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Vice President and Chief Regulatory Officer
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BY COURIER

November 1, 2010

Ms. Kirsten Walli
Board Secretary
Ontario Energy Board
Suite 2700, 2300 Yonge Street
Toronto, ON M4P 1E4

Dear Ms. Walli:

Hydro One Networks Inc. Filing of CDM Strategy and Application for Board-Approved CDM Programs

Please find attached two paper copies of the confidential version and redacted version of Hydro One Networks Inc.'s CDM Strategy and Application for Board-Approved CDM Programs. In order to uphold the integrity of the RFP process, Hydro One Networks Inc. ("Hydro One") asks for confidential treatment of the unredacted version of the Strategy and Application, specifically Exhibit C, Tab 1, Schedule 1 and 2.

On September 16, 2010, the Ontario Energy Board ("OEB" or "Board") issued the final Conservation and Demand Management ("CDM") Code for Electricity Distributors under Section 70.2 of the *Ontario Energy Board Act, 1998* ("the Act"). The Board developed the new CDM Code ("the Code") in accordance with the Minister of Energy and Infrastructure's directive dated March 31, 2010, that was issued to the Board under sections 27.1 and 27.2 of the Act.

Hydro One understands that the Code is an important component of the Board's efforts to promote CDM consistent with the Government of Ontario's policies. The purpose of the Code is to set out the obligations and requirements with which licensed distributors must comply in relation to the CDM targets to be set out in their licences, including the filing of a CDM Strategy. The Code also sets out the conditions and rules that licensed distributors are required to follow if they choose to use Board-Approved CDM Programs to meet the CDM Targets.

The attached Plan ("the Plan") combines Hydro One's CDM Strategy and Application for OEB-Approved CDM Programs. It is the result of extensive involvement in the design of programs with the Ontario Power Authority and the Electricity Distributors Association. The Board has directed all electricity distributors to use the proposed CDM targets set out in a letter dated June 22, 2010, and Hydro One's Plan complies with the Board's proposed targets set out therein. The Plan includes a description of how Hydro

One intends to achieve its CDM Targets of 210 MW and 1,014 GWh over the period 2011-2014. The Plan includes all components required by the Code for submission of a CDM Strategy and Board-Approved CDM programs and will help ensure that Hydro One meets its CDM targets in a cost-effective manner and provides value to ratepayers.

The redacted version of the Plan has been filed through the Board's Regulatory Electronic Submission System ("RESS"). After receiving an acknowledgment letter from the Board confirming that the CDM Strategy is complete, Hydro One will make its CDM Plan available for public review at its main office at 483 Bay Street and on its website.

For more information please contact Anne-Marie Reilly at 416-345-6482.

Sincerely,

ORIGINAL SIGNED BY ALLAN COWAN FOR SUSAN FRANK

Susan Frank

EXHIBIT LIST

Exhibit	Tab	Schedule	Contents
A			Administration
	1	1	Exhibit List
		2	Application
B			Evidence
	1	1	2011 to 2014 Conservation and Demand Management Plan Summary
		2	2011 to 2014 Conservation and Demand Management Strategy
	2	1	2011 to 2014 Conservation and Demand Management Budget for Board-Approved Programs and Cost Recovery
C			Supporting Material
	1	1	Detailed Description of OPA-Contracted CDM Programs
		2	Detailed Description of Board-Approved CDM Programs

ONTARIO ENERGY BOARD

IN THE MATTER OF *the Ontario Energy Board Act, 1998*;

AND IN THE MATTER OF an Application by Hydro One Networks Inc.

For an Order or Orders confirming the 2011 to 2014 Conservation and Demand Management Strategy and approving funding for the 2011 to 2014 Board-Approved Conservation and Demand Management Programs

APPLICATION

1. The Applicant is Hydro One Networks Inc. (“Hydro One”), a subsidiary of Hydro One Inc. The Applicant carries on the business, among other things, of owning and operating distribution facilities in Ontario.
2. Hydro One hereby applies to the Ontario Energy Board (the “Board”), pursuant to section 78 of the Ontario Energy Board Act, 1998 (“the OEB Act”), for confirmation of the 2011 to 2014 Conservation and Demand Management Strategy (“CDM Strategy”). A Board confirmation of Hydro One’s CDM Strategy will endorse:
 - a. the suite of Conservation and Demand Management Programs that Hydro One put forward to achieve its 2011 to 2014 Conservation and Demand Management Targets; and
 - b. Hydro One’s anticipated energy and peak demand savings achievements for OPA-Contracted and Board-Approved CDM Programs for the 2011 to 2014 period.
3. Hydro One also seeks approval of the 2011 to 2014 Board-Approved Conservation and Demand Management Programs Application for 2011 to 2014 in accordance with the Conservation and Demand Management Code for Electricity Distributors. The six Board-Approved Conservation and Demand Management Programs included in this application are Community Education, Neighbourhood Benchmarking, Monitoring and

1 Targeting, Small Commercial Energy Management and Load Control, Municipal and
2 Hospital Energy Efficiency Performance, and Double Return Plus.

3
4 4. Hydro One seeks approval of its Board-Approved Conservation and Demand
5 Management Application which will provide \$32.0 million to fund the six Board-
6 Approved CDM programs that are listed above during the 2011 to 2014 period. The
7 Board's approval will enable payments from the Independent Electricity System Operator
8 (the "IESO") in accordance with section 78.5(1) of the *OEB Act*.

9
10 5. Hydro One also requests approval of a variance account that will be used to record the
11 difference between the funding awarded for Board-Approved Conservation and Demand
12 Management Programs and the actual spending incurred to carry out these programs.

13
14 6. Hydro One requests a written hearing on this application.

15
16 7. The written evidence filed with the Board may be amended from time to time prior to the
17 Board's final decision on the Application. Further, the Applicant may seek meetings with
18 Board Staff in an attempt to identify and reach agreements to settle issues arising out of
19 this Application.

20
21 8. Hydro One requests that a copy of all documents filed with the Board by each party to
22 this Application be served on the Applicant and the Applicant's counsel as follows:

23
24 a) The Applicant:

25
26 Ms. Anne-Marie Reilly
27 Senior Regulatory Coordinator – Regulatory Affairs
28 Hydro One Networks Inc.
29
30
31

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b) The Applicant's counsel:

Mr. Michael Engelberg
Assistant General Counsel
Hydro One Networks Inc.

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Electronic access: mengelberg@HydroOne.com

DATED at Toronto, Ontario, this 1st day of November, 2010.

HYDRO ONE NETWORKS INC.

By its counsel,

ORIGINAL SIGNED BY Michael Engelberg
Michael Engelberg

**2011 TO 2014 CONSERVATION AND DEMAND MANAGEMENT
PLAN SUMMARY**

On September 16, 2010, the Ontario Energy Board (“OEB” or “Board”) issued the final Conservation and Demand Management (“CDM”) Code for Electricity Distributors under Section 70.2 of the *Ontario Energy Board Act, 1998* (“the Act”). The Board developed the new CDM Code (“the Code”) in accordance with the Minister of Energy and Infrastructure’s directive dated March 31, 2010, that was issued to the Board under sections 27.1 and 27.2 of the Act. The directive set out the total of the CDM Targets that the must be allocated to respective distributors. A reduction of 1,330 MW and 6,000 GWh is required on a Province-wide basis by the end of 2014.

Hydro One Networks Inc. (“Hydro One”) understands that the Code is an important component of the Board’s efforts to promote CDM consistent with the Government of Ontario’s policies. The purpose of the Code is to set out the obligations and requirements with which licensed distributors must comply in relation to the CDM targets to be set out in their licences, including the filing of a CDM Strategy. The Code also sets out the conditions and rules that licensed distributors are required to follow if they choose to use Board-Approved CDM Programs to meet the CDM Targets.

Hydro One’s Plan (“the Plan”) combines Hydro One’s CDM Strategy and Application for Board-Approved CDM Programs. It leverages Hydro One’s extensive experience in developing, implementing and managing CDM programs in Ontario. It also leverages Hydro One’s extensive involvement in the design of programs with the Ontario Power Authority and the Electricity Distributors Association, as well as consultations with the Coalition of Large Distributors, Enbridge Gas Distribution and Union Gas Limited. The Plan includes a description of how Hydro One intends to achieve its CDM Targets of 210 MW and 1,014 GWh over the period 2011-2014. The Plan includes all components required by the Code for submission of a CDM Strategy and Application for Board-

Approved CDM programs. (More information on the filing requirement is attached to this exhibit as Appendix A.) The Plan provides a detailed roadmap to ensure that Hydro One meets its CDM targets in a cost-effective manner and provides value to ratepayers.

Hydro One will take full advantage of the OPA-Contracted CDM Programs, which are expected to achieve approximately 80% of Hydro One's CDM targets. To achieve the remaining 20%, Hydro One will undertake Board-Approved CDM programs. Figure 1 summarizes Hydro One's anticipated peak savings, and energy savings achievements for OPA Contracted and Board-Approved CDM Programs for the 2011 to 2014 period.

Figure 1 - Annual Peak and Energy Savings from OPA-Contracted and Board-Approved CDM Programs

Savings	2011	2012	2013	2014	Total (2011-2014)
Peak (kW) cumulative savings	42,000	94,000	150,000	210,000	210,000
Annual Energy savings (MWh)	96,000	216,000	324,000	437,000	1,073,000

Figure 2 summarizes annual milestones for the combination of OPA-Contracted and Board Approved CDM Programs and shows that 100% of Hydro One's targets will be reached by the end of 2014.

Figure 2 – Annual Milestones

Milestone	2011	2012	2013	2014
Stage	Stage 1 - Program launch	Stage 2 - Program settle/provide fine tuning	Stage 3 – Program matures	Stage 4 – Program full performance
% of target MW	20%	45%	71%	100%
% of target MWh	9%	29%	59%	100%

1 The stages that are identified include initiative launch, fine tuning, settling and full
2 performance.

3
4 The forecasted budget requirement for OPA-Contracted and OEB-Approved programs is
5 \$181 million and \$32.0 million respectively.

6
7 Currently, Hydro One has not included any CDM benefits that may result from the
8 implementation of Time-of-Use pricing and the High Five Proposal for its customer base.
9 Hydro One may revise its forecast to reflect CDM benefits in the future when more
10 information is available on the CDM impacts of Time-of Use pricing and the High Five
11 Proposal.

12
13 Hydro One is applying for six Board-Approved programs:

- 14 • Community Education
15 • Neighbourhood Benchmarking
16 • Monitoring and Targeting
17 • Small Commercial Energy Management and Load Control
18 • Municipal and Hospital Energy Efficiency Performance
19 • Double Return Plus

20
21 The costs of the above programs are reflected in this Application. Detailed information on
22 each proposed Board-Approved Program can be found at Exhibit B, Tab 1, Schedule 2,
23 Section 4 and Exhibit C, Tab 1, Schedule 2.

24
25 In addition, Hydro One has a number of potential Board-Approved CDM programs that are
26 currently under development. These include the Residential Voltage Reduction, Electric
27 Thermal Storage, Home Energy Retrofit and Compressed Air programs. While this set of
28 potential Board-Approved Programs is not included as part of the Application at this time,

1 Hydro One may file a Board-Approved CDM Program application for these and other
2 potential Board-Approved Programs at a future date, if required.

3

4 Hydro One views the proposed Board-Approved CDM Programs as a key element for
5 meeting its distributor licence condition. These proposed programs are cost-effective, as
6 they have all passed both the Total Resource Cost (“TRC”) Test and the Program
7 Administration Cost (“PAC”) Test. In addition to quantifiable energy and peak demand
8 savings, they will provide additional benefits such as customer satisfaction, CDM
9 sustainability, market transformation and engagement of all customer types.

APPENDIX A

FILING REQUIREMENT

The final Conservation and Demand Management (“CDM”) Code issued by the Board on September 16, 2010, sets out the filing requirements for both the CDM Strategy and the Board-Approved CDM Programs Application. This 2011 to 2014 Hydro One CDM Plan was prepared in accordance with the filing requirements set out by the CDM Code. The Plan combines the Company’s CDM Strategy and Application for the Board-Approved CDM Programs and includes all components required by the CDM Code.

Table 1 and Table 2 illustrate that all components required by the CDM Code are addressed in this Hydro One CDM Plan:

Table 1 – Filing Requirements for CDM Strategy

Filing Requirement from CDM Code	Hydro One's CDM Plan			
CDM Strategy Template -	Exhibit	Tab	Schedule	Section
1. Distributor's Name:	A	1	2	
2. Total Reduction in Peak Provincial Electricity Demand (MW) Target:	B	1	2	
3. Total Reduction in Electricity Consumption (kWh) Target:	B	1	2	
4. CDM Strategy				
4.1 Provide a high level description of how the distributor plans to meet its CDM Targets over the 4-year period. The description must include the following elements:				
(a) a division of the CDM Strategy into a year by year plan; and	B	1	1 & 2	
(b) a statement of the annual milestones the distributor plans to achieve.	B	1	1 & 2	
5. OPA-Contracted Province-Wide CDM Programs				
5.1 Describe, to the extent known, the OPA-Contracted Province-Wide CDM Programs the distributor plans to undertake from 2011-2014. The following information must be provided for each program				
(a) program name;	C	1	1	
(b) year(s) of operation for the program;	C	1	1	
(c) program description (i.e., purpose of the program, target customer type(s));	C	1	1	
(d) where the information is available, the projected budget;	B	1	2	3
(e) where the information is available, the total projected reduction in peak provincial electricity demand (kW); and	B	1	2	3
(f) where the information is available, the total projected reduction in electricity consumption (MWh).	B	1	2	3
6. Potential Board-Approved CDM Programs				
6.1 Describe, to the extent known, the potential Board-Approved CDM Programs the distributor plans to undertake from 2011-2014. The following information must be provided for each program:				
(a) program name;	C	1	2	
(b) year(s) of operation for the program;	C	1	2	
(c) program description (i.e., purpose of the program, target customer type(s));	C	1	2	
(d) where the information is available, the projected budget;	C	1	2	
(e) where the information is available, the total projected reduction in peak provincial electricity demand (kW); and	C	1	2	
(f) where the information is available, the total projected reduction in electricity consumption (MWh).	C	1	2	
7. Program Mix				
7.1 Provide a description of how the distributor will ensure that CDM Programs will be offered for all customer type(s), including low income customers, in the distributor's service area, as far as is appropriate and reasonable having regard to the composition of the distributor's customer base. If the distributor will not offer any CDM Programs to a particular customer type, the distributor must provide the rationale for why it is appropriate and reasonable not to have CDM Programs for that type of customer.	B	1	2	5
8. CDM Programs Co-ordination				
8.1 Describe, where applicable, how the distributor will pursue administrative efficiencies and co-ordinate its CDM activities with other distributors, natural gas distributors, social service agencies, any level of government, government agencies, and the OPA.	B	1	2	6

Table 2 – Filing Requirements for Board-Approved CDM Programs Application

Filing Requirement from the CDM Code	Hydro One's CDM Plan		
Section 3.1.4. from the CDM Code	Exhibit	Tab	Schedule
A distributor's application for a proposed Board-Approved CDM Program must include the following:			
(a) a program evaluation plan, based on the OPA's EM&V Protocols, for each program;	C	1	2
(b) a benefit-cost analysis of each program which shall be completed by using the OPA's Cost Effectiveness Tests;	C	1	2
(c) a detailed explanation of the program's objective(s) and method of delivery;	C	1	2
(d) the types of customers targeted by the program;	C	1	2
(e) a forecasted number of participants that the distributor expects will participate in the program;	C	1	2
(e) the total projected peak demand savings (kW) and electricity savings (kWh) per year, or if the program is for less than one year, the total projected peak demand savings (kW) and electricity savings (kWh) for the duration of the program;	C	1	2
(f) a complete projected annual budget for each of the distributor's CDM Programs, including the following information:			
(i) projected expenditures incurred on an annual basis, for each year of the CDM Programs, separated into customer incentive costs and program costs;	C	1	2
(ii) a division of program costs into Marginal Costs and Allocable Costs incurred as a result of program implementation;	C	1	2
(iii) information on the allocation of total expenditures incurred by targeted customer types for each direct projected expenditure; and	C	1	2
(iv) total projected expenditures for each program evaluation conducted; and	C	1	2
(g) a statement that confirms that the distributor has used the OPA's Measures and Assumptions Lists or if the distributor has varied from the OPA's Measures and Assumptions Lists, the distributor must:			
(i) appropriately justify the reason for varying from the OPA's Measures and Assumptions Lists in the application;	C	1	2
(ii) provide the technical assumptions and substantiating data that the distributor used; and	C	1	2
(iii) provide a statement that the distributor has followed the OPA's EM&V Protocols for custom measures not included in the OPA's Measures and Assumptions Lists.	C	1	2

1

2

3

2011 TO 2014 CONSERVATION AND DEMAND MANAGEMENT STRATEGY

1.0 INTRODUCTION

The specific CDM energy and peak savings targets allocated by the Board to Hydro One are 1,014 GWh and 210 MW respectively. The Hydro One Conservation and Demand Management (“CDM”) Strategy provides a description of how Hydro One intends to achieve its CDM Targets over the 2011–2014 period. It provides a basis for the activities required to achieve the Hydro One CDM targets, while also aligning with the Company’s strategic drivers of Innovation, Stewardship, Excellence and Safety. This Strategy is also consistent with the Ontario Government’s vision of a conservation-oriented and more environmentally-conscious Province.

