but the actual amount would be based on data provided by the customer, including:

- a description of the equipment being replaced,
- a description of the new equipment,
- disposal costs of old equipment
- the operating schedule (days per week, hours per day, time of day), and
- the cost of the new equipment.

Participant incentives for Prescriptive projects are as per the Prescriptive forms/worksheets which specify the dollar amount per unit installed, with no maximum amount payable for the project. Incentives for Engineered and Custom projects are:

- \$400/kW or \$0.05/kWh for lighting measures (whichever is higher) to a maximum of 50% of the project costs.
- \$800/kW or \$0.10/kWh for non-lighting measures (whichever is higher) including lighting controls to a maximum of 50% of the project costs.

Customers can participate in this initiative by creating a user profile for the C&I Program through iCon and applying for the Equipment Replacement Incentive initiative. In connection with the application the customer must complete the appropriate Prescriptive, Engineered and/or Custom forms/worksheets. The customer has the option of assigning a representative such as an electrical contractor to complete the application process on their behalf. Where the customer does not have access to iCon, there is a process by which applications can be submitted in paper form. Upon submission, the application is forwarded to the LDC that services the customer's business location as determined by the postal code.

QA/QC procedures and protocols will be provided to validate the compliance of the project with the eligibility requirements for the initiative. In addition, M&V guidelines for Custom projects will be included to assist and standardize the assessment of savings from these projects. The rigour required for M&V studies of Custom projects will be in proportion to the size and complexity of the project.

### ***Existing Building Commissioning***

The Existing Building Commissioning initiative provides participating customers with incentives for commissioning services as they relate to chilled water plants. Customers in the general service >50 kW or large user account categories with single buildings/premises greater than 50,000 square feet in size and with chilled water plants will be eligible to participate in the initiative. The services that would qualify include (i) the development of a plan for commissioning activities, (ii) the procurement of devices and/or software associated with commissioning activities and (iii) third party services for building commissioning.

A building owner participates in this initiative by hiring a Commissioning Agent, who must provide two references from past projects OR be certified (by the AEE, ASHRAE or BCA).

The Commissioning Agent would undertake a commissioning project by performing the following stages:

1. Scoping Study: A comprehensive plan for the commissioning project is developed.
2. Investigation Phase: A report summarizing commissioning activities associated with both low cost/no cost opportunities and major retrofit activities is prepared. As a condition of participation in this phase, the customer must agree to undertake all recommendations made with payback periods of two years or less.
3. Implementation Phase: Where an implementation plan involves multiple discrete stages, a summary report detailing the results achieved during that stage is prepared.
4. Hand-off/Completion Phase: A final report detailing the final results achieved including confirmation and description of the training and documentation that was provided to building operators and contractors is prepared.

The participant incentives available for each of the four stages are:

- Scoping Study: The actual amount charged by the Commissioning Agent, to a maximum of \$2,500.
- Investigation Phase:
  - As a condition of proceeding to this Phase, the customer must agree to undertake any opportunities identified as “low cost/no cost” with payback periods of less than two years.
- Incentives for this phase are:
  - \$18 per ton of cooling for engineering services, to a maximum of 75% of the costs for these services.

- \$6 per ton of cooling for required metering hardware and software configuration, to a maximum of 75% of the costs for this equipment and associated service.
  - The total incentive available for this Phase is a maximum of \$50,000.
- Implementation Phase:
  - Participants will be eligible for incentives for projects with paybacks greater than two years. These projects will be treated similar to Custom projects in the Equipment Replacement initiative, except that the incentives payable will be calculated to only pay down to the lesser of the two-year payback threshold or 50% of the project cost.
  - The incentives will be calculated using a rate of \$800/kW or \$0.10/kWh (whichever is higher).
- Hand-Off/Completion Phase: The actual amount charged by the Commissioning Agent, to a maximum of \$2,500.

Customers can participate in this initiative by creating a user profile for the C&I Program through iCon and applying for the Existing Building Commissioning initiative. The customer has the option of assigning a representative such as the Commissioning Agent to complete the application process on their behalf. Where the customer does not have access to iCon, there is a process by which applications can be submitted in paper form. Upon submission, the application is forwarded to the LDC that services the customer's business location as determined by the postal code.

Customers can qualify for Existing Building Commissioning incentives only once for the same building or premises during the Program period (through December 31, 2014). M&V guidelines for this initiative are as per the requirements of Custom projects under the Equipment Replacement initiative.