The Strategy addresses the following:

- Factors considered in developing the Hydro One CDM Strategy
- An overview of the OPA-Contracted Programs that Hydro One will undertake
- An overview of the proposed OEB-Approved Programs that have been developed
- How CDM programs will be offered to all customer types
- How Hydro One coordinated with other LDCs and Stakeholders
- How Hydro One plans to monitor and control the programs

2.0 FACTORS CONSIDERED IN DEVELOPING THE HYDRO ONE CDM STRATEGY

Hydro One has taken into account a number of factors in developing the Hydro One CDM Strategy. The following section discusses the key aspects that were considered by Hydro One to ensure that the CDM Strategy is comprehensive and prudent:

1 Identify and Understand CDM Potential

2
3 The first step in developing the CDM strategy was to examine Hydro One's service territory
4 and customer base from a CDM perspective. Hydro One extended its end-use analysis to
5 further understand its customer base. Customer surveys were also conducted to gain a better
6 understanding of Hydro One customer perspectives on CDM. The results of these surveys
7 provided insight into what energy efficiency measures have already been undertaken by
8 customers, what measures they are planning to take in the near future, and what type of
9 CDM programs would be of interest to them. Also, a third party consultant was retained to
10 prepare an analysis of CDM potential in Hydro One's service territory. The consultant's
11 analysis indicated that approximately 71% of Hydro One's CDM target can be achieved
12 through OPA-Contracted Programs and that the implementation of Board-Approved
13 Programs is essential for Hydro One to achieve its allocated CDM targets. In addition, the
14 consultant study provided a list of potential CDM measures that are suitable for Hydro
15 One's service territory and demographics. All of the information gathered was used to build
16 the mix of OPA-Contracted and OEB-Approved programs that are best-suited to achieve the
17 mandated CDM Targets.

18
19 Develop Non-Duplicative Board-Approved Programs

20
21 The CDM code stipulates that distributors cannot apply for Board-Approved programs that
22 duplicate existing OPA-Contracted CDM programs.

23
24 Hydro One has acquired extensive understanding of the OPA-Contracted CDM Programs
25 through its participation in the OPA design working groups. This knowledge, coupled with
26 a comprehensive understanding of Hydro One's customers within its service territory,
27 allowed Hydro One to identify the CDM potential that is not addressed by the existing
28 OPA-Contracted CDM programs.

1 All Board-Approved CDM programs proposed in this Application are designed to target
2 these “untapped” areas and they are not duplicative of the existing OPA-Contracted CDM
3 programs. The distinctions between these Board-Approved Programs and the existing OPA-
4 Contracted CDM Programs are further discussed in section 4 of this exhibit. Detailed
5 descriptions of both the OPA-Contracted Programs and the requested Board-Approved
6 Programs can be found at Exhibit C, Tab 1, Schedules 1 and 2, respectively.

7
8 Leverage Extensive Experience and Proven Success
9

10 Hydro One has extensive experience in developing, implementing and delivering CDM
11 initiatives. Since 2005, Hydro One has actively and effectively served its diverse customer
12 base through a range of CDM programs and initiatives that addressed their diverse needs.
13 Hydro One brought over 25 CDM programs/initiatives to over one million customers across
14 all sectors. These programs achieved annualized savings of 284 GWh and resulted in over
15 67 MW in peak demand savings over the period to March 2008. In 2008 and 2009, Hydro
16 One developed and submitted custom CDM programs to the OPA, of which Double Return
17 was implemented and has proven to be a great success. Many of these programs were
18 considered as leading edge and have been emulated by other utilities throughout North
19 America. This success has also been shared across Ontario, as several of Hydro One’s
20 programs have been adopted by the Ontario Power Authority as LDC-delivered or OPA-
21 delivered programs.

22
23 In 2010, Hydro One participated in every Province-wide working group for designing the
24 OPA Province-Wide Contracted Programs. Hydro One’s expertise has been instrumental in
25 the development of these programs. While developing the 2011 to 2014 CDM program
26 portfolio, Hydro One built on its extensive CDM experience to produce a set of CDM
27 programs that will meet the needs of its diverse set of customers and deliver sustainable
28 peak and energy savings in a cost-effective manner.
29

1 Achieving Cost Effectiveness

2
3 Cost effectiveness is an important element of Hydro One's CDM program portfolio, which
4 consists of both OPA-Contracted Province-Wide and Board-Approved CDM Programs.

5
6 The cost effectiveness of all OPA-Contracted CDM Programs has been verified by the OPA.
7 Hydro One plans to take full advantage of all these cost effective OPA-Contracted CDM
8 programs, which are expected to help achieve approximately 80% of the Hydro One CDM
9 targets.

10
11 Hydro One plans to achieve the rest of the CDM target (approximately 20%) by designing
12 and implementing Board-Approved CDM Programs. All requested Board-Approved CDM
13 programs included in this Application are cost-effective, as required by the CDM Code.
14 They have passed both the Total Resource Cost ("TRC") Test and the Program
15 Administration Cost ("PAC") Test. The results of the TRC and PAC tests for each Board-
16 Approved Program can be found at Exhibit C, Tab 1, Schedule 2. In addition, Hydro One
17 has monitoring and control processes in place to help ensure that the cost-effectiveness
18 results remain in line with estimates.

19
20 Maximize Administrative Efficiency

21
22 Hydro One is a member of both the Electric Distributors Association ("EDA") and the
23 Coalition of Large Distributors ("CLD") and has been working closely with both
24 organizations on this current CDM Strategy.

25
26 During the program design stage, Hydro One considered opportunities to maximize
27 administrative efficiencies and synergies (e.g. working with gas distributors, electricity
28 distributors, social service agencies, joint RFP, deployment, delivery). Therefore, all
29 current requested Board-Approved CDM programs in this Application have the flexibility

1 built in to allow uptake by distributors and other agencies. This list of potential Board-
2 Approved CDM programs has also been shared with all CLD members. Hydro One expects
3 material uptake from other distributors, as a number of members have already expressed
4 interest in these programs.

5
6 All currently requested Board-Approved CDM Programs are economic, as they have passed
7 the cost-effectiveness tests (TRC and PAC). To the extent that there is future uptake from
8 other distributors, that future uptake will increase overall administrative efficiency and
9 improve the cost-effectiveness measures for these programs. Any subsequent material
10 reduction in future program expenditures will be reported to the OEB as part of the annual
11 CDM report submission.

12
13 Ensure CDM Program Coverage for All Customer Types

14
15 Hydro One has ensured that CDM programs are offered for all customers types, including
16 low income customers, in its service area. In addition to the existing OPA-Contracted
17 CDM programs, a suite of distinct Board-Approved CDM programs was developed to
18 address Hydro One's specific customer types and segments. This rich mix of programs
19 (both OPA-Contracted and Board-Approved) will ensure that the diverse needs of all Hydro
20 One's customers are met. Please refer to Figure 6 in Section 5 of this Exhibit, which shows
21 the extensive coverage for residential, commercial and industrial customers.

22
23 Ensure that Potential Risks can be Mitigated

24
25 Hydro One is fully committed to achieving its CDM target. Risk mitigation is essential to
26 ensuring success. Hydro One has identified the following activities that are intended to
27 mitigate potential risks:

- 28 • Hydro One has relied on its extensive experience and proven success to identify and
29 design effective programs.

- 1 • An ongoing tracking and review process has been developed to provide early detection
2 of differences between program plans and actual experience.
- 3 • Hydro One has developed a diverse CDM program portfolio that covers multiple
4 customer segments and demographics to minimize the risk of differences between
5 program plans and actual experience.
- 6 • Hydro One will implement design adjustment plans, leveraging existing tools, to
7 promptly address any differences between program plans and actual experience.
- 8 • In addition to the requested Board-Approved CDM Programs that are included in this
9 Application, Hydro One is developing other potential Board-Approved CDM Programs
10 that can be implemented if required.

12 **3.0 OPA-CONTRACTED PROGRAMS**

13
14 Hydro One intends to take full advantage of the OPA-Contracted Programs, which are
15 expected to deliver approximately 80% of the Hydro One CDM target. This estimate was
16 achieved through a customer-based analysis approach to ensure the integrity of the estimate.
17 As mentioned in Section 2.0 of this document, Hydro One further commissioned a third
18 party consultant to undertake a CDM potential analysis. The results of the consultant's
19 study supported the Company's analysis indicating that, to achieve its target by 2014, Hydro
20 One will need to rely on both OPA-Contracted and OEB-Approved Programs.

21
22 Figure 3 provides an overview of the OPA-Contracted programs which Hydro One intends
23 to undertake. Included in the figure are estimates of the projected budget, estimates of total
24 projected reduction in peak demand and total projected reduction in electricity consumption
25 for each of the programs.

26
27 The amounts for each OPA-Contracted initiative were derived by applying the estimated
28 percentage of Hydro One participation to the total OPA provincial budget. The OPA is in
29 the process of finalizing the funding mechanism. Any potential changes to the funding

- 1 mechanism are not expected to be material. As a result, any changes to the requested Board-
- 2 Approved CDM programs will not be significant and will be handled through the proposed
- 3 variance account.

1 **Figure 3: OPA-Contracted Province-Wide Programs to be Undertaken by Hydro One**

	***Projected Budget	Total Projected Reduction in Peak Provincial Demand (MW)*	Total Projected Reduction in Electricity Consumption (GWh)*
<i>Residential Program 2011-2014</i>			
1. Year Round Instant Rebates (Conservation Card / Coupon Booklet)	18,200,000	2	95
2. Bi-Annual Instant Rebate Events (Retailer Events)			
3. Appliance Retirement Initiative		3	65
4. Bi-annual Appliance Exchange Events			
5. HVAC On-line Rebates Initiative		9	53
6. New Construction Initiative		1	11
7. Midstream Incentives Initiative		1	14
8. Customer Enabling Initiatives**		n/a	n/a
9. Low Income Initiative	\$15,000,000	1	27
10. Residential Demand Response Initiative	\$40,500,000	35	101
<i>Total Residential Program 2011-2014</i>	\$73,700,000	51	366
<i>Commercial Program, 2011-2014</i>			
11. Commercial and Institutional Initiative	\$78,800,000	65	399
12. DR1 Commercial		6	0
13. DR3 Commercial		7	0
<i>Total Commercial Program, 2011-2014</i>	\$78,800,000	78	399

Industrial, 2011-2014			
14. DR1 Industrial	} \$25,000,000	8	0
15. DR3 Industrial		12	0
16. Industrial Accelerator		9	98
17. Industrial ERIP	\$3,400,000	3	31
Total Industrial Program, 2011-2014	\$28,400,000	32	129
Total	\$181,000,000	161	894

* Numbers may not add up due to rounding

** Customer Enabling Initiatives are educational and drive results for the other residential initiatives

*** Estimated budgets are allocated as a percentage of estimated customer segment participation for each of the individual initiatives within the province-wide programs. They include costs and incentives paid directly by the distributor.

The \$181 million is based on the OPA's projected budget for all three CDM programs. The total budget has been divided between the costs for which the LDCs are responsible (60% Consumer, 88% Commercial, 88% Industrial) and those for which the OPA is responsible (40% Consumer, 12% Commercial, 12% Industrial). The LDC portion is then expressed on a \$/kW basis. These rates were then applied to the projected savings which Hydro One expects to achieve in all three programs. This produces a budget of \$166 million.

A total budget of \$181 million was established after adding another \$15 million for the Low Income Program. The OPA budget for low income is not yet finalized. The \$15 million budget for low income is based on Hydro One's percentage of the number of customers in the Province.

Please refer to Exhibit C, Tab 1, Schedule 1 for detailed program descriptions of the OPA-Contracted Programs.

1 **4.0 REQUESTED BOARD-APPROVED PROGRAMS**

2
3 **4.1 Need for Board-Approved Programs**

4
5 The March 31, 2010, Directive by the Minister of Energy and Infrastructure allows
6 distributors to meet their CDM targets through initiatives under the OPA-Contracted CDM
7 Programs and OEB-Approved CDM Programs. The OPA has indicated that its Programs
8 are expected to achieve 1,037 MW of the 1,330 MW provincial target, leaving the difference
9 to be addressed by other OEB-Approved programs.

10
11 Hydro One intends to take full advantage of initiatives under OPA-Contracted Programs,
12 which are expected to satisfy approximately 80% of the Hydro One CDM target. In
13 addition to the OPA-Contracted programs, Hydro One requires a range of OEB-Approved
14 Programs in order to satisfy the remainder of its allocated CDM target.

15
16 Hydro One has reviewed a range of programs as potential OEB-Approved Programs.
17 Based on an extensive review of potential programs, Hydro One has prioritized the six
18 programs that appear in Figure 4 for OEB approval.

Figure 4: Board-Approved CDM Programs

Program Name	Projected Budget (\$)	Total Projected Reduction in Peak Provincial Demand (MW)	Total Projected Reduction in Electricity Consumption (GWh)	Cost Effectiveness Tests	
				TRC Ratio	PAC Ratio
Community Education Events	1,350,000	0.2	10	1.7	1.6
Neighborhood Benchmarking	3,150,000	2	61	1.2	1.2
Monitoring & Targeting	4,250,000	5	10	1.6	1.5
Small Commercial Energy Management and Load Control	15,200,000	20	20	1.7	1.9
Municipal and Hospital Energy Efficiency Performance	3,950,000	1	26	1.4	1.1
Double Return Plus	4,100,000	21	52	11.3	7.4
Total	32,000,000	49	179		

The MW and GWh estimates are based on past programs' EM&V (e.g. Double Return) and data from third party consultants.

As part of Hydro One's process to develop the proposed OEB Approved Programs, the Company carried out cost effectiveness tests, including Total Resource Cost ("TRC") and Program Administrative Cost ("PAC") tests. Hydro One has also worked with other distributors and gas companies in order to maximize program efficiencies. Joint delivery of Board Approved Programs by CLD members can generate cost efficiencies for CLD members. Further synergies with the gas companies are also being investigated to further

1 enhance the “one stop shop” concept with customers and to increase customer engagement
2 and cost efficiency.

3
4 The Program mix of the proposed OEB Approved Programs is essential for Hydro One to
5 meet its CDM target. These programs offer a range of benefits including engagement of all
6 customer sectors, CDM sustainability, and market transformation.

7
8 The requested Board-Approved programs also address customer needs that are not currently
9 met by the OPA-Contracted Programs. These programs are expected to help pave the way
10 for a new level of CDM commitment for LDCs, as envisioned by the *Green Energy and*
11 *Green Economy Act*. OEB-Approved Programs are a key component for Hydro One to
12 meet its CDM requirements as set out by its distributor’s licence conditions.

13
14 The requested Board-Approved programs address all customer segments of residential,
15 commercial of various sized-businesses, and industrial. In addition to the cost-effectiveness
16 and demand and energy savings of the proposed programs, several other factors were also
17 considered. For example, the Community Education program addresses customers in “hard-
18 to-reach” areas with low customer densities such as rural communities, while the
19 Neighborhood Benchmarking program is the only program that addresses behavioural
20 changes based on peer comparisons and influence.

21
22 Other programs, such as the Double Return Plus, empower customers to manage and reduce
23 their own peak demand (as compared to other dispatchable demand response programs).
24 This program will achieve reductions that stem from the customer’s behavioral change, and
25 promise persistent results that are expected to go beyond the life of the program. The
26 Double Return Plus program will achieve high TRC and PAC ratios. It is intended to meet
27 most of the untapped potential for customers to reduce their peak demand.

The Small Commercial Energy Management and Load Control program will provide programs for small commercial customers. The small commercial customer group requires a robust program to encourage them to participate in CDM initiatives. This program represents a threshold investment to engage this group of customers.

A key feature of the requested Board-Approved programs is integrating conservation and demand management in customers' day-to-day operations as individuals and as businesses irrespective of their size. These program features are expected to help transform the CDM market in general as well as assist Hydro One to better address its customers' CDM needs and achieve its mandated CDM targets.

Figure 5 provides an overview of the annual MW and MWh savings and the projected cost budgets for the Board Approved Programs.

Figure 5: Board-Approved CDM Programs (Annual Results and Budget)

	2011	2012	2013	2014	Total
Peak (MW) cumulative savings	12	25	37	49	49
Annual Energy savings (MWh)	19,000	43,000	54,000	64,000	179,000
Total Budget (\$M)	\$6.0	\$8.3	\$8.9	\$8.8	\$32.0

Please refer to Exhibit C, Tab 1, Schedule 2 for the program descriptions for all of the OEB-Approved Programs.

4.2 Non-duplication with OPA-Contracted Program Initiatives

All Board-Approved CDM programs proposed in this Application were designed to target customer segments and/or customer needs that have not been addressed by the existing OPA programs and therefore they are not duplicative of the OPA CDM programs. Detailed descriptions of both the OPA Programs and the requested Board-Approved Programs can be found in Exhibit C, Tab 1, Schedule 1 and 2. As compared to OPA-Contracted Programs, Hydro One's proposed OEB-Approved Programs have the following distinct value proposition to Hydro One's customers.

Community Education

The OPA-Contracted programs do not provide an initiative similar to the Community Education Program. This program focuses on customer education and promotes the exchange of information between the utility and its customers at local community events. This program relies on a face-to-face interaction with the customer, which has proven successful in changing social norms and influencing customer behavior for Hydro One customers. This approach is especially needed to address customers in "hard-to-reach", low customer density (i.e. rural communities) areas.

The OPA-Contracted Consumer Enabling Initiative offers online educational tools and does not address face-to-face interaction. Only approximately 50% of Hydro One's customers have high-speed online services at home.

Neighbourhood Benchmarking (also known as Social Benchmarking)

Neighbourhood Benchmarking is non-duplicative from all OPA-Contracted Program, as it is the only program that addresses behavioural changes based on peer comparisons and influence. This program provides customers with a customized home energy report that offers

1 insights about their individual energy use as well as a comparison with their neighbourhood
2 energy use. Customer load profile data collected from the smart meter will be used to help
3 identify areas of opportunity for conservation and recommendations will be specifically
4 tailored to meet the needs of the specific customer.

5
6 Neighbourhood Benchmarking has proven successful in other jurisdictions, where
7 pilots/programs have shown that significant savings can be achieved from “benchmarking”
8 individuals’ consumption relative to that of their neighbours.

9
10 Monitoring and Targeting (M&T)

11
12 This program is non-duplicative of OPA-Contracted Programs, as it provides a monitoring
13 and targeting system to customers with less than 15 GWh consumption. This customer
14 segment has been excluded from participating in the Industrial Accelerator Program. M&T
15 offers software which measures energy efficiency per unit of production. This provides a
16 baseline against which improvements are measured. By continually monitoring energy
17 efficiency, customers are enabled to track and adjust their consumption.

18
19 The proposed M&T program provides funding for the adoption of a monitoring and
20 targeting system that helps medium-sized commercial and industrial customers to better
21 understand their energy performance, to benchmark their consumption against other similar
22 businesses for best practices, and to achieve sustainable proactive behavioural and process
23 changes. Under the Industrial Accelerator OPA Program, M&T equipment is provided only
24 to industrial customers with energy consumption of at least 15 GWh and with average peak
25 load of 200 kW and above. This program extends the sustainable behavioural change to
26 industrial customers who would not have access to M&T systems under the Industrial
27 Accelerator Program. The M&T educational and coaching approach aims at influencing the
28 leaders and the middle management of the respective organizations to support CDM, an
29 approach that is provided only by this program to achieve sustainable results.

1 Small Commercial Energy Management and Load Control

2
3 The Small Commercial Demand Response Program is distinct from other OPA-Contracted
4 programs as it targets small commercial customers (between 50kW and 200kW) that are not
5 currently provided with load control and energy management offerings from other programs.
6

7 This program will also be extended to smaller commercial customers (below 50 kW). The
8 needs of this distinct customer segment will not be met under the enhanced OPA Province-
9 Wide program (which is designed to meet residential needs) as supported by the projected
10 uptake of just 1% by the small commercial customer segment.
11

12 Under this program, customers are offered Energy Management System (EMS) devices that
13 are activated with a programmable feature that meets their business needs during business
14 hours.
15

16 The business needs of the small business customer are sensitive to time-of-use (“TOU”) rates.
17 Accordingly, this program allows the customer to shift and/or reduce their load from on-peak
18 to off-peak periods to take advantage of the TOU rate structure.
19

20 Municipal and Hospital Energy Efficiency Performance

21
22 The Municipal and Hospital Energy Efficiency Performance Program provides financial
23 rewards to Municipal and Hospital customers for overall electrical energy efficiency
24 reductions within facilities and across their portfolio of accounts. This program is not
25 duplicative of the OPA Commercial CDM Programs because it focuses on overall energy
26 efficiency performance whereas the OPA Commercial CDM Programs focus on savings
27 achieved solely by technology efficiency or equipment replacement. The program will offer
28 the key elements required to assist this financially constrained sector in the pursuit of

1 sustained and deeper energy savings beyond traditional or proposed Province-wide CDM
2 programs.

3
4 As a program participant, the customer is committed to, and incented for continuous energy
5 efficiency actions and improvements year over year. Participants will be required to sign a
6 Memorandum of Understanding (“MoU”) committing to the development of a
7 comprehensive Energy Conservation Action Plan and are asked to commit to participation
8 in the program until December 31, 2014. The program will assist participants to develop
9 and implement energy management processes that include ongoing electrical consumption
10 benchmarking, as well as employee engagement and training, behavioural changes and
11 commitment from all levels of the organization. The focus on continuous energy
12 management process is expected to produce sustainable behavioral change with persistent
13 energy and demand savings. The comprehensive approach of this program is expected to
14 transform these segments of the broader public sector by going beyond technology based
15 incentives to embed energy efficiency and conservation as a core best practice among
16 management, operations and employees.

17
18 This program could be further extended to the other public sector institutions.

19
20 Double Return Plus

21
22 The Double Return Plus Program is not duplicative of the OPA Demand Response
23 Programs because it is based on non-dispatchable load control and it also aims at reducing
24 energy consumption. By contrast, the OPA Province-wide Demand Response programs are
25 based on dispatchable load control and, as a result, have minimal energy savings. Non-
26 dispatchable load control means that it is left to the customers’ discretion whether they wish
27 to reduce their peak demand and the time at which they reduce demand given the customers
28 business needs and production cycles. Dispatchable load control, on the other hand, means
29 that the customer must respond to the IESO’s request that they curtail a contracted amount

1 of their load or face penalties (e.g., under Demand Response 3) for not doing so. Another
2 difference between the two programs is that the Double Return Plus initiative provides an
3 incentive to customers for reducing their own peak demand which may occur at a different
4 time than the system peak demand. The OPA Demand Response programs specifically
5 target system peak demand. Further, a key requirement of the Double Return Plus program
6 is that it excludes those customers who have signed up for either the OPA Demand
7 Response 1 or Demand Response 3 programs.

8
9 The proposed Double Return program is a commercial and industrial (C/I customers with
10 average demand above 200kW) demand response and energy efficiency initiative that
11 attempts to reduce the system peak load and energy consumption through behavioural
12 changes and/or a load balancing system. This program also provides participants with a
13 range of behind-the-meter customer services, including energy efficiency education, site-
14 specific technical assistance, employee engagement tools, and customer specific online load
15 tracking information. The objective of this program is to allow the customer to reduce their
16 own peak demand which may occur at a different time than the system peak demand. This
17 approach provides the customers with more flexibility and options to manage their facilities
18 and therefore it is expected to improve energy efficiency, encourage behaviour changes,
19 produce more sustainable and persistent energy and demand savings, and lower the overall
20 system peak demand.

21
22 It should be noted the OPA had already approved the Double Return Program as a Custom
23 Program distinct from the OPA's Demand Response 1/Demand Response 3 programs, and
24 all three programs coexisted in the marketplace in 2008 and 2009.

1 **5.0 PROGRAM MIX**

2
3 Hydro One currently serves approximately 1.2 million customers. Although there is a
4 diverse mix of urban, rural, and remote customers in Hydro One's service territory, most of
5 them can be classified as rural. Hydro One's distribution facilities are the backbone of
6 Ontario's electricity system and cover 75% of the Province's geography and serve about
7 25% of the Province's customers. Based on Hydro One's customer database, there are
8 approximately 1.1 million residential customers (930,000 year round and 160,000 seasonal)
9 and 110,000 general service customers in its service area (approximately 100,000 below 50
10 kW and 10,000 above 50 kW).

11
12 Unlike most distributors in Ontario, Hydro One is a winter-peaking utility due to a relatively
13 higher penetration of residential electric space and water heating and lower usage/saturation
14 of air conditioning.

15
16 Hydro One's Diverse CDM Program Portfolio

17
18 Hydro One's CDM program portfolio provides offerings to all customer types in its service
19 area. In addition to the existing OPA-Contracted CDM programs, a suite of distinct Board-
20 Approved CDM programs was developed to address Hydro One's specific customer types
21 and segments. This rich mix of programs (both OPA-Contracted and Board-Approved) will
22 help ensure that the diverse needs of all Hydro One's customers are met.

23
24 Hydro One's portfolio of 2011-2014 Residential Programs encourages customers, including
25 low-income customers, to purchase and install energy efficient products and empowers them
26 with the tools they need to reduce energy and save money. These programs will help drive
27 the homes of the future toward being smart, integrated and efficient.

1 Hydro One's portfolio of CDM programs also cater to the unique needs of its business
2 customers. For example, the OPA "Commercial Program" is directed at Hydro One's small
3 business customers and, also offers specific technologies to Hydro One's agricultural
4 customers. In addition, Hydro One's portfolio includes an innovative program for the
5 institutional sector, based on energy performance that rewards municipalities and hospitals
6 for their energy efficiency efforts.

7
8 Hydro One's industrial programs provide operational improvements for energy efficiency,
9 as well as peak demand reductions.

10
11 As part of the tracking and review process, all CDM programs will be monitored closely on
12 an ongoing basis. Performance issues related to specific customer types or segments will be
13 corrected by adjusting current programs and/or implementing additional programs or
14 delivery strategies. This will ensure complete coverage of all Hydro One's customer base.

15
16 Figure 6 provides a summary of Hydro One's CDM Program Portfolio coverage by
17 customer type:

Figure 6: CDM Program Coverage by Customer Type

CDM Programs / Customer Types	Residential		Commercial (includes Agricultural)	Industrial
	Regular	Low Income		
OPA Programs				
1 Year Round Instant Rebates (Conservation Card / Coupon Booklet)	√	√		
2 Bi-Annual Instant Rebate Event (Retailer Event)	√	√		
3 Appliance Retirement Initiative	√	√		
4 Bi-annual Appliance Exchange Events	√	√		
5 HVAC On-line Rebates Initiative	√	√		
6 New Construction Initiative	√	√		
7 Midstream Incentives Initiative	√	√		
8 Customer Enabling Initiatives*	√	√		
9 Low Income Initiative		√		
10 Residential Demand Response Initiative	√	√		
11 Commercial and Institutional Initiative			√	
12 Demand Response 1 - Commercial			√	
13 Demand Response 3 - Commercial			√	
14 Demand Response 1 - Industrial				√
15 Demand Response 3 - Industrial				√
16 Industrial Accelerator				√
17 Industrial ERIP				√
Board-Approved Programs				
1 Community Education	√	√		
2 Neighbourhood Benchmarking	√	√		
3 Monitoring and Targeting			√	√
4 Small Commercial Energy Management and Load Control			√	
5 Municipal and Hospital Energy Efficiency Performance			√	
6 Double Return Plus			√	√

First Nations and Métis Customers

According to the OPA target allocation methodology (see “Appendix B - Advice to the Ontario Energy Board: CDM Target Allocation for Ontario LDCs” from the Board’s Memo to all distributors, dated June 22, 2010), the aggregate Local Distribution Company (“LDC”) Provincial CDM savings target (6,000 GWh and 1,330 MW) does not include the savings from the OPA-funded Aboriginal Conservation Program. The OPA is responsible for delivering the OPA-funded Aboriginal Conservation Program to Ontario’s First Nations and

1 Métis population. Distributors are not responsible for achieving the savings from this
2 program.

3
4 Hydro One currently has over 20,000 First Nations and Métis customers in its service
5 territory, and they consume about 1.5% of the total electricity delivered. While all
6 residential CDM programs will be offered to this group of customers, Hydro One does not
7 plan to design and deliver any “First Nation-specific” CDM programs in its service area
8 since the OPA has the accountability to do so.

9
10 **6.0 COORDINATION**

11
12 Hydro One’s Past CDM Involvement

13
14 Over the past years, Hydro One has played a key role in shaping and guiding the
15 development of conservation activities and initiatives in Ontario. Hydro One has been able
16 to assemble a portfolio of innovative and successful conservation programs, many of which
17 are considered as leading edge and have been emulated by other utilities throughout North
18 America.

19
20 This success has been shared across Ontario as several of Hydro One’s programs have been
21 adopted by the Ontario Power Authority as LDC-delivered or OPA-delivered programs. In
22 2004/2005, Hydro One embarked on the design of its CDM initiatives which formed a
23 portfolio of programs funded under Market Adjustment Revenue Requirement (“MARR”).
24 The portfolio consisted of a mix of CDM programs across all sectors and some were
25 considered as leading-edge. For example, Hydro One implemented an innovative demand
26 response technology consisting of a web-enabled residential setback thermostat. This
27 technologically innovative concept (SmartStat) was subsequently adopted by the OPA and
28 was offered across the Province, as part of the Province-wide PeakSaver initiative. Other
29 examples of leading edge programs which were originally introduced by Hydro One are
30 real-time monitors or In Home Display (“IHD”).

1 Hydro One continued to show leadership by working with other distributors in an effort to
2 enhance the MARR programs. In 2006 Hydro One worked cooperatively with the CLD
3 Group and embarked on an overhaul and redesign of the PowerSaver Business Incentive
4 Program. This program was revamped to include many new measures, including, for the
5 first time, conservation measures for the agricultural sector. This program was welcomed
6 by many of Hydro One's customers in the farming community.

7
8 Hydro One's concepts and pilot programs helped shape the Province-wide OPA-Contracted
9 programs. Hydro One continues to work closely with the OPA in an effort to improve
10 existing programs. In a collaborative effort, improvements were made which related to
11 program governance, rules, and incentive levels, as well as the inclusion of new
12 technologies.

13
14 Hydro One's Current and Future CDM Involvement
15

16 Hydro One has been and continues to be an active participant in all five OPA/LDC working
17 groups. These working groups are tasked with the joint responsibility of a full redesign of
18 the existing OPA-Contracted programs for deployment in 2011 – 2014. Working closely
19 with the EDA, CLD Group and gas companies, Hydro One continues to provide valuable
20 input and is playing an instrumental role as "leaders of change", helping to reshape
21 conservation programs and influence the final outcome of the individual program designs.

22
23 In June 2010, Hydro One and the gas companies formally joined the Coalition of Large
24 Distributors (CLD) in an effort to seek synergies and cost efficiencies in the delivery of
25 CDM/DSM programs to customers of both gas and electricity across Ontario.

26
27 Several CLD electricity distributor members have asked Hydro One to share its proposed
28 OEB-Approved Programs. Hydro One has shared its proposed initiatives, and several LDCs
29 have expressed interest in implementing these programs in their territories.

1 Joint delivery of Board-Approved programs by CLD members can generate cost efficiencies
2 for CLD members. Further synergies with the gas companies are also being investigated to
3 further enhance the “one stop shop” concept with customers and to increase customer
4 engagement and cost-effectiveness.

5
6 To date, Hydro One has demonstrated its leadership role in the development and
7 implementation of CDM initiatives as well as introducing innovation to the CDM portfolio
8 in Ontario. Key to this role was Hydro One’s collaborative approach with other
9 stakeholders including the CLD and other LDCs, gas companies, and the OPA. Hydro One
10 will continue to work with other stakeholders to further the CDM portfolio and to meet the
11 needs of its customers.

12 13 **7.0 MONITOR AND CONTROL**

14
15 Hydro One plans to closely monitor ongoing and projected CDM expenditures and
16 accomplishments. Deviations from plans will be identified and corrective action will be
17 taken. Program variances will be reviewed on a regular basis. Any significant change in
18 circumstances will be reported to the OEB as part of the annual CDM report submission. In
19 the event that fund transfers in excess of 30% are required, Hydro One will make an
20 application to the Board as required by section 3.2 of the CDM Code.

**2011 TO 2014 CONSERVATION AND DEMAND MANAGEMENT
BUDGET FOR BOARD-APPROVED PROGRAMS AND COST
RECOVERY**

1.0 BOARD APPROVAL OF FUNDING AND VARIANCE ACCOUNT

Hydro One seeks approval of CDM funding for Board-Approved CDM Programs of \$6.0 million for 2011, \$8.3 million for 2012, \$8.9 million for 2013 and \$8.8 million for 2014.

In accordance with the CDM Code, Hydro One follows all of the Board's accounting policies and procedures specified for CDM activities. A fully-allocated costing methodology will be followed, in accordance with Appendix A of the CDM Code, for all CDM programs. Program funding and program expenditures from all Board-Approved CDM Programs will be kept separate from Hydro One's distribution operations.

After Board approval, payments from the Independent Electricity System Operator (the "IESO") in accordance with section 78.5(1) of the *Ontario Energy Board Act, 1998* will provide \$32.0 million to fund Board-Approved CDM programs during the 2011 to 2014 period.

Hydro One also seeks approval for a Board-Approved CDM Program Variance Account which will be used to record any differences between the funding awarded for Board-Approved CDM Programs and the actual spending for these programs.

2.0 PROPOSED FUNDING PROCESS

In order to enable the completion of the Board Approved Programs, Hydro One requires funding. To achieve the required funding, Hydro One proposes that the funding for 2011 –

2014 Board-Approved CDM Programs be provided at the beginning of each month, over a four-year period starting January 1, 2011.

The following table provides the breakdown of Hydro One's CDM funding requirement for Board-Approved CDM Programs, by year:

Figure 7: Hydro One's Funding Requirement for Board-Approved CDM Programs

	2011	2012	2013	2014	Total 2011-2014
Funding to be provided annually	\$6,000,000	\$8,300,000	\$8,900,000	\$8,800,000	\$32,000,000
Corresponding monthly payments	\$500,000	\$690,000	\$740,000	\$740,000	

The proposed monthly payments are determined by dividing the projected annual budget requirement by 12.