### ***Demand Response 1 (DR 1)***

The Demand Response 1 (DR 1) initiative provides distribution-connected electricity customers to voluntarily provide demand reductions (DR) to reduce system peak demand and increase system reliability. Key initiative elements include:

- Participants contract through their LDC or Aggregator for a specific amount of demand response capacity.
- Participants must be on stand-by 1600 hours/year, generally between 12 noon and 6 pm on business days.
- Participants are activated up to 100 hours/year by the IESO when there is a system need.



- There is no obligation for a Participant to participate when called upon by the IESO. If the Participant wishes to participate in the activation they submit a Confirmation to the IESO.
- During any activation, Participants can offer up to 100% of their registered DR capacity.
- Two payments are made to Participants:
  - Availability Payment – capacity, and
  - Utilization Payment – energy.
  - **Rates:**
    - **Availability Rates:** \$4,000 per MW of weighted average DR provided over all activation periods in summer months (i.e., June through September) where at least one Activation occurs, and \$2,000 per MW of weighted average DR provided over all activation periods in non-summer months where at least one Activation occurs, plus;
    - **Utilization Rates:** of HOEP up to \$170 per MWh for all load reduction delivered as part of the DR actually provided.
- Local discounts will apply to rates for some areas of Ontario
- Payments are made monthly based upon performance relative to a baseline calculation.

DR 1 will be available to customers with peak demand of 50kW or more that have a minimum hourly interval meter. Typical DR customers include office buildings and universities and have:

- self-generation or stand-by generation capability with appropriate certificate of approval from the Ministry of Environment that allows for participation in DR. This typically, but not always, excludes diesel;
- load that can be turned off for four hours at a time; or
- production load that can be shifted away from curtailment hours.

### **Demand Response 3 (DR 3)**

The Demand Response 3 (DR 3) initiative, which is similar in concept to the DR 1 initiative, in that it provides distribution-connected electricity customers to provide demand reductions to reduce system peak demand and increase system reliability. The difference is that customers are mandated to provide the demand reductions based on the contract they enter into with the OPA. In exchange for the mandated demand

reduction, participants receive a much greater availability and utilization payment due to the fact that they have guaranteed their participation in the program.

Key initiative elements include:

- The Aggregators will contract directly with Participants with load less than or equal to 5MW to provide DR.
- The Aggregators will contract with the Participants with whom they will register with the OPA.
- Participants must be on stand-by approximately 1600 hours/year. The standby period can be either 12 noon to 6 pm business days during summer months (i.e., June through September), and 4 pm to 9 pm business days for all non-summer months; or 12 noon to 9 pm on business days for all months during the year.
- Participants will be activated either up to 100 hours/year or 200 hours/year by the Aggregator, in response to a notice from the IESO to the Aggregator when there is a system need.
- There is an obligation for a Participant to participate when called upon by the Aggregator. Failure to participate when called may result in a financial penalty being issued against the Aggregator or Participant.
- Two payments are made to Participants:
  - Availability Payment – capacity, and
  - Utilization Payment – energy.
  - **Rates:** Available payments to customers for their demand response capability will be dependent on the offering made available by an Aggregator. However, all Aggregators are paid the same rate from the OPA. These rates vary depending on location of the site within Ontario, and term of the agreement between the OPA and an Aggregator. Rates are posted on the OPA web site.
    - **Availability Rates** are applied to the Demand Response capability registered and payments are made each month of the year, regardless of activation.
    - **Utilization Rates** are made for all load reduction delivered during an activation.
- Local discounts of 50% will apply to rates for some areas of Ontario.
- All payments will be based upon performance relative to a baseline calculation.

DR 3 will be available to customers with peak demand of 50 kW or more that have interval meters supported by recorders with 5 minute interval capability. Typical DR 3 customers will have:

- self-generation or stand-by generation with appropriate certificate of approval from the Ministry of Environment that allow for participation in DR. This typically, but not always, excludes diesel;
- load that can be turned off for four hours at a time; or
- production load that can be shifted away from curtailment hours.