The Board-Approved CDM Program Variance Account will be used to record the difference between the funding awarded and the actual spending incurred. Hydro One proposes that the disposition of any balance in this variance account be dealt with at the end of 2014.

This variance account will be managed in the same manner as existing Hydro One variance accounts. It will be updated monthly and interest will be applied at the Board-approved rate. Hydro One will make an application to the Board to address the balance in the variance account if it exceeds \$5 million dollars during the 2011 to 2014 period.

**HYDRO ONE INITIATIVES UNDER
OPA-CONTRACTED PROVINCE-WIDE CDM PROGRAMS**

Residential Programs

1. Year Round Instant Rebates
2. Bi-Annual Instant Rebate Events
3. Appliance Retirement Initiative
4. Bi-Annual Appliance Exchange Events
5. HVAC On-line Rebates Initiative
6. New Construction Initiative
7. Midstream Incentives Initiative
8. Consumer Enabling Initiatives
9. Low Income Initiative
10. Residential and Small Commercial Demand Response Initiative

Commercial and Institutional Programs

11. Commercial and Institutional Province Wide Initiative
12. Demand Response 1 ("DR1") - Commercial
13. Demand Response 3 ("DR3") – Commercial

Industrial Programs

14. DR1 - Industrial
15. DR3 – Industrial
16. Industrial Accelerator
17. Industrial ERIP

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OPA – CONTRACTED PROVINCE-WIDE CDM PROGRAMS

RESIDENTIAL PROGRAMS

**OPA-CONTRACTED PROVINCE-WIDE CDM PROGRAM
RESIDENTIAL PROGRAM**

Initiative Number: 1

Initiative Name: YEAR ROUND INSTANT REBATES

Conservation Card / Coupon Booklet

Year(s) of Operation for the Initiative: 2011- 2014

Initiative Frequency: Year round

Target Customer Type(s): Residential Customers

Initiative Description:

This is an energy efficiency initiative that provides customers with year round instant rebates at participating retailers for a variety of low cost, easy to install measures.

Background:

This is a year round initiative that offers instant rebates to customers towards the purchase of low cost, easy to install measures. The distribution of a series of product rebate coupons directly to each home presents the opportunity for customers to redeem these rebates at any time throughout the year.

Note: There will also be an opportunity for customers to take advantage of instant rebates during bi-annual retailer promotions (see *Bi-Annual Retailer Events Initiative*).

Initiative Elements:

- Consumers are eligible for year round instant rebates at participating retailers for a variety of low cost, easy to install measures
- Measures purchased are traceable to the customer and the LDC service territory via a coding mechanism

- Initially the initiative will be launched using a coupon booklet, and then there are plans to transition to a Conservation Discount Card
- OPA RFP process to support the transition from coupons to Conservation Discount Card (process pending)
- The following incentives will be offered under this initiative:

Year Round Measures	Incentives 2011 - 2014
ENERGY STAR qualified Standard CFLs (2011 only)	\$1.00 (packages of 3 or less) \$3.00 (packages of 4 or more)
ENERGY STAR qualified Specialty CFLs	\$3.00 (packages of 2 or less) \$5.00 (packages of 3 or more)
ENERGY STAR qualified Fixtures (including ENERGY STAR ceiling fans)	\$10.00 (3+ sockets, ceiling fan) \$3.00 (less than 3 sockets)
Lighting Control Products (Hard wired)	\$3.00
Hot Water Pipe Wrap	\$0.50 for three
Electric Water Heater Blanket	\$4.00
Weatherstripping	\$2.00 (V Strip or Foam Tape) \$3.00 (Door Kit)
Heavy Duty Plug In Timer	\$4.00
Advanced Powerstrips	\$4.00
Clotheslines	\$5.00
Baseboard Programmable Thermostats	\$10.00 (packages of 2 or less) \$30.00 (packages of 3 or more)

Purpose of the Initiative:

- Maximize participation – ease of transaction for consumer, accepted at a wide range of retailers, year-round availability of rebates
- Maximize LDC goodwill and profile with consumer – multiple touch points/uses that connect the offer with the LDC for the consumer
- Optimize cost effectiveness – processing costs, rebates payable (i.e. to those consumers who have been influenced by the marketing and promotion)
- Track savings and allocate appropriately to each LDC – product purchases are traceable back to the LDC customer (traceable to the LDC) rather than where they are purchased (location of retail store)

- 1 • Data benefits of Conservation Card - each consumer's energy efficient purchasing
2 behavior can be tracked enabling cross-promotion of additional initiatives in which
3 the consumer might be interested based on past purchases and participation
- 4 • Development of a loyalty initiative to reward consumers who participate in multiple
5 initiatives (based on data collected from Conservation Card)

6

7

8

**OPA-CONTRACTED PROVINCE-WIDE CDM PROGRAM
RESIDENTIAL PROGRAM**

Initiative Number: 2

Initiative Name: BI-ANNUAL INSTANT REBATE EVENTS

Retailer Events

Year(s) of Operation for the Initiative: 2011- 2014

Initiative Frequency: Bi-annual events (Spring & Fall)

Target Customer Type(s): Residential Customers

Initiative Description:

Utilities and retailers will work together to promote the *Instant Rebates Program* by holding bi-annual retailer events (Spring and Fall). Twice a year, participating retailers will host month-long rebate events. The events are intended to promote instant rebates for low cost measures and capture the attention of the “impulse shopper”.

Background:

This offer is a carry-forward of the *Every Kilowatt Counts, Power Savings Events*. The initiative has been enhanced to include local marketing and engagement by LDCs. The bi-annual retailer events are intended to capture the attention of the “impulse buyer” who is already engaged in the sales cycle. The events will highlight the value of the instant rebates and prompt the customer to take action and use in-store coupons (or the Conservation Card when available) to purchase eligible products. The bi-annual retailer events will now provide an opportunity for LDCs to have an in-store presence at retailer locations throughout their community(s).

Initiative Elements:

- Bi-annual promotion of instant rebates at local retailer sites (during months of April & October)

- Each promotion will be a month long event
- Customers are encouraged to take advantage of the instant rebates through in-store coupons available for a variety of low cost, easy to install measures
- The product list for the bi-annual events and the year-round rebates will be the same, as will the rebate amounts
- This initiative is targeted to the impulse buyer who is already engaged in the sales cycle (shopping at retailer location)
- In-store customers will be encouraged to take advantage of the instant rebates which are also available year round (using in-store coupons or Conservation Card)
- The following incentives will be offered (please note that from within this product list there will be different products promoted in the Spring vs. Fall events, in cases where product usage is seasonal in nature):

Year-Round Measures	Incentives 2011 - 2014
ENERGY STAR qualified Standard CFLs (2011 only)	\$1.00 (packages of 3 or less) \$3.00 (packages of 4 or more)
ENERGY STAR qualified Specialty CFLs	\$3.00 (packages of 2 or less) \$5.00 (packages of 3 or more)
ENERGY STAR qualified Fixtures (including ENERGY STAR ceiling fans)	\$10.00 (3+ sockets, ceiling fan) \$3.00 (less than 3 sockets)
Lighting Control Products (Hard wired)	\$3.00
Hot Water Pipe Wrap	\$0.50 for three
Electric Water Heater Blanket	\$4.00
Weatherstripping	\$2.00 (V Strip or Foam Tape) \$3.00 (Door Kit)
Heavy Duty Plug In Timer	\$4.00
Advanced Powerstrips	\$4.00
Clotheslines	\$5.00
Baseboard Programmable Thermostats	\$10.00 (packages of 2 or less) \$30.00 (packages of 3 or more)

Purpose of the Initiative:

- Capture the attention of consumers who are shopping at their local retailer and encourage them to purchase energy efficient products that they would not otherwise have intended to purchase
- Encourage retailers to change their product assortment and promotional strategies to place increased emphasis on energy efficient product alternatives
- Encourage retailers to allocate resources to undertake additional promotional activities that encourage consumers to purchase and install the energy efficient products featured in the instant-rebate initiative (as well as any other energy saving products that the retailer may wish to promote)
- Educate retail staff on the features and benefits of energy efficient products so they can increase consumers' understanding of these products and their energy efficiency potential
- Encourage retailers to work with their LDCs to educate consumers on the features and benefits of energy efficient products

**OPA-CONTRACTED PROVINCE-WIDE CDM PROGRAM
RESIDENTIAL PROGRAM**

Initiative Number: 3

Initiative Name: APPLIANCE RETIREMENT INITIATIVE

Year(s) of Operation for the Initiative: 2011- 2014

Initiative Frequency: Year round

Target Customer Type(s): Residential Customers

Initiative Description:

This is an energy efficiency initiative that offers FREE pick up and decommissioning of old refrigerators, freezers, room air conditioners and dehumidifiers.

Background:

This initiative was originally launched in 2007 by the OPA as a Province-wide initiative (aka *Appliance Retirement Program* or *Great Refrigerator Round-Up Program*). The initiative has been enhanced to include a municipal pickup element, where applicable, and a retail channel for pick-up upon replacement.

Initiative Elements:

- Customers are offered FREE pickup and decommissioning of old appliances (old refrigerators, freezers, room air conditioners and dehumidifiers)
- Customers can book appointment online (electronically) or by phone
- Centralized call centre operated by OPA for scheduling of appointments (toll-free line)
- OPA contracted third-party handles pickup and decommissioning process
- Secondary appliances must be 15 yrs old, capacity of 10 – 27 cubic feet and must be in good working condition

- Coordination with local municipal appliance pickup is encouraged, where feasible, at the LDC's initiative
- Coordination of pickup of old fridge/freezer by retailers will be undertaken - at time when retailer delivers a new appliance to customer
- OPA provides report of initiative results specific to LDC territory
- The following is an outline of the customer incentives:

Appliance Retirement Measures	Incentives 2011 - 2014
Refrigerator	Free Pickup and Decommissioning
Freezer	Free Pickup and Decommissioning
Room Air Conditioner (secondary)	Free Pickup and Decommissioning
Dehumidifier (secondary)	Free Pickup and Decommissioning

Purpose of the Initiative:

- Achieve energy and demand savings through the retirement and/or replacement of old, inefficient refrigerators, freezers, window/room air conditioners and dehumidifiers
- Discourage the use of old, inefficient appliances
- Facilitate environmental benefits through proper decommissioning and recycling of old appliances

OPA-CONTRACTED PROVINCE-WIDE CDM PROGRAM

RESIDENTIAL PROGRAM

Initiative Number: 4

Initiative Name: BI-ANNUAL APPLIANCE EXCHANGE EVENTS

Year(s) of Operation for the Initiative: 2011- 2014

Initiative Frequency: Bi-annual events

Target Customer Type(s): Residential Customers

Initiative Description:

This initiative involves bi-annual, appliance exchange events. Exchange events are held at local retail locations and customers are encouraged to bring in their old *room air conditioners and dehumidifiers* in exchange for coupons/discounts towards the purchase of new energy efficient equipment.

Background:

This initiative was originally launched in 2007 (aka *Keep Cool Program*) and the exchange events were managed primarily by the OPA. Customers were encouraged to visit participating retailers on pre-scheduled dates and “trade-in” or exchange their old appliances. Customers who participated received an incentive (coupon or discount) towards the purchase of new, energy efficient equipment. The initiative has been enhanced to include local marketing and provides an opportunity for LDCs to become more involved by having an in-store presence at retailer locations within their respective communities.

Initiative Elements:

- Bi-annual exchange events will be held at local retailers (Spring & Fall)
- Retailers solicited at the head office level by the OPA

- Customers encouraged to bring in their old room air conditioners and dehumidifiers to participating retailer locations in exchange for rebates
- For the Spring Event, the rebate will be a coupon towards the purchase of a high efficiency replacement unit (\$50 Replacement Coupon)
- For the Fall Event, the rebate will be in the form of a gift card (\$25 Gift Card)
- A gift card will be offered during the Fall event, as replacement units are typically not stocked during this time of the year
- Appliances are decommissioned in an environmentally friendly manner; decommissioning process is centrally managed by the OPA
- The following incentives will be offered:

Exchange Event Measures	Incentives 2011 - 2014
Room Air Conditioner	\$50 Replacement Coupon (Spring)
	\$25 Gift Card (Fall)
Dehumidifier	\$50 Replacement Coupon (Spring)
	\$25 Gift Card (Fall)

Purpose of the Initiative:

- Achieve energy and demand savings through the retirement and/or replacement of old, inefficient window /room air conditioners and dehumidifiers
- Discourage the reuse of old, inefficient appliances
- Facilitate environmental benefits through proper decommissioning and recycling of old appliances

**OPA-CONTRACTED PROVINCE-WIDE CDM PROGRAM
RESIDENTIAL PROGRAM**

Initiative Number: 5

Initiative Name: HVAC ON-LINE REBATES INITIATIVE

Year(s) of Operation for the Initiative: 2011- 2014

Initiative Frequency: Year round

Target Customer Type(s): Residential Customers

Initiative Description:

This is an energy efficiency initiative that provides rebates for the replacement of old heating or cooling systems with high efficiency furnaces (equipped with electronically commutated motors) and Energy Star qualified central air conditioners.

Background:

The HVAC rebates initiative has been in market since 2006 (aka *Cool Savings Program*). The initiative has been enhanced to include LDCs in the delivery of the initiative and there is also a new contractor training element. As part of this initiative, consumers will be eligible for rebates on replacement of qualifying furnaces with electronically commutated motors and central air conditioners. Training will be available for contractors to educate them on quality installation principles. LDCs will be involved in the recruitment of contractors; this will be supported by OPA recruitment efforts. The HVAC rebates will be delivered to consumers through participating contractors and will be centrally fulfilled by the OPA, as in the past.

Initiative Elements:

- Customers will be eligible for rebates on qualifying HVAC equipment
- Rebates available for replacement of central air conditioners and furnaces with electronically commutated motors

- Customers can book appointment online or by phone
- Rebates will be available through online process which will be centrally managed and fulfilled by the OPA
- Contractor training will be available to support quality installation (including initial assessment to ensure right-sizing of equipment)
- OPA will provide a report of the initiative results specific to the LDC territory
- The following is an outline of the customer incentives:

HVAC Measures	Incentives 2011 - 2014
High Efficiency Furnaces equipped with ECM	\$250
ENERGY STAR qualified Central Air Conditioner	\$250 (SEER 14.5) \$400 (SEER 15)

Purpose of the Initiative:

- Resource acquisition will be achieved by encouraging consumers to purchase and install energy efficient HVAC equipment when replacing existing equipment
- The new energy efficient HVAC equipment will generate both energy and peak demand savings
- Capability building will be achieved by training contractors on quality installation principles

**OPA-CONTRACTED PROVINCE-WIDE CDM PROGRAM
RESIDENTIAL PROGRAM**

Initiative Number: 6

Initiative Name: NEW CONSTRUCTION INITIATIVE

Year(s) of Operation for the Initiative: 2011- 2014

Initiative Frequency: Year round

Target Customer Type(s): Residential Customers

Initiative Description:

This is an energy efficiency initiative that provides incentives to homebuilders for constructing new homes that are efficient, smart and integrated (applicable to new single family dwellings).

Background:

This is a new initiative under the Consumer Program and will be offered for the first time in the market, beginning January 2011. The objective of this initiative is to ensure that single family homes of the future are constructed to be efficient, smart and integrated. The initiative encourages and rewards homebuilders for constructing efficient, smart and integrated single family homes. Consumers are also informed through education about the value of purchasing an energy efficient, smart and integrated home (including increased comfort, lower energy costs and environmental benefits).

Initiative Elements:

- Homebuilders are offered incentives to promote the construction of new homes that are “efficient, smart and integrated”
- Incentives are provided in four key categories, as follows:
 1. Incentives to install electricity efficiency measures as determined by a prescriptive list and via a custom option

- 1 2. Incentives for installing devices for demand response (phased implementation
- 2 anticipated)
- 3 3. Incentives for homebuilders who meet or exceed aggressive efficiency standards
- 4 using the EnerGuide performance rating system
- 5 4. Incentives for training on energy efficiency building techniques and practices
- 6 • Measures target end-users with the highest potential for electricity savings and
- 7 demand reduction including lighting, cooling coupled with electronically commutated
- 8 furnace motor, as well as plug loads
- 9 • The initiative will capture and fund fossil fuel savings (i.e. natural gas, oil, propane)
- 10 to encourage market transformation through improving the building envelope to
- 11 achieve higher EnerGuide performance ratings
- 12 • The initiative will be delivered by LDCs throughout the Province
- 13 • Local engagement of builders will be the responsibility of the LDC and will be
- 14 supported by OPA air cover driving builders to their LDC for additional information
- 15 • LDCs will be responsible for reviewing and approving applications and conducting
- 16 site verifications
- 17 • Data collection and reporting will also be the responsibility of the LDC
- 18 • OPA will be responsible for rebate fulfillment
- 19 • The following is a list of the measures which will be incentivized for builders:

New Construction Measures	Incentives 2011 - 2014
All-off Switch	\$50.00
ECM Motors	\$50.00
SEER 15 CAC	\$30.00
Lighting Control Products	\$3.00
Fixtures (single socket, multi-socket, niche)	\$15.00 (niche) \$10.00 (3+ sockets) \$3.00 (less than 3 sockets)
Custom Project	TBD
EnerGuide 83 Whole Home	\$500/Home
EnerGuide 85 Whole Home	\$1,000/Home
Residential Demand Response Devices	TBD
Training	TBD

Purpose of the Initiative:

- To motivate builders to incorporate electric energy efficient technologies in the design and construction of new homes
- To drive market awareness through advertising and other mediums
- To educate the builder and consumer on the benefits of energy efficiency in the home
- To increase consumer awareness and trigger increased consumer demand
- To overcome builders' concerns about trained and available trades to install the technologies and to overcome the trades concerns about liability with the installation of the technologies (training programs to be developed and offered to both)

**OPA-CONTRACTED PROVINCE-WIDE CDM PROGRAM
RESIDENTIAL PROGRAM**

Initiative Number: 7

Initiative Name: MIDSTREAM INCENTIVES INITIATIVE

Retailers, Cable & Satellite TV Providers & Pool Contractors

Year(s) of Operation for the Initiative: 2011- 2014

Initiative Frequency: Year round

Target Customer Type(s): Retailers, Cable & Satellite TV Providers & Pool
Contractors

Initiative Description:

This is an incentive program for midstream channel partners who can directly influence the consumers' product selection. Midstream incentives will be provided to retailers, cable and satellite providers and pool contractors to encourage them to stock and promote energy efficient equipment.