## Appendix C - Industrial Program Detailed Initiative Descriptions

### Demand Response 1 (DR 1)

The Demand Response 1 (DR 1) initiative provides distribution-connected electricity customers to voluntarily provide demand reductions (DR) to reduce system peak demand and increase system reliability. Key initiative elements include:

- Participants contract through their LDC or Aggregator for a specific amount of demand response capacity.
- Participants must be on stand-by 1600 hours/year, generally between 12 noon and 6 pm on business days.
- Participants are activated up to 100 hours/year by the IESO when there is a system need.
- There is no obligation for a Participant to participate when called upon by the IESO. If the Participant wishes to participate in the activation they submit a Confirmation to the IESO.
- During any activation, Participants can offer up to 100% of their registered DR capacity.
- Two payments are made to Participants:
  - Availability Payment – capacity, and
  - Utilization Payment – energy.

#### **Rates:**

**Availability Rates:** \$4,000 per MW of weighted average DR provided over all activation periods in summer months (i.e., June through September) where at least one Activation occurs, and \$2,000 per MW of weighted average DR provided over all activation periods in non-summer months where at least one Activation occurs, plus;

**Utilization Rates:** of HOEP up to \$170 per MWh for all load reduction delivered as part of the DR actually provided.

- Local discounts will apply to rates for some areas of Ontario
- Payments are made monthly based upon performance relative to a baseline calculation.

DR 1 will be available to customers with peak demand of 50kW or more that have a minimum hourly interval meter. Typical DR customers include office buildings and universities and have:

- self-generation or stand-by generation capability with appropriate certificate of approval from the Ministry of Environment that allows for participation in DR. This typically, but not always, excludes diesel;
- load that can be turned off for four hours at a time; or
- production load that can be shifted away from curtailment hours.

### Demand Response 3 (DR 3)

The Demand Response 3 (DR 3) initiative, which is similar in concept to the DR 1 initiative, in that it provides distribution-connected electricity customers to provide demand reductions to reduce system peak demand and increase system reliability. The difference is that customers are mandated to provide the demand reductions based on the demand response contract they enter into with the OPA, with the main benefit being that participants receive a much greater availability and utilization payment due to the fact that they have guaranteed their participation in the program. Key initiative elements include:

- The Aggregators will contract directly with Participants with load less than or equal to 5MW to provide DR.
- The Aggregators will contract with the Participants with whom they will register with the OPA.
- Participants must be on stand-by approximately 1600 hours/year. The standby period can be either 12 noon to 6 pm business days during summer months (i.e., June through September), and 4 pm to 9 pm business days for all non-summer months; or 12 noon to 9 pm on business days for all months during the year.
- Participants will be activated either up to 100 hours/year or 200 hours/year by the Aggregator, in response to a notice from the IESO to the Aggregator when there is a system need.
- There is an obligation for a Participant to participate when called upon by the Aggregator. Failure to participate when called may result in a financial penalty being issued against the Aggregator or Participant.
- Two payments are made to Participants:
  - Availability Payment – capacity, and
  - Utilization Payment – energy.

**Rates:** Available payments to customers for their demand response capability will be dependent on the offering made available by an Aggregator. However, all Aggregators are paid the same rate from the OPA. These rates vary depending on location of the site within Ontario, and term of the agreement between the OPA and an Aggregator. Rates are posted on the OPA web site.

**Availability Rates** are applied to the Demand Response capability registered and payments are made each month of the year, regardless of activation.

**Utilization Rates** are made for all load reduction delivered during an activation.
- Local discounts of 50% will apply to rates for some areas of Ontario.
- All payments will be based upon performance relative to a baseline calculation.

DR 3 will be available to customers with peak demand of 50kW or more that have interval meters supported by recorders with 5 minute interval capability. Typical DR 3 customers will have:

- self-generation or stand-by generation with appropriate certificate of approval from the Ministry of Environment that allow for participation in DR. This typically, but not always, excludes diesel;
- load that can be turned off for four hours at a time; or
- production load that can be shifted away from curtailment hours.

### **Industrial Accelerator (IA)**

The Industrial Accelerator initiative (also referred to simply as “Accelerator”) is aimed at improving the energy efficiency of equipment and production processes and is designed for the very large industrial, commercial and institutional customers. Accelerator offers capital incentive and enabling initiatives.

### **Capital Incentive**

For the capital incentive initiative, the key elements will include:

- A capital incentive up to the lowest of (i) the production of \$200/MWh multiplied by the annualized electricity savings, (ii) 70% of estimated project costs, and (iii) a one-year pay back.
- Applications are accepted for various size projects as follows:
  - micro-projects: minimum of 100MWh of annualized electricity savings but less than 700MWh;
  - projects: minimum of 350MWh of annualized electricity savings; and
  - portfolio of projects: if a project less than 350MWh of annualized electricity savings, two or more eligible projects may be grouped together.
- Applications for projects will require a detailed assessment of electricity savings, and capital expenditures.
- Measurement and verification will be required for each individual project in order to assess performance of electricity savings.
- Two incentive payment options are available:
  - advanced payment option – this is where incentive payments are made prior to project completion and performance by the Participant is supported by a letter of credit; and
  - deferred payment option – this is where incentive payments are made after the project installation based on verified electricity savings; no letter of credit is required.
- A Technical Reviewer will be required to review and approve applications, project invoices, development of measurement and verification plans, and review of project performance.
- LDCs will be required to contract directly with customers using a form of contract made available to the LDC by the OPA.

### **Enabling Initiatives**

- **Preliminary Engineering Study and Detailed Engineering Study**

Incentives are available to customers in the LDC's service area for up to \$10,000 for a preliminary engineering study and \$50,000 for a detailed engineering study.

- Studies are used for preliminary or detailed quantification of opportunity electricity savings and capital investment.
- Such studies may be used to support Accelerator applications for the capital incentive.
- As a condition of acceptance of applications and payout of incentives, a Technical Reviewer will be required to review and approve applications, draft study report and final study report.
- LDCs will be required to contract directly with customers who wish to undertake such studies, using a contract form made available to the LDC by the OPA.

- **Energy Manager and Roving Energy Manager**

Funding is made available for Customer-employed EM and LDC-employed REM. REM and REM incentives are for one year, renewable for up to four years. All EM and REM are expected to:

- i. Develop a comprehensive annual energy plan for the organization or the LDC's (s') customers;
  - ii. Issue regular reports of activities for the first six months, followed by quarterly reports to the LDC; and
  - iii. Enrol in all training prescribed by the OPA, such as End Use Training, Certified Energy Manager, etc.
- **EM**
    - Incentive of up to \$100,000 or 80% of the EM's annual salary, plus reasonable expenses of up to \$10,000 or 80%.
    - Must be hired by an LDC's customer.
    - Must be placed within the customer facility.
    - Must identify and implement 0.3MW plus 0.3MW x facility load factor per year of energy efficiency opportunities, of which 33% - must be from non-incentive based opportunities.
  - 2. **REM**
    - Incentive of up to \$120,000 per year, plus reasonable expenses of up to \$10,000 per year.
    - Must be hired by the LDC or a group of LDCs.
    - Must be used in more than one facility.

- Must identify 0.3MW plus 0.3MW x facility load factor per year across multiple customers of energy efficiency opportunities, of which 33% must be from non-incentive based opportunities.
- **Key Account Manager**  
KAMs are a LDC resource intended to support the on-going promotion and delivery of the Accelerator initiative. KAMs will act as the LDC's primary sales staff. KAMs are made available based upon a ratio of one KAM per 10 customers with annual peak demand of 5MW or greater as follows:
  - LDC may apply for KAM having 10 customers greater than 5MW.
  - Where LDC has less than 5 customers, more than one LDC may band together to achieve the minimum 5 customers required for an application;
  - Where an LDC or group of LDC's have more than 5 customers, an application may be made for a pro-rata share of the full cost available for a Key Account Manager.

Available funding is at the rate of up to \$150,000 per year per KAM, inclusive of all costs including expenses.

Some of the functions that KAMs are expected to undertake include:

- development of customer account plans;
- proactively making sales calls to offer the Industrial Program;
- working with customers to complete energy assessments; and
- Industrial Program administration.

KAMs are required to participate in training programs prescribed by the OPA including End Use Training, Dollars to Sense, Certified Energy Manager, etc.

- **Monitoring & Targeting Systems**  
Funding of up to \$75,000 per site is available for implementation and support of M&T initiatives. M&T equipment is intended to primarily measure energy consumption for a process, benchmark that consumption, and monitor reductions to consumption based on process changes through such things as productivity improvements, improved scheduling and operation, etc. Participants are required to contribute a minimum of 20% of the total project costs. To be eligible for an M&T system the LDC's customer must:
  - Have an EM or have the duties of an EM fulfilled to manage the M&T system.
  - Have a minimum annual electricity consumption of a least 15,000MWh for the previous calendar year.