Background:

This is an incentive initiative for midstream electronics retailers, cable and satellite providers and pool contractors. The initiative is meant to encourage midstream providers to change their product selection, assortment and promotional strategies to place increased emphasis on energy efficient product alternatives. Incentives for retailers will encourage them to stock and promote high-efficiency televisions. Incentives for cable and satellite television service providers will encourage the adoption of set-top boxes and network configurations that deliver energy-efficiency gains. Incentives for pool contractors will encourage proper selection and right-sizing of pool equipment.

Initiative Elements:

- Retailers will be encouraged to gear their offerings and promotions to feature the most energy efficient alternatives to consumers who have already decided to purchase new equipment
- OPA will be responsible for developing relationships with retailers, cable and satellite TV providers
- OPA will also be responsible for hiring a Program Manager for this initiative
- OPA will be responsible for contractor training, i.e. pool contractors
- OPA will be responsible for providing incentives to retailers, cable and satellite TV providers
- LDCs will be responsible for educating consumers about the benefits of purchasing energy efficient equipment
- The midstream incentives will include:

Midstream Measures	Incentives 2011 - 2014
Pool measures	\$50 (2011 – 2012)
	\$30 (2013 – 2014)
Televisions	\$20
Set-top boxes	\$12

Purpose of the Initiative:

- A midstream rather than downstream consumer incentive will be employed to avoid creating additional demand for and proliferation of televisions in households
- Encourage retailers and cable/satellite distributors to change their product assortment and promotional strategies to place increased emphasis on efficient product alternatives
- Educate pool contractors on the benefits to their customers of right-sizing a pool pump to maximize energy efficiency
- Increase awareness of energy consumption of devices among consumers at point of sale through staff knowledge and signage

Filed: November 1, 2010

Exhibit C

Tab 1

Schedule 1

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- 1 • Increase retailer/service provider promotion of energy efficient product alternatives

2

OPA-CONTRACTED PROVINCE-WIDE CDM PROGRAM

RESIDENTIAL PROGRAM

Initiative Number: 8

Initiative Name: CONSUMER ENABLING INITIATIVES

Online Energy Audit Tool / Online Customer Education Program

Year(s) of Operation for the Initiative: 2011- 2014

Initiative Frequency: Year round

Target Customer Type(s): Residential Customers

Initiative Description:

Consumer enabling initiatives will provide the consumer with the web-based information they need to make informed decisions. The online tools will help educate consumers about the benefits of conservation and help promote the Consumer Conservation Programs. The consumer enabling initiatives include:

- a) Online home energy audit
- b) Online consumer education

Background:

The enabling initiatives are intended to provide the residential consumer with the information and the tools that they need to “get started” and help them make informed decisions. These online tools will be accessible to customers via the local utility website.

Initiative Elements

- An online energy audit tool (examining both gas and electricity usage) will be made available to consumers. An online calculator will enable the consumer to rapidly assess their home’s energy usage/performance and direct them to energy efficiency initiatives that will be of most benefit to them
- LDCs will be able to host the audit tool on their website through an interface.

- 1 • The data entered by the consumer will be saved and the information will be available
2 for market research purposes for each LDC to enhance their understanding of their
3 customer base and their behaviours
- 4 • A robust **online education component** will be produced and will be integrated into
5 all applicable elements of the marketing materials and on-line audit tool

6

7 **Purpose of the Initiative:**

- 8 • To provide consumers with the information they need to make informed choices.
- 9 • To move to a *customer centric model* (i.e. move the focus from the end-use to the
10 *end-user*)
- 11 • To introduce a holistic approach to energy management
- 12 • To ensure that consumers are empowered to take steps towards energy efficiency and
13 influence behavioural change
- 14 • To build a consistent thread that brings together the conservation efforts at home, at
15 work, and in the community, to further the culture of conservation in Ontario

**OPA-CONTRACTED PROVINCE-WIDE CDM PROGRAM
RESIDENTIAL PROGRAM**

Initiative Number: 9

Initiative Name: LOW INCOME INITIATIVE

Year(s) of Operation for the Initiative: 2011- 2014

Initiative Frequency: Year round

Target Customer Type(s): Residential Customers

Initiative Description:

This is a turnkey initiative for low income customers. It offers residents the opportunity to take advantage of FREE, TURNKEY installation of energy efficient measures that improve the comfort of their home, increase efficiency and help them save money.

Background:

This is a new initiative that has been specifically developed to meet the needs of the low income consumer. This is a comprehensive initiative that involves a variety of activities intended to improve the energy efficiency of low income homes. The initiative is intended to reduce electricity demand, provide consumers with the information they need to manage their energy use and influence behaviour change that will support these outcomes. The initiative will pay 100% of costs for the purchase and installation of the electricity saving products.

The process begins with an in-home audit which will identify the opportunities within the home. The installation measures range from basic measures (CFLs, weatherstripping, water heater blanket and more) to a full list of extended measures (light fixtures, air conditioning units, freezers, refrigerators, dehumidifiers, draft-proofing and insulation).

Initiative Elements:

OUTREACH

The initiative leverages five customer outreach channels, as follows:

1. **Blitz Participants.** Households come into the initiative via a *neighbourhood blitz*, whereby neighbourhoods are targeted by income and/or propensity for electric heat. Households who agree to participate via the *neighbourhood blitz* move to the basic audit process
2. **Self-Initiated Respondent.** Households responding to air coverage, print media, or via word-of-mouth referrals may opt in to the initiative. Households opting into the initiative will contact an intake center, flow through the outbound pre-screening protocol, and be scheduled for a referral audit
3. **Community Partner Referral.** Households receiving social assistance via a government agency, community-based organization, or non-profit who pass through the initiative referral screen are queued for outbound pre-screening. Examples of community referral partners include: social service providers, local housing agencies, food banks, etc.
4. **LDC Priority Referral.** Households struggling with utility bill affordability, at-risk for utility service disconnect, and/or have pending high-bill complaints may be considered an LDC Priority account. When LDC Priority accounts pass through the initiative referral screen, these households are queued for outbound pre-screening
5. **Extended Measures Referral.** In 2012, a gas initiative linkage is envisioned (independent of desired integration). This linkage promotes a Gas Audit Extension; whereby, qualifying low-income households are screened for electric savings. *Qualifying households* that pass an extended measures selection protocol are scheduled for an extended measures visit. Examples include referrals from Enbridge's TAPS program and Union Gas Helping Homes Conserve Program

GAS COMPANY ENGAGEMENT

The initiative design includes coordinating efforts with gas utilities, as follows:

1. **Gas Audit Extension.** An extension to the gas utility DSM audit allowing for the installation of basic measures II in homes that participate in the gas utility initiatives.
2. **Electric Audit Extension.** An extension to the basic audit delivered by the LISFH program to allow for the installation of basic measures III (gas utility measures).

IN HOME AUDITS

Three types of energy audits will be offered to low income consumers, as follows:

1. **Basic Audit.** An in-home consultation offered to households passing the health and safety protocol. The in-home consultation uses basic measure screening protocols to determine which basic measures will be installed and facilitates eligibility verification. For homes with natural gas service, basic measures III will be installed in program years 2012 forward (pending coordination of Low Income Single Family Home (LISFH) program with gas utility initiatives). For *qualifying households* the in-home consultation continues with extended measures selection and a weatherization opportunity screening. Customers are advised of the pending work orders for an extended measures visit and a weatherization audit. As part of the basic audit, each home will be screened for eligibility in the gas-utility weatherization program and utility-led DR and Home Energy Management Systems programs. If the home is eligible for these programs, a DSM program referral and/or LDC program referral will be made with customer consent as provided for within the energy education.
2. **Weatherization Audit.** An in-home consultation proceeds with air infiltration measure installation and envelope measures selection. In homes requiring envelope treatment, a home weatherization visit work order is created and the customer is advised of a pending weatherization visit.
3. **Referral Audit.** An in-home consultation offered to households passing the health and safety protocol. The in-home consultation provides basic measures and facilitates eligibility verification. For *qualifying households* the in-home consultation continues

1 with extended measures selection and a weatherization audit. Where opportunities
2 have been identified, customers are advised of the pending work orders associated
3 with a pending extended measures visit and/or home weatherization visit.
4

5 INSTALLATION MEASURES

6 The initiative will offer consumers several energy efficiency and demand reduction
7 measures. Different packages of measures will be offered based on eligibility determined
8 during the audit. These packages include:

- 9 1. **Basic Measures I.** A prescriptive set of measures that include energy education and
10 information (how-to-use measures, conservation behaviours, energy management vis
11 a vis time-of-use rates), low-cost weatherization measures, and the installation of the
12 following energy efficiency measures: CFLs, DWH pipe wrap, DWH blanket, low
13 flow faucet aerators, low-flow showerheads, engine block timers, and powerbars with
14 integrated timers.
- 15 2. **Basic Measures II.** An incremental set of electric measures that compliment the
16 electric measures provided within the gas DSM audit. The anticipated measures
17 include powerbars with integrated timers, CFLs, and engine block timers.
- 18 3. **Basic Measures III.** The installation of programmable thermostats for gas furnaces
19 (would be funded by gas utilities).
- 20 4. **Extended Measures Visit.** Delivery agents responding to an extended measures
21 work order will schedule appointments with the customers, deliver the specified
22 measures, remove existing equipment/appliances, and install the specified measures.
23 The current list of extended measures includes the following set of Energy Star
24 qualified measures: light fixtures, air conditioning units, freezers, refrigerators, and
25 dehumidifiers. Programmable thermostats will be reviewed as a potential measure for
26 inclusion in 2012 for baseboard systems. At the end of the visit, customers will be
27 notified of a possible quality assurance visit that would be scheduled within the next
28 30 days.

1 **5. Home Weatherization Visit.** Delivery agents responding to a home weatherization
2 work order will follow the air infiltration measure installation protocol to provide
3 draft proofing along with the requested attic, wall, and basement insulation.
4 Following the completion of home weatherization, customers will be notified of the
5 need for a quality assurance visit to be scheduled within the next 30 days.

6
7 **HEALTH & SAFETY MEASURES**

8 There are two aspects to health and safety which will be addressed in this initiative:

- 9 1. the safety of initiative delivery staff working in the home; and
10 2. the state of repair of the home itself and the impact of this state of repair on
11 opportunities for conservation retrofits.

12 **QUALITY ASSURANCE / MONITORING & VERIFICATION**

- 13 • Once the installation of measures has been completed in a participating home, the
14 participant will receive a follow-up call or visit to a) confirm his or her satisfaction
15 with the initiative, and b) gather information for initiative EMV.

16 **DEMAND RESPONSE**

- 17 • The initiative will also consider the feasibility and potential savings that could be
18 achieved by funding the cost of In Home Display measures for low-income customers
19 who want to participate in the Residential Demand Response initiative but a) do not
20 qualify for a device at no-cost and b) cannot afford to pay the incremental cost of the
21 device themselves.

22
23 **Purpose of the Initiative:**

- 24 • Assist low income customers in managing electricity costs
25 • The initiative employs a “house as a system” approach, providing opportunities for
26 electric energy efficiency in each area of the home

- 1 • Install energy efficiency measures in low income homes that will produce long-term,
2 sustainable energy savings – i.e. reduce provincial electricity demand and
3 consumption
- 4 • Physical installation of energy efficiency measures provide long-term sustained
5 financial savings to consumers and this will help reduce the reliance on financial
6 assistance programs
- 7 • Enhance the social safety net for low income consumers

8

OPA-CONTRACTED PROVINCE-WIDE CDM PROGRAM

RESIDENTIAL PROGRAM

Initiative Number: 10

Initiative Name: RESIDENTIAL AND SMALL COMMERCIAL DEMAND
RESPONSE INITIATIVE

Year(s) of Operation for the Initiative: July 2011- December 2014

Initiative Frequency: Year round

Target Customer Type(s): Residential customers

Initiative Description:

This is an initiative that provides residential customers the tools they need to actively manage their energy use in a time-of-use (TOU) environment. The initiative provides customers with access to price and real-time consumption data and offers an option to participate in demand response load control.

Background:

This initiative offers a free programmable thermostat (or load control switch) and offers a financial incentive for allowing load control of central air conditioners and electric water heaters during peak times. This program has been enhanced to include window air conditioners and pool pumps.

The initiative has been further enhanced for 2011 – 2014 to take advantage of recent policy changes, market developments and technology advancements. The new demand response devices will be able to accommodate the use of smart plugs, smart strips, smart appliances and more emerging technologies.

The initiative will now offer residential customers two participation options, as follows:

1. Participation with demand response

2. Participation without demand response

While general service customers under 50kW are eligible to participate in the PeakSaver Program; so far less than one per cent of this customer group has participated in the program. This is primarily due to the fact that PeakSaver Program is designed to respond to the needs of residential customers.

The above mentioned enhancements were designed for the residential sector; accordingly, penetration of small commercial sector continues to be at an assumed 1% only.

Initiative Elements:

- Participation with demand response will offer higher incentives, higher levels of subsidization and more participation options (due to fact that demand response yield higher avoided costs)
- All participants will receive access to price and real-time consumption information

CUSTOMER OPTIONS:

The following is an outline of options available for customers who choose to participate in the initiative but with NO demand response:

Non-Demand Response Offers

Device(s)	Charge / Incentive to Participant
HEI	
HEI + IHD	

Note: Definitions: HEI = Home Energy Interface, IHD = In Home Display

The following is an outline of the options available for residential customers who choose to participate in the initiative WITH demand response:

Demand Response Offers

Device(s)	Charge / Incentive to Participant
HEI + Switch	Without IHD - [REDACTED]
	With IHD - [REDACTED]
HEI + Thermostat	Without IHD - [REDACTED]
	With IHD - [REDACTED]
Dashboard	[REDACTED]

Note: Definitions: HEI = Home Energy Interface, IHD = In Home Display

Purpose of the Initiative:

- To build demand response capacity in the residential sector to achieve maximum cost-effective peak demand reduction
- To empower residential participants by providing them with price and real-time electricity consumption information and equip them with tools to actively manage their energy use in a TOU environment
- To increase conservation and demand response awareness in the residential sector through improved education on the benefits of peak demand reduction, reduced energy consumption, TOU pricing and energy management tools
- This program has not been redesigned to address the business needs of business customers

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OPA – CONTRACTED PROVINCE-WIDE CDM PROGRAMS

COMMERCIAL AND INSTITUTIONAL PROGRAMS

OPA-CONTRACTED PROVINCE-WIDE CDM PROGRAM

COMMERCIAL AND INSTITUTIONAL PROGRAM

Initiative Number: 11

Initiative Name: COMMERCIAL AND INSTITUTIONAL INITIATIVE

Year(s) of Operation for the Initiative: 2011- 2014

Initiative Frequency: Year round

Target Customer Type(s): Commercial, Institutional, and Agricultural Customers

Initiative Description:

The C&I Initiative offers financial incentives to customers for the upgrade of existing equipment to energy efficient equipment. The program also promotes the inclusion of energy efficient measures in new buildings through the New Construction element included with this initiative.

This initiative builds on the success of the current Electricity Retrofit Incentive Program (ERIP) being offered to Commercial, Industrial, Institutional and Agricultural customers. Financial incentive payments of up to \$400/kW or \$0.05/kWh for lighting measures, \$800/kW or \$0.10/kWh for all other measures; to maximum of 50% of project costs are available to customers.

The direct install initiative, marketed as Power Savings Blitz (“PSB”) under this program is offered to small commercial customers with less than 50kW of average monthly demand. This initiative will offer turnkey lighting and electric hot water heater measures with a value up to \$1,000 at no cost to qualifying small businesses. Small businesses are also able to take advantage of a turnkey cooling maintenance offering as well as ERIP incentives for measures not covered by the standard direct install initiative.

1 **Background:**

2 The Electricity Retrofit Incentive Program (“ERIP”), initially developed for the business
3 markets, promoted energy efficiency measures such as lighting, HVAC, high efficiency
4 motors and agri-business measures. The 2011-2014 initiative has been enhanced to
5 include initiative elements such as energy audits and roving Energy Managers in order to
6 increase customer participation.

7
8 The PSB program addresses many of the barriers small business owners have, such as
9 lack of conservation knowledge and access to capital. An opportunity exists to assist in a
10 market transformation by advancing the change from T12 to T8 fluorescent lighting.

11
12 Initiatives directed medium to large facilities will include design and delivery elements
13 such as account management, and application administration support.

14
15 Initiatives directed at smaller facilities, on the other hand, will be based on prescriptive
16 approaches to measures and incentives, typically featuring standardized application
17 forms.

18
19 Specific initiative elements include:

20
21 **Equipment Replacement (ERIP)**

22 The ERIP initiative primarily focuses on equipment replacements. Equipment
23 replacement projects have traditionally been categorized in ERIP as either Prescriptive or
24 Custom. The Prescriptive approach utilizes a list of specific measures for which the
25 incentive is prescribed. The Custom approach requires a more sophisticated, and in some
26 cases complex, process to determine the potential for demand reductions or energy
27 savings.

1 The Program will continue these two approaches, but will also include an Engineered
2 approach.

- 3 • The Engineered approach will provide the customer with potential for additional
4 incentives for the equipment to be installed and will provide a more straightforward
5 process than the Custom approach, with simplified calculations of energy and demand
6 savings. The incentives available under the Engineered approach are the same as for
7 the Custom approach, but the actual amount would be based on data provided by the
8 customer

9
10 Incentives for Engineered and Custom projects are:

- 11 • \$400/kW or \$0.05/kWh for lighting measures (whichever is higher) to a maximum of
12 50% of the project costs
- 13 • \$800/kW or \$0.10/kWh for non-lighting measures (whichever is higher) including
14 lighting controls to a maximum of 50% of the project costs

15
16 Participant incentives for Prescriptive projects are as per the Prescriptive
17 forms/worksheets which specify the dollar amount per unit installed, with no maximum
18 amount payable for the project.

19
20 **Direct Installed Lighting – Power Savings Blitz (“PSB”)**

21 The Direct Installed Lighting initiative targets customers in the General Service <50kW
22 account category. Participation for the existing version of this initiative, the Power
23 Savings Blitz, has been very high. In addition to offering eligible customers up to \$1,000
24 in equipment upgrades at no charge, standard prescriptive incentives will now be
25 available for eligible equipment beyond the initial \$1,000 limit. There will also be a
26 similar initiative for servicing of space cooling equipment, as described below.

1 Customers can participate in this initiative one of three ways:

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

17 18 **Direct Serviced Space Cooling**

19 The Direct Serviced Space Cooling initiative is available to customers with roof-top or
20 ground-mounted air conditioning systems with a capacity of 25 tons or less. The initiative
21 is intended to target the same customer base as the Direct Installed Lighting initiative,
22 although in some cases customers in the General Service >50 kW account category will
23 also be eligible. Basing the eligibility criteria on air conditioner size is intended to
24 simplify the determination of possible participants by HVAC Contractors. This initiative
25 provides for up to [REDACTED] of services and labour to service the customer's air-conditioning
26 unit(s).

27
28 Customers participate in this initiative as per the Direct Installed Lighting initiative.
29

1 To be eligible, customers must confirm that they do not have an existing service
2 agreement for the air-conditioning unit and that the unit was not serviced during the
3 previous calendar year.

4 5 **Existing Building Commissioning**

6 Any customer in the General Service >50 kW or Large User account categories with
7 single buildings/premises greater than 50,000 square feet in size and with chilled water
8 plants will be eligible to participate in the Existing Building Commissioning initiative of
9 the Program. The services that would qualify include (i) the development of a plan for
10 commissioning activities, (ii) the procurement of devices and/or software associated with
11 commissioning activities and (iii) third party services for building commissioning.

12
13 A building owner participates in this initiative by hiring a Commissioning Agent, who
14 must provide two references from past projects OR be certified (by the Association of
15 Energy Engineers, American Society of Heating, Refrigerating and Air Conditioning
16 Engineers, or Building Commissioning Association).

17 **New Construction – All Buildings and Customer Types**

18 The New Construction initiative of the C&I Program will provide incentives for new
19 buildings to exceed existing codes and standards for energy efficiency. Similar to the
20 Equipment Replacement initiative, the New Construction initiative utilizes both
21 Prescriptive and Custom approaches.

22
23 Participant incentives for Prescriptive projects are as per the Prescriptive
24 forms/worksheets, which specify the kW and kWh assumption per unit installed, and
25 determine the resulting incentive at a rate of \$250/ kW. For new multi-family buildings,
26 incentives for appliances are determined on a dollar amount per unit installed. Incentives
27 for Custom will depend on the level of savings achieved, to a maximum of 50% of the
28 project cost. In addition, there are incentives for building modeling to maximum of

1 [REDACTED] as well as incentives for Design Decision-Makers (e.g. designers, architects and
2 engineers) that were involved in the building design.

3
4 **Pre-Project Assessments**

5 For this initiative, eligible participants will receive incentives to complete energy audits
6 or studies of potential energy and demand savings from equipment replacement projects,
7 operational practices and procedures, and participation in demand response initiatives.
8 The incentives are intended to cover up to 50% of the cost of the energy audit, based on
9 requirements commensurate with the size and complexity of the buildings. The energy
10 audits must be completed by a professional engineer, a certified engineering technologist,
11 an architect, or a Certified Energy Manager; customers can select their own Energy
12 Auditor meeting these criteria.

13
14 **Capability Building**

15 The C&I Program will offer CDM market capability building activities for CDM service
16 providers such as training and certification.

17
18 **Purpose of the Initiative:**

19 The objectives of the Program are to:

- 20 • Assist owners and operators of C&I buildings, farms, and multi-family residences
21 achieve reduced demand and energy savings through the purchase and operation of
22 energy efficient equipment
23 • Provide education to tenants and occupants, particularly with respect to multi-family
24 buildings, regarding in-suite energy efficiency and demand response opportunities;
25 and
26 • Facilitate a culture of conservation among these communities and the equipment
27 supply chains that serve them.

**OPA-CONTRACTED PROVINCE-WIDE CDM PROGRAM
COMMERCIAL PROGRAM**

Initiative Number: 12

Initiative Name: DEMAND RESPONSE 1 - COMMERCIAL

Please note Initiative 12 and Initiative 14 describe the same program but have been outlined separately, as the program is offered to multiple sectors

Years(s) of Operation for the Initiative: Jan. 1, 2011 - Dec. 31, 2014

Initiative Frequency: Year Round

Target Customer Type(s): Industrial and Commercial customers of 50 kW or greater with interval meter

Initiative Description:

Demand Response 1 ("DR1") is a demand response initiative for industrial and commercial customers, of 50 kW or greater to reduce the amount of power being used during certain periods of the year. This initiative has a schedule of 1600 hours per year where activations of up to 100 hours may occur with no obligation on customers to participate. This initiative makes payments for actual load reduction only. There are no payments or setoffs associated with a participant deciding not to participate, or where a participant has indicated willingness to perform and then not followed through.

The initiative is managed by third party program administrators procured by the OPA or the LDCs. Marketing of the initiative and customer registration may be done by both Demand Response Providers and the LDC. The LDC will be responsible for promotion of the DR1 initiative and for registering customers. LDC's may see registering of DR1 customers as a means for growing potential customers for the Demand Response 3 ("DR3") Initiative. Once a potential customer has expressed interest in participation, the LDC will register the customer with the Third Party Initiative Operator by completing a

1 customer form containing the basic information about the customer, the contracted MW
2 amount to which the customer believes has the ability to offer during any one activation,
3 along with a confirmation by the LDC that the customer can provide such demand
4 response capability.

5
6 **Background:**

7 The DR1 Initiative, a voluntary initiative, was launched in 2007 and grew to a peak
8 capability of 417 MW. Its intent was to encourage participation by providing customer
9 payments for reduction in the use of electricity relative to a baseline, whenever the 3-hour
10 pre-dispatch market price, as published hourly by the IESO, exceeds a Floor Price agreed
11 to by the OPA and initiative participant. The initiative participant was entitled to be paid
12 the strike price for the MWh reduction for a minimum 3 hour period. With the advent of
13 the DR3 Initiative, the DR1 Initiative underwent a change that sought to set initiative
14 rates that better reflect its voluntary nature relative to the firm commitment required of
15 DR3 Initiative participants. As such, a significant portion of DR1 participants have
16 transitioned to either the Demand Response 2 ("DR2") (now discontinued) or DR3
17 Initiative.

18
19 Development of the DR1 and DR3 Initiatives was done in consultation with industry and
20 through advice obtained from neighbouring markets. The demand response initiatives
21 that will be the focus of the LDC customer base will be DR1 and DR3. While these
22 initiatives were reviewed for potential changes, these initiative designs and potential
23 changes were stakeholdered in April 2010. In addition, an Industrial Program Change
24 Management Committee has been established to manage change to the DR initiatives in
25 an organised and ongoing manner.

1 **Initiative Elements:**

2 The DR1 Initiative is delivered by Demand Response Providers, under contract to the
3 OPA. The OPA administers contracts with all Demand Response Providers and Direct
4 Participants that provide in excess of 5MW of demand response capacity.

- 5 • OPA to provide administration including settlement, measurement and verification
6 and dispatch
- 7 • Awareness Education
- 8 • Marketing and promotion carried out by LDCs (Demand Response Providers may
9 choose to co-promote with LDCs)
- 10 • Direct Selling and Promotional Materials to improve awareness

11
12 **Purpose of the Initiative:**

13 The objective of the DR1 Industrial Initiative is to achieve maximum cost effective peak
14 demand reduction and energy savings, increase conservation awareness and contribute to
15 the creation of a culture of conservation in Ontario.

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17

**OPA-CONTRACTED PROVINCE-WIDE CDM PROGRAM
COMMERCIAL PROGRAM**

Initiative Number: 13

Initiative Name: DEMAND RESPONSE 3 - COMMERCIAL

Please note Initiative 13 and Initiative 15 describe the same program but have been outlined separately as the program is offered to multiple sectors

Years(s) of Operation for the Initiative: Jan. 1, 2011 to Dec. 31, 2014

Initiative Frequency: Year Round

Target Customer Type(s): Industrial and Commercial customers with a peak demand greater than 50 kW

Initiative Description

The Demand Response 3 (“DR3”) initiative is open to commercial and industrial customers with a peak demand greater than 50 kW. In comparison to the Demand Response 1 (“DR1”), which is a voluntary initiative, the DR3 initiative is a contractual resource that provides significant financial benefits for participants, reliability and operational benefits for the electricity system, and financial benefits for all electricity customers as it is an economic alternative to procurement of new generation capacity.

The DR3 Initiative comes with specific contractual obligations requiring commercial and industrial participants to reduce their use of electricity relative to a baseline when called upon. This initiative makes payments for participants to be on standby and energy payments for the actual energy reduction provided during a demand response event. Participants are scheduled to be on standby approximately 1,600 hours per calendar year for possible dispatch of up to 100 hours or 200 hours within that year.

1 The initiative is delivered by Demand Response Providers, under contract to the OPA or
2 the LDCs. The LDCs will provide important marketing and customer outreach support in
3 a collaborative approach with Demand Response Providers.

4 5 **Background**

6 The DR3 Initiative, introduced to Ontario in 2008, has produced a significant level of
7 interest among both industrial and commercial loads. The initiative is delivered to
8 market primarily through OPA contracts with Demand Response Providers. These
9 providers, also known as “Aggregators”, aggregate multiple customers willing to provide
10 demand response. The initiative requires participants to make a firm commitment to
11 provide demand response capability upon demand. Large participants who can provide
12 greater than 5 MW of demand response capability have the option to contract directly
13 with the OPA. Participants are asked to place themselves on standby 1,600 hours per
14 year, of which they may be required to provide demand response for up to 100 or 200
15 hours each year. Each demand response call is for a four-hour period. While this
16 initiative continues to grow, it remains flexible to change, in order to accommodate
17 learning from the market.

18 19 **Initiative Elements**

20 Initiative is delivered by Demand Response Providers, under contract to the OPA. The
21 OPA administers contracts with all Demand Response Providers and Direct Participants
22 that provide in excess of 5 MW of demand response capacity.

- 23 • Marketing and promotional activities carried out by LDCs
- 24 • OPA to provide administration including procurement operational services such as
25 settlement, measurement and verification and dispatch
- 26 • Direct Participants and Demand Response Providers receive a standby notice.
27 Participants are scheduled to be on standby approximately 1,600 hours per calendar
28 year for possible dispatch of up to 100 hours or 200 hours within that year

- 1 • Large participants who can provide greater than 5 MW of demand response capability
- 2 have the option to contract directly with the OPA
- 3 • Participant to confirm within one hour when it is anticipated that they will
- 4 underperform compared to their contractual commitment
- 5 • Participants must register a measurement and verification plan as part of their initial
- 6 application for a contract and with every subsequent update to the overall project

7

8 **Purpose of the Initiative**

9 The purpose of the DR3 initiative is to provide significant financial benefits for

10 participants, reliability and operational benefits for the electricity system and financial

11 benefits for all electricity customers. Emphasis is to achieve maximum cost effective

12 peak demand reduction and energy savings, increase conservation awareness and

13 contribute to the creation of a culture of conservation in Ontario.

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OPA-CONTRACTED PROVINCE-WIDE CDM PROGRAMS

INDUSTRIAL PROGRAMS

**OPA-CONTRACTED PROVINCE-WIDE CDM PROGRAM
INDUSTRIAL PROGRAM**

Initiative Number: 14

Initiative Name: DEMAND RESPONSE 1 - INDUSTRIAL

Please note Initiative 12 and Initiative 14 describe the same program but have been outlined separately as the program is offered to multiple sectors

Years(s) of Operation for the Initiative: Jan. 1, 2011 to Dec. 31, 2014

Initiative Frequency: Year Round

Target Customer Type(s): Industrial and Commercial customers of 50 kW or greater with interval meter

Initiative Description:

Demand Response 1 ("DR1") is a demand response initiative for industrial and commercial customers, of 50 kW or greater to reduce the amount of power being used during certain periods of the year. This initiative has a schedule of 1600 hours per year where activations of up to 100 hours may occur with no obligation on customers to participate. This initiative makes payments for actual load reduction only. There are no payments or setoffs associated with a participant deciding not to participate, or where a participant has indicated willingness to perform and then not followed through.

The initiative is managed by third party program administrators procured by the OPA or the LDCs. Marketing of the initiative and customer registration may be done by both Demand Response Providers and the LDC. The LDC will be responsible for promotion of the DR1 initiative and for registering customers. LDC's may see registering of DR1 customers as a means for growing potential customers for the Demand Response 3 ("DR3") Initiative. Once a potential customer has expressed interest in participation, the LDC will register the customer with the Third Party Initiative Operator by completing a

1 customer form containing the basic information about the customer, the contracted MW
2 amount to which the customer believes has the ability to offer during any one activation,
3 along with a confirmation by the LDC that the customer can provide such demand
4 response capability.

5
6 **Background:**

7 The DR1 Initiative, a voluntary initiative, was launched in 2007 and grew to a peak
8 capability of 417 MW. Its intent was to encourage participation by providing customer
9 payments for reduction in the use of electricity relative to a baseline, whenever the 3-hour
10 pre-dispatch market price, as published hourly by the IESO, exceeds a Floor Price agreed
11 to by the OPA and initiative participant. The initiative participant was entitled to be paid
12 the strike price for the MWh reduction for a minimum 3 hour period. With the advent of
13 the DR3 Initiative, the DR1 Initiative underwent a change that sought to set initiative
14 rates that better reflect its voluntary nature relative to the firm commitment required of
15 DR3 Initiative participants. As such, a significant portion of DR1 participants have
16 transitioned to either the DR2 (now discontinued) or DR3 Initiative.

17
18 Development of the DR1 and DR3 Initiatives was done in consultation with industry and
19 through advice obtained from neighbouring markets. The demand response initiatives
20 that will be the focus of the LDC customer base will be DR1 and DR3. While these
21 initiatives were reviewed for potential changes, these initiative designs and potential
22 changes were stakeholdered in April 2010. This Business Case addresses all of the issues
23 raised. In addition, an Industrial Program Change Management Committee has been
24 established to manage change to the DR initiatives in an organised and ongoing manner.

25
26 **Initiative Elements:**

27 The DR1 Initiative is delivered by Demand Response Providers, under contract to the
28 OPA. The OPA administers contracts with all Demand Response Providers and Direct
29 Participants that provide in excess of 5MW of demand response capacity.

- 1 • OPA to provide administration including settlement, measurement and verification
- 2 and dispatch.
- 3 • Awareness Education
- 4 • Marketing and promotion carried out by LDCs (Demand Response Providers may
- 5 choose to co-promote with LDCs)
- 6 • Direct Selling and Promotional Materials to improve awareness

7

8 **Purpose of the Initiative:**

9 The objective of the DR1 Industrial Initiative is to achieve maximum cost effective peak

10 demand reduction and energy savings, increase conservation awareness and contribute

11 to the creation of a culture of conservation in Ontario.

OPA-CONTRACTED PROVINCE-WIDE CDM PROGRAM

INDUSTRIAL PROGRAM

Initiative Number: 15

Initiative Name: DEMAND RESPONSE 3 - INDUSTRIAL

Please note Initiative 13 and Initiative 15 describe the same program but have been outlined separately as the program is offered to multiple sectors

Years(s) of Operation for the Initiative: Jan. 1, 2011 to Dec. 31, 2014

Initiative Frequency: Year Round

Target Customer Type(s): Industrial and Commercial customers with a peak demand greater than 50 kW.

Initiative Description

The DR3 initiative is open to commercial and industrial customers with a peak demand greater than 50 kW. In comparison to the DR1, which is a voluntary initiative, the DR3 initiative is a contractual resource that provides significant financial benefits for participants, reliability and operational benefits for the electricity system, and financial benefits for all electricity customers as it is an economic alternative to procurement of new generation capacity.

The DR3 Initiative comes with specific contractual obligations requiring commercial and industrial participants to reduce their use of electricity relative to a baseline when called upon. This initiative makes payments for participants to be on standby and energy payments for the actual energy reduction provided during a demand response event. Participants are scheduled to be on standby approximately 1,600 hours per calendar year for possible dispatch of up to 100 hours or 200 hours within that year.

1 The initiative is delivered by Demand Response Providers, under contract to the OPA or
2 the LDCs. The LDCs will provide important marketing and customer outreach support in
3 a collaborative approach with Demand Response Providers.

4 5 **Background**

6 The DR3 Initiative, introduced to Ontario in 2008, has produced a significant level of
7 interest among both industrial and commercial loads. The initiative is delivered to
8 market primarily through OPA contracts with Demand Response Providers. These
9 providers, also known as “Aggregators”, aggregate multiple customers willing to provide
10 demand response. The initiative requires participants to make a firm commitment to
11 provide demand response capability upon demand. Large participants who can provide
12 greater than 5 MW of demand response capability have the option to contract directly
13 with the OPA. Participants are asked to place themselves on standby 1,600 hours per
14 year, of which they may be required to provide demand response for up to 100 or 200
15 hours each year. Each demand response call is for a four-hour period. While this
16 initiative continues to grow, it remains flexible to change, in order to accommodate
17 learning’s from the market.

18 19 **Initiative Elements**

20 Initiative is delivered by Demand Response Providers, under contract to the OPA. The
21 OPA administers contracts with all Demand Response Providers and Direct Participants
22 that provide in excess of 5 MW of demand response capacity.

- 23 • Marketing and promotional activities carried out by LDCs
- 24 • OPA to provide administration including procurement operational services such as
25 settlement, measurement and verification and dispatch
- 26 • Direct Participants and Demand Response Providers receive a standby notice.
27 Participants are scheduled to be on standby approximately 1,600 hours per calendar
28 year for possible dispatch of up to 100 hours or 200 hours within that year

- 1 • Large participants who can provide greater than 5 MW of demand response capability
- 2 have the option to contract directly with the OPA
- 3 • Participant to confirm within one hour when it is anticipated that they will under
- 4 perform compared to their contractual commitment
- 5 • Participants must register a measurement and verification plan as part of their initial
- 6 application for a contract and with every subsequent update to the overall project

7

8 **Purpose of the Initiative**

9 The purpose of the DR3 initiative is to provide significant financial benefits for
10 participants, reliability and operational benefits for the electricity system and financial
11 benefits for all electricity customers. Emphasis is to achieve maximum cost-effective
12 peak demand reduction and energy savings, increase conservation awareness and
13 contribute to the creation of a culture of conservation in Ontario.

**OPA-CONTRACTED PROVINCE-WIDE CDM PROGRAM
INDUSTRIAL PROGRAM**

Initiative Number: 16

Initiative Name: THE INDUSTRIAL ACCELERATOR

Years(s) of Operation for the Initiative: Jan. 1, 2011 to Dec. 31, 2014

Initiative Frequency: Year Round

Target Customer Type(s): Industrial Customers

Initiative Description

The Industrial Accelerator Initiative is an energy management initiative that includes both financial incentives for capital projects and enabling initiatives. It is open to industrial companies that are customers of an Ontario electricity LDC and are not insolvent.

This initiative offers industrial customers the opportunity to access capital incentives to assist with the implementation of system optimization projects. The incentives are available through the LDC. The initiative is open to distribution connected industrial and commercial customers with projects or portfolio projects that are expected to generate at least 350 MWh of annualized electricity savings or, in the case of Micro-Projects, 100 MWh of annualized electricity savings.

The capital incentive for this initiative is up to \$200/MWh for eligible costs with a cap of 70% of projects costs or a one year pay back. This level is based on an analysis of typical capital costs for large system optimizations and the propensity for industry to pursue projects with a one year simple payback.

This initiative will be delivered by the LDCs with technical support provided by a centrally procured technical resource.

Background

Ontario has not had a fully functioning energy management initiative for industrial customers, other than the ability to receive incentives for high efficiency motors and efficiency lighting under the ERIP Initiative. To build on this gap and address the needs of the larger industrial businesses, the Industrial Accelerator Initiative, will be delivered by the OPA to large transmission connected industrial loads. To support this initiative, the OPA has hired a number of account managers to proactively pursue energy management opportunities within the industrial segment. Development of long term relationships with industrial customers is considered necessary to ensure a sustainable momentum in moving projects forward considering the long timelines normally associated with project approvals, not to mention that energy efficiency initiatives must compete against production related initiatives for capital dollars.

Initiative Elements:

- This initiative is up to \$200/MWh for eligible costs with a cap of 70% of projects costs or a one year pay back.
- Funding for Pre-Feasibility and Feasibility Studies
- Funding for Energy Managers (Industrial Employed Energy Managers and Roving Energy Managers)
- Funding for Monitoring & Targeting systems
- Meter lending library
- End Use Training
- Energy Manager Training
- Employee Awareness & Senior Management Leadership
- LDC Key Account Managers

1 **Purpose of the Initiative**

- 2 1. Implementing system optimization projects in systems which are intrinsically
3 complex and capital intensive
- 4 2. Increasing the capability of companies to implement energy management and system
5 optimization projects
- 6 3. Increasing the capability of technical, financial and other consultants and the supply
7 chain to deliver energy efficiency and energy management services in Ontario

8

OPA-CONTRACTED PROVINCE-WIDE CDM PROGRAM

INDUSTRIAL PROGRAM

Initiative Number: 17

Initiative Name: **ELECTRICITY RETROFIT INCENTIVE PROGRAM –
INDUSTRIAL ERIP**

Years(s) of Operation for the Initiative: Jan. 1, 2011 to Dec. 31, 2014

Initiative Frequency: Year Round

Target Customer Type(s): Industrial,

Initiative Description:

The industrial initiative is designed to offer financial incentives to customers for upgrades of existing equipment to energy efficient equipment. The program also promotes the inclusion of energy efficient measures in new buildings through the New Construction element included with this initiative.

The equipment replacement initiative (ERIP) is offered to industrial facilities, however, given the Industrial Accelerator (IA) program is best suited to evaluate complex industrial energy efficiency applications, industrial projects with an annual savings exceeding 100MWh per year must apply to the Industrial Accelerator Program. ERIP custom applications that exceed the 100MWh limit will be referred to the IA program, unless approval is received from the LDC to proceed under ERIP.

Background:

The Electricity Retrofit Incentive Program (ERIP), initially developed for the business markets, contained energy efficiency measures for lighting and high efficiency motors. The initiative has been enhanced to include initiative elements such as feasibility studies and roving Energy Managers to maximize energy savings potential.

Initiative Elements:

Initiatives directed medium to large facilities will include design and delivery elements such as account management, and application administration support.

Initiatives directed at smaller facilities, on the other hand, will be based on prescriptive approaches to measures and incentives, typically featuring standardized application forms.

Equipment Replacement (ERIP)

The ERIP initiative primarily focuses on equipment replacement. Equipment replacement projects have traditionally been categorized in ERIP and other similar programs as either Prescriptive 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.

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

1 Participant incentives for Prescriptive projects are as per the Prescriptive
2 forms/worksheets which specify the dollar amount per unit installed, with no maximum
3 amount payable for the project.

4
5 **New Construction – All Buildings and Customer Types**

6 The New Construction initiative of the Industrial Program will provide incentives for new
7 buildings to exceed existing codes and standards for energy efficiency. Similar to the
8 Equipment Replacement initiative, the New Construction initiative utilizes both
9 Prescriptive and Custom approaches.

10
11 Participant incentives for Prescriptive projects are as per the Prescriptive
12 forms/worksheets, which specify the kW and KWh assumption per unit installed, and
13 determine the resulting incentive at a rate of \$250/ kW. Incentives for Custom will
14 depend on the level of savings achieved, to a maximum of 50% of the project cost. In
15 addition, there are incentives for building modeling to maximum of [REDACTED] as well as
16 incentives for Design Decision-Makers (e.g. designers, architects and engineers) that
17 were involved in the building design.

18
19 A building owner participates in this initiative by hiring a Commissioning Agent, who
20 must provide two references from past projects OR be certified (by the Association of
21 Energy Engineers, American Society of Heating, Refrigerating and Air-Conditioning
22 Engineers, or Building Commissioning Association).

23
24 **Capability Building**

25 The C&I Program will offer CDM market capability building activities for CDM service
26 providers such as training and certification.

Purpose of the Initiative:

The objectives of the Program are to:

- Assist owners and operators of Industrial buildings, achieve reduced demand and energy savings through the purchase and operation of energy efficient equipment.
- Facilitate a culture of conservation among these communities and the equipment supply chains that serve them.

1 **HYDRO ONE PROPOSED BOARD-APPROVED CDM PROGRAMS**

2

3

4 **Residential Programs**

5 1. Community Education

6 2. Neighbourhood Benchmarking

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9 **Commercial and Industrial Programs**

10 3. Monitoring and Targeting

11 4. Small Commercial Energy Management and Load Control

12 5. Municipal and Hospital Energy Efficiency Performance

13 6. Double Return Plus

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PROPOSED BOARD-APPROVED CDM PROGRAMS

RESIDENTIAL PROGRAMS

BOARD-APPROVED CDM PROGRAMS

RESIDENTIAL PROGRAM

Initiative Number: 1

Initiative Name: Community Education

Year(s) of Operation for the Initiative: 2011- 2014

Initiative Frequency: Year-Round Initiative

Target Customer Type(s): Residential Customers

1. Initiative Description

This Initiative focuses on customer education and promotes the exchange of information between the utility and its consumers at local community events. Hydro One projects attendance at these local community events to reach approximately 150,000 people per year. The delivery of the Initiative will rely on a community events partner to help represent Hydro One at local community events throughout the Province.

2. Non-Duplicative Features of the Initiative

The OPA-Contracted programs do not provide an initiative similar to the Community Education Program. The Community Education program focuses on customer education and promotes the exchange of information between the utility and its customers at local community events. This program relies on face-to-face interactions with customers, which has proven to be successful in changing social norms and influencing customer behaviour of Hydro One customers. This program is especially needed to address customers who are living in “hard-to-reach”, low density, rural communities. While the OPA Consumer Enabling Initiative features an online education component, we believe it is not an effective method for educating all of Hydro One’s customers since there is a very sizable segment of Hydro One’s customers (almost 50%) who do not have high-speed internet access.

1
2 **3. Background**

3 Hydro One is committed to promoting a culture of conservation in Ontario. Hydro One
4 plays an active role as “Leaders in the Community” and participates in a variety of annual
5 community events, which provide the Company the opportunity to educate residential
6 customers about the importance of conservation and provide them with the tools they
7 need to help them save energy.

8
9 Hydro One serves over 1.2 million customers, 1.1 million of which are residential
10 customers. Our residential customers represent a mix of urban, rural and seasonal
11 customers who live in over 350 communities scattered across the Province. Hydro One
12 customer density is low: there are approximately 10 customers per km of distribution
13 line or 2 customers per sq km of total service area. The geography is vast, as Hydro
14 One’s service territory stretches from Pelee Island in the southwest to Vankleek Hill in
15 the east and Kenora in the northwest.

16
17 Promoting a culture of conservation to our customers using typical mass marketing
18 techniques has proven to be both expensive and challenging. By attending local
19 community events, we get an opportunity to engage in “face-to-face” discussions. These
20 discussions allow us to educate consumers on the topic of conservation and promote our
21 CDM programs. Previous experience has proven this approach to be an effective way to
22 promote conservation and reach a deeper level of discussion with our customers (beyond
23 the bill insert). Face-to-face engagement allows us to educate consumers, answer
24 questions, remove barriers and drive participation for our other CDM programs.

25
26 **4. Initiative Elements**

27 Given the vast territory serviced by Hydro One and the number of relatively small
28 communities that do not have easy access to the “Province-Wide” marketing and

1 communications campaigns, this Initiative will help us to educate our consumers and
2 build awareness of conservation issues and drive participation in conservation initiatives.

3
4 Initiative elements are:

- 5 • Plan to participate in up to 40 – 50 community events each year across our extensive
6 service territory (events will be selected based on various criteria, including
7 anticipated attendance at each event, consideration of community coverage across
8 Hydro One service territory, etc.)
- 9 • Educate consumers on the topic of conservation using various techniques (including
10 brochures, videos, etc.)
- 11 • Actively promote and market our conservation programs
- 12 • Distribute energy efficient products which will encourage customers to “get started”
13 with low-cost measures (e.g. plug-in timers, compact fluorescent lamps (“CFL”),
14 power bars, etc.)
- 15 • Distribute conservation literature and tips on ways to save energy and save money
- 16 • Incorporate Time-of-Use messages and promote conservation actions that will help
17 customers better manage their energy bill
- 18 • “Lead by Example” and act as champions of change in local communities

19
20 **5. Purpose of the Initiative**

- 21 • Customer education (on both Conservation and Time-of-Use)
- 22 • Build strong customer relationships that promote conservation culture
- 23 • Deliver face-to-face conservation messages to “low density” areas, where the
24 overarching Province-wide marketing tactics are less effective and require additional
25 reinforcement
- 26 • Drive participation for all conservation programs
- 27 • Remove barriers which have prevented customers from participating in conservation
28 programs in the past

- Influence social norms in local communities – social change strategy to promote a culture of conservation
- Distribute low-cost energy efficient measures which provide energy savings results

6. Projected reduction in Peak Electricity Demand (MW)

Hydro One has used the OPA's Measures and Assumptions Lists to calculate the peak demand reduction for the 2011 to 2014 period. Coincident peak demand reduction by the end of 2014 is projected to be 0.15MW.

Total Peak Reduction (MW) 2011-2014					
	2011	2012	2013	2014	Total Coincident Peak Demand Reduction by the end of 2014 (MW)
Community Education Initiative (MW)	0.03	0.07	0.11	0.15	0.15

7. Projected Reduction in Electricity Consumption (MWh):

Hydro One has used the OPA's Measures and Assumptions Lists to calculate the energy consumption reduction for the 2011 to 2014 period. Projected energy consumption reduction by 2014 is projected to be 10,450MWh.

Total Energy Reduction (MWh) 2011-2014					
	2011	2012	2013	2014	Total Energy Reduction Cumulative (2011-2014)
Community Education Initiative (MWh)	870	2,030	3,200	4,350	10,450

8. Projected Budget

The total projected budget for the four year Initiative is approximately \$1.3 million, inclusive of [REDACTED] energy efficient giveaways.

1

Community Education Initiative - Budget (\$) 2011-2014					
	2011	2012	2013	2014	Total 2011-2014
Marginal costs					
Fixed costs					
Event Planning and Administration					
Post-Event Reporting (Events Evaluation)					
Total Fixed costs					
Allocable costs					
Fixed Costs					
Overhead					
Total Fixed Costs					
Total Program Costs					
Incentives (promotional giveaways)					
Total Budget*	\$ 337,500	\$ 337,500	\$ 337,500	\$ 337,500	\$1,350,000

* Given the nature of the community Events initiatives i.e. educational program, the terms of the EM&V study will need to be determined.

2

3

9. Cost-Effectiveness Tests Results

- TRC: 1.7
- PAC: 1.6

7

10. Draft Evaluation plan

Hydro One will ensure that the Community Events Initiative will be evaluated in accordance with the OPA's EM&V Protocol for any custom measures not included in the OPA's Measures and Assumption List. A Draft Evaluation Plan is attached based on the most current version available on the OPA's website as of Oct. 15, 2010. The Initiative Final Evaluation plan will be prepared by an independent third party. The selection of the evaluation criteria and detailed elements of the Evaluation Plan will be determined by the independent third party. Measurement and verification of Initiative peak demand

15

Filed: November 1, 2010

Exhibit C

Tab 1

Schedule 2

Page 8 of 67

1 savings (kW) and electricity savings (kWh) results will be conducted by a third party
2 review contractor selected through an RFP process from the OPA's "Third Party Vendor
3 of Record" list once the Initiative is approved.

4

5 The following is a DRAFT EVALUATION PLAN TEMPLATE:

1 **COMMUNITY EVENTS INITIATIVE**
2
3 **OPA DRAFT EVALUATION PLAN TEMPLATE**

<p>Program Description</p>	<p>Description (see section 1 & 4)</p> <p>Key Program Elements (see section 4)</p> <p>Goals and Objectives (see section 2 & 5)</p> <p>Program Theory (see section 3)</p> <p>Program Timing (Subject to funding approval from the Board) Program Launch Date: January 1, 2011</p> <p>All program elements are expected to be deliverable commencing immediately after the program launch date.</p> <p>Program end date: December 31, 2014</p> <p>Estimated Participation and Results (see sections 6, 7 & 9)</p> <p>Draft Budget (see Section 8)</p>
<p>Conservation Measures</p>	<p>Equipment-based Measures:</p> <p>Assumptions for measures considered eligible under the Initiative that are included in the OPA’s Measures and Assumptions List.</p>
<p>Evaluation Goals and Objectives</p>	<p>Evaluation Goals and Objectives</p> <ul style="list-style-type: none"> • i) Process Design Effectiveness • ii) Program Administration Effectiveness • iii) Measures and Assumptions Review • iv) Establish gross and net energy savings and demand reductions achieved • v) Estimate Program Cost-Effectiveness • vi) Special Provisions

Evaluation Deliverables	Evaluation Deliverables <ul style="list-style-type: none"> • Final Program Evaluation Plan • Annual Report – elements • Final Report
Evaluation Description	<p>The elements of the Evaluation Goals and Objectives are anticipated to include, without limitation, those listed in the corresponding sections below. It is expected that these elements will be reviewed, discussed, evaluated or analyzed as appropriate and according to the OPA’s EM&V Protocols to ensure that they meet the Program Evaluation Goals and Objectives during the Draft Evaluation Plan development phase. Review of these elements will assist Hydro One in determining and/or validating the appropriateness of the program design, administration and measures assumption elements and whether adjustments are necessary to successfully deliver the Initiative and to achieve the anticipated Goals and Objectives and estimated participation and results.</p>

1

2

Evaluation Elements	<p>i) Program Process Design Effectiveness - Evaluation criteria:</p> <ul style="list-style-type: none"> • Goals of program • Staffing and training • Program timing and timelines • Use of new procedures and best practices • Eligibility and participants – original assumptions vs. actual • Events implementation – results of program participation from event • Incentives and motivation for participation • Customer satisfaction feedback – participant satisfaction • Non participant feedback • Monitoring and tracking procedures • Roles and responsibilities of team members and stakeholders • Reporting procedures <p>ii) Program Administration Effectiveness - Evaluation Criteria:</p> <ul style="list-style-type: none"> • Program statistics – including participants, calculations of energy and demand reductions etc. • Program Impact Evaluation • Market Effects Assessment • Pre- and post-Project Analysis Assessment • Marketing Effectiveness Assessment
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	<ul style="list-style-type: none"> • Expense Reporting • Market Participant review <p>iii) Measures and Performance Assumptions Review:</p> <ul style="list-style-type: none"> • Prescriptive Measures Assumptions Review • Custom Measures Assumptions Review • Behavioural and Performance Assumptions Review <p>iv) Gross and Net Energy Savings and Demand Reductions Achieved: **to be performed by a third party based on the OPA's EM&V protocols</p> <ul style="list-style-type: none"> • Measurement and verification of program energy and demand savings achieved • Net to Gross ratio (including free rider rate) • Audit and Verification of project completion <p>v) Program Cost Effectiveness:</p> <ul style="list-style-type: none"> • Verification of program expenditures • Verification of program funding and payments • Cost benefit Analysis – funding vs. program performance
Special Provisions	<p>Special Provisions: N/A</p>
Data Collection Responsibilities to Support Program Evaluation	<p>This area is still under development and will be completed with the assistance of a third party EM&V expert to ensure complete and appropriate collection of data to support Program evaluation.</p> <ul style="list-style-type: none"> • List of Planned Events (Dates, Locations, Contacts, Nature of Event, Anticipated Attendance) • List of Completed Events (Dates, Locations, Contacts, Nature of Event & Actual Attendance Numbers) • List of Planned Giveaways (Descriptions & Anticipated Numbers) • List of Actual Giveaways Distributed (Descriptions & Final Numbers)

Evaluation Schedule & Budget	Evaluation Deliverable	Budget	Date
	Draft Evaluation Plan	TBD	TBD
	Final Evaluation Plan	TBD	TBD
	Verification of Projects	TBD	TBD
	Verification of Energy Reductions	TBD	TBD
	Verification of Program Costs	TBD	TBD
	Draft Final Evaluation Report	TBD	TBD
	Final Evaluation report	TBD	TBD
	Total Evaluation Budget		
Evaluation Team	Organization	Name	Title / Accountability
	Hydro One	TBD	Program Manager
	Hydro One	TBD	Senior Conservation Analyst
	3 rd party (Final Evaluation Plan Development)	TBD	TBD
	3 rd Party Measurement and Verification Contractor (selected from OPA "Third Party Vendor of Record" list	TBD	TBD

BOARD-APPROVED CDM PROGRAM

RESIDENTIAL PROGRAM

Initiative Number: 2

Initiative Name: Neighbourhood Benchmarking

Year(s) of Operation for the Initiative: 2011 to 2014

Initiative Frequency: Year round

Target Customer Type(s): Residential

1. Initiative Description:

Customers will receive a paper-based “Home Energy Report” that offers insights about their individual energy use as well as a comparison with their neighbourhood energy use. Hydro One plans to distribute reports to 50,000 of the highest use Residential customers (i.e. over 1,500 kWh per month), who will receive a paper-based report as well as password-protected, web access to the data. Hydro One will work with members of the Coalition of Large Distributors (“CLD”) to issue a joint RFP to search for a third party supplier who can provide a turnkey solution to support this program.

2. Non Duplicative Features of the Initiative

Neighbourhood Benchmarking is non-duplicative from all OPA-Contracted Initiatives as it is the only program that addresses behavioural changes based on peer comparison and influence. This program provides customers with a customized Home Energy Report that offers insights about their individual energy use as well as a comparison with their neighbourhood energy use.

Neighbourhood Benchmarking has been proven successful in other jurisdictions, where pilots/programs have shown that significant savings can be achieved by benchmarking household energy usage and comparing it to the neighbours (i.e. peer group with similar attributes).

1 **3. Background**

2 This program is centred on a paper-based “Home Energy Report” which is mailed to
3 consumers that offers insights about their individual energy use and offers a comparison
4 with their neighbourhood energy use. The neighbourhood comparison data helps
5 consumers understand “how they are doing” in comparison to their neighbours. The
6 information motivates them to take action and reduce their household energy use.

7
8 The information shown on the report is customized to meet the needs of each individual
9 household. In each case, customer load profile data collected from the smart meter will
10 be used to help identify the areas of opportunity (i.e. to improve energy efficiency and
11 promote conservation). The “Home Energy Report” will translate the individual energy
12 usage patterns into meaningful insights coupled with targeted action steps. The report
13 will offer energy recommendations that are specifically tailored to meet the needs of the
14 customer.

15
16 This Initiative is organized around two concepts – motivating behaviour change and
17 providing relevant, targeted information to the consumer. The Initiative is based on
18 proven behavioural science which indicates that an effective way to motivate people is to
19 provide peer context for their energy use. This is accomplished by dynamically creating
20 a 100-home comparison group for each home that only compares homes with similar
21 characteristics (square footage, heating type, billing cycle, geographic proximity, etc.).
22 This behavioural science-driven model has proven results with over 20 U.S. utilities
23 which indicate that people will take action to conserve energy when they are made aware
24 of how their energy usage pattern compares with their neighbours (or peers). It is
25 important to note that this Initiative is based on a similar social marketing concept which
26 contributed to the success of our provincial recycling Initiative, i.e. Blue Box Program.

27
28 The software platform required to support this Initiative will incorporate these
29 behavioural science techniques along with detailed statistical analysis and intelligent

1 customer segmentation modeling. The results of the Home Energy Reporting system will
2 be measured using a proven scientific test and control group methodology. By using test
3 and control groups, we will be able to isolate and cleanly evaluate the impact of the
4 program. This test and control methodology has already been endorsed in the California
5 Evaluators Protocols and the guidelines for the National Action Plan for Energy
6 Efficiency, which was jointly produced by the US Department of Energy and the
7 Environmental Protection Agency.

8
9 Hydro One plans to distribute the “Home Energy Reports” to approximately 50,000 high-
10 use customers who will also be provided web access to their data. This same number of
11 customers will be represented in both the “test” and “control” groups. This represents a
12 conservative implementation approach which will allow us to monitor and manage
13 customer feedback and mitigate any potential risks associated with a new program.

14 15 **4. Initiative Elements**

16 The key initiative elements are:

- 17 • Hydro One will work with members of the Coalition of Large Distributors (“CLD”)
18 to issue a joint RFP to search for a third party supplier who can provide a turnkey
19 solution to support this program.
- 20 • A *Home Energy Report* (paper-based report card) is mailed to customers on a regular
21 basis throughout the year (typically several days after bill mailing)
- 22 • The mailing schedule is predetermined and intended to serve as reminders to help
23 influence behaviour change
- 24 • The information provided to the customer in the report card includes:
 - 25 ○ Comparison of current, individual usage to closest “neighbours” or “peers”
 - 26 ○ Comparison of current individual usage to the most “efficient neighbours”
 - 27 ○ Comparison of current individual usage to historical usage, i.e. “same time last
28 year”

- Helpful information regarding “typical household energy use” broken down into categories – heating (or cooling), water heating, other appliances and electronics
- Recommendations and promotion of LDC conservation programs
- The specific, personalized insights provided allow customers to make informed decisions regarding their energy use and prompts them to take action and conserve energy
- The software platform should deliver messages to the customer supported by the following communication channels:
 - Comparative Home Energy Reports – mailed to customers several times a year, simple to understand, designed to reach and engage customers
 - Consumer Energy Web Portal – available to those customers who are receiving the Home Energy Report Card. Customers will receive password protected access to web-based info which will allow them to learn more about their energy use, share best practises and gain insight into efficiency tips
 - Call Centre Support – provided by LDC trained staff

5. Purpose of the Initiative

The objective is to provide customers with peer group information. This information is intended to motivate them to take action, conserve energy and encourage new behaviours. The Initiative has both a measurable energy efficiency component as well as a customer education component.

At a higher level, the purpose of this Initiative is to:

- achieve measurable energy conservation results (kW & kWh savings)
- support market transformation by encouraging behaviour change
- educate residential customers about the benefits conservation and provide helpful household energy saving tips
- promote participation in provincial conservation programs

6. Projected Reduction in Peak Electricity Demand (MW):

Hydro One projects the coincident peak demand reduction by the end of 2014 to be 2MW.

Total Peak Reduction (MW) 2011-2014					
	2011	2012	2013	2014	Total Coincident Peak Demand Reduction by the end of 2014 (MW)
Neighbourhood benchmarking (MW)	0.6	1.9	1.9	1.9	1.9

7. Projected Reduction in Electricity Consumption (MWh)

Projected cumulative energy consumption reduction for the years 2011-2014 is projected to be 60,825 MWh.

Total Energy Reduction (MWh) 2011-2014					
	2011	2012	2013	2014	Total Energy Reduction Cumulative (2011-2014)
Neighbourhood benchmarking (MWh)	5,700	18,375	18,375	18,375	60,825

8. Projected Budget

The estimated total Initiative cost is approximately \$3.2 million, which includes administrative costs, marketing costs, and behind the meter services.

Social Benchmarking - Initiative Budget (\$) 2011-2014					
	2011	2012	2013	2014	Total 2011-2014
Marginal costs					
Fixed costs					
Administrative costs					
Setup and data management					
Home energy reports and Web					
Advanced Features					
Data Transfers					
EM&V					
Total Fixed costs					
Allocable costs					
Fixed Costs					
Overhead					
Total Fixed Costs					
Total Program Costs					
Incentives					
Total Budget	\$ 840,000	\$ 770,000	\$ 770,000	\$ 770,000	\$ 3,150,000

9. Cost-Effectiveness Tests Results:

- TRC: 1.2
- PAC: 1.2

10. Draft Evaluation Plan:

Hydro One will ensure that the Neighbourhood Benchmarking Initiative will be evaluated in accordance with the OPA's EM&V Protocol for any custom measures not included in the OPA's Measures and Assumption List. A Draft Evaluation Plan is attached based on the most current version available on the OPA's website as of Oct. 15, 2010. The Initiative Final Evaluation Plan will be prepared by an independent third party. The selection of the evaluation criteria and detailed elements of the Evaluation Plan will be determined by the independent third party. Measurement and verification of Initiative peak demand savings (kW) and electricity savings (kWh) results will be conducted by a

1 third party review contractor selected through an RFP process from the OPA's "Third
2 Party Vendor of Record" list once the Initiative is approved.

3
4 The following is a DRAFT EVALUATION PLAN TEMPLATE:
5

NEIGHBOURHOOD BENCHMARKING INITIATIVE
OPA DRAFT EVALUATION PLAN TEMPLATE

<p>Program Description</p>	<p>Description (see section 1)</p> <p>Key Program Elements (see section 4)</p> <p>Goals and Objectives (see sections 5, 6 and 7)</p> <p>Program Theory (see section 3)</p> <p>Program Timing (subject to funding approval from the Board) Program Launch Date: July 1, 2011</p> <p>All program elements are expected to be deliverable commencing immediately after the program launch date.</p> <p>Program end date: December 31, 2014</p> <p>Estimated Participation and Results (see sections 4, 6, 7 & 9)</p> <p>Draft Budget (see Section 8)</p>
<p>Conservation Measures</p>	<p><i>Equipment-based Measures:</i> N/A</p> <p><i>Non-Equipment-based Measures may include:</i></p> <ul style="list-style-type: none"> • Behavioural Change
<p>Evaluation Goals and Objectives</p>	<p>Evaluation Goals and Objectives</p> <ul style="list-style-type: none"> • i) Process Design Effectiveness • ii) Program Administration Effectiveness • iii) Establish gross and net energy savings and demand reductions achieved • iv) Estimate Program Cost-Effectiveness

	<ul style="list-style-type: none"> v) Special Provisions
Evaluation Deliverables	Evaluation Deliverables <ul style="list-style-type: none"> Final Program Evaluation Plan Annual Report – elements Final Report
Evaluation Description	<p>The evaluation elements of the Evaluation Goals and Objectives are anticipated to include (but are not limited to) those listed in the corresponding sections below. It is expected that these elements will be reviewed, discussed, evaluated or analyzed as appropriate and according to the OPA’s EM&V Protocols to ensure that they meet the Program Evaluation Goals and Objectives during the Draft Evaluation Plan development phase. Review of these elements will assist Hydro One in determining and/or validating the appropriateness of the program design, administration and measures assumption elements and whether adjustments are necessary in order to successfully deliver the Initiative and to achieve the anticipated Goals and Objectives and estimated participation and results.</p>

1

Evaluation Elements	<p>i) Program Process Design Effectiveness - Evaluation criteria:</p> <ul style="list-style-type: none"> Goals of program Program timing and timelines Use of new procedures and best practices original assumptions vs. actual Customer satisfaction feedback – participant satisfaction Non participant feedback Monitoring and tracking procedures Roles and responsibilities of team members and stakeholders Reporting procedures <p>ii) Program Administration Effectiveness - Evaluation Criteria:</p> <ul style="list-style-type: none"> Program statistics – including participants, calculations of energy and demand reductions etc. Marketing Effectiveness Assessment Budget versus Actual Reporting Market Participant review
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	<p>iii) Measures and Performance Assumptions Review:</p> <ul style="list-style-type: none"> • Behavioural and Performance Assumptions Review <p>iv) Gross and Net Energy Savings and Demand Reductions Achieved: **to be performed by a third party based on the OPA's EM&V protocols</p> <ul style="list-style-type: none"> • Measurement and verification of program energy and demand savings achieved • Net to Gross ratio (including free rider rate) • Audit and Verification as required by Code <p>v) Program Cost Effectiveness:</p> <ul style="list-style-type: none"> • Verification of program expenditures versus budget
Special Provisions	<p>Special Provisions: N/A</p>
Data Collection Responsibilities to Support Program Evaluation	<p>This area is still under development and will be completed with the assistance of a third party EM&V expert to ensure complete and appropriate collection of data to support Program evaluation.</p> <p>Data collection on the following elements may be included:</p> <ul style="list-style-type: none"> • Historical energy data related to TEST GROUP & CONTROL GROUP (to support Baseline) • Total Number of Reports Sent to Customer • Total Number of Recommended Measures • Measured Impacts on Demand & Energy Consumption

Evaluation Schedule & Budget	Evaluation Deliverable	Budget	Date
	Draft Evaluation Plan	TBD	TBD
	Final Evaluation Plan	TBD	TBD
	Verification of Projects	TBD	TBD
	Verification of Energy Reductions	TBD	TBD
	Verification of Program Costs	TBD	TBD
	Draft Final Evaluation Report	TBD	TBD
	Final Evaluation report	TBD	TBD
	Total Evaluation Budget		
Evaluation Team	Organization	Name	Title / Accountability
	Hydro One	TBD	Program Manager Senior Conservation Analyst
	Hydro One	TBD	
	3 rd party (Final Evaluation Plan Development)	TBD	TBD
	3 rd Party Measurement and Verification Contractor (selected from OPA "Third Party Vendor of Record" list	TBD	TBD

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PROPOSED BOARD-APPROVED CDM PROGRAMS
COMMERCIAL AND INDUSTRIAL PROGRAMS

BOARD-APPROVED CDM PROGRAM

COMMERCIAL PROGRAM

Initiative Number: 3

Initiative Name: Monitoring and Targeting Initiative

Year(s) of Operation for the Initiative: 2011- 2014

Initiative Frequency: Year round

Target Customer Type(s): Medium and large commercial businesses with average demand above 200 kW; industrial customers with average demand over 200 kW and annual energy consumption of up to 15 GWh.

1. Initiative Description