- Have the potential to, by the end of the second annual report, achieve a facility savings of 0.2MW in peak demand plus an annual MWh savings equal to the product of 0.2MW and the facility load factor.
  - Commit to implement projects with less than a 1 year simple payback period and to develop an actionable recommendation within 24 months of installation.
  - Agree to provide annual reports of opportunities implemented, for a period of 5 years following implementation.
- **Metering and Instrumentation Library**

Through creation of a MIL by the OPA, customers will have access, through their LDC, to metering equipment to more accurately characterize the energy use of fans, pumps, compressors, processes, etc. By more accurately understanding equipment load profiles and consumption, customers will be better able to appreciate and evaluate the opportunities for energy savings. A Technical Reviewer will provide a central province-wide service of lending the following types of instrumentation, subject to requests from LDCs on behalf of their customers:

    - Data loggers
    - Electrical meters
    - Infrared thermometer & thermal camera
    - Process flow meters
    - Pressure transmitters
    - Stroboscopes
    - Ultrasonic detectors for air leaks

Customers are responsible for all safety issues associated with the installation of equipment.

- **Training**

The Accelerator Initiative offers training targeted to KAMs, EMs and REMs to improve the effectiveness of delivery of the Accelerator Initiative, as well as training for students and junior staff to develop the next generation of EMs and REMs.

#### Energy Manager Training

The OPA will offer LDC staff and Industrial EMs:

- 1) *End Use training* in:
  - Compressed air systems
  - Fan and blower systems
  - Motors and VFDs

- Process control systems
- Pumping systems

End Use training will be mandatory for funded EMs and LDC KAMs. It is expected that over the four years (2011-2014) end use training will be provided to 80 participants.

- 2) *Certified Energy Manager (CEM) Training* – this will cover the full cost of the training given by the Association of Energy Engineers funded by the Industrial Program for all EMs and KAMs, as well as additional LDC staff identified as needing the training. It is expected that over the four years CEM Training will be provided to 100 participants in the industrial sector.

### Next Generation Training

The OPA will offer two training initiatives to develop the next generation of EM:

- 1) *Basic Energy Manager Training* – a professional (that is, post-secondary) EM program will be developed for Ontario. It is expected that over the four years Basic Energy Manager Training will be provided to 246 participants.
- 2) *Co-op Student Placement* – OPA will work with one or more colleges or universities to develop a co-op program to recruit students interested in, and able to undertake, energy management. It is expected that over the four years, 24 co-op students will be placed.

### **Industrial Equipment Replacement**

The Equipment Replacement initiative is a carryover of the existing ERIP program with enhancements. The initiative provides participants receive incentives for retrofitting or replacing old, inefficient equipment and can participate in the program under three approaches, prescriptive, engineered or custom. The Prescriptive approach utilizes a list of specific measures for which the incentive is prescribed. The Custom approach requires a more sophisticated, and in some cases complex, process to determine the potential for demand reductions or energy savings. The Program will continue these two approaches, but will also include an Engineered approach.

The Engineered approach will provide the customer with potential for additional incentives for the equipment to be installed and will provide a more straight-forward process than the Custom approach, with simplified calculations of energy and demand savings. The incentives available under the Engineered approach are the same as for the Custom approach, but the actual amount would be based on data provided by the customer, including:

- a description of the equipment being replaced,
- a description of the new equipment,
- disposal costs of old equipment

- the operating schedule (days per week, hours per day, time of day), and
- the cost of the new equipment.

Participant incentives for Prescriptive projects are as per the Prescriptive forms/worksheets which specify the dollar amount per unit installed, with no maximum amount payable for the project. Incentives for Engineered and Custom projects are:

- \$400/kW or \$0.05/kWh for lighting measures (whichever is higher) to a maximum of 50% of the project costs.
- \$800/kW or \$0.10/kWh for non-lighting measures (whichever is higher) including lighting controls to a maximum of 50% of the project costs.

Customers can participate in this initiative by creating a user profile for the C&I Program through iCon and applying for the Equipment Replacement Incentive initiative. In connection with the application the customer must complete the appropriate Prescriptive, Engineered and/or Custom forms/worksheets. The customer has the option of assigning a representative such as an electrical contractor to complete the application process on their behalf. Where the customer does not have access to iCon, there is a process by which applications can be submitted in paper form. Upon submission, the application is forwarded to the LDC that services the customer's business location as determined by the postal code.

QA/QC procedures and protocols will be provided to validate the compliance of the project with the eligibility requirements for the initiative. In addition, M&V guidelines for Custom projects will be included to assist and standardize the assessment of savings from these projects. The rigour required for M&V studies of Custom projects will be in proportion to the size and complexity of the project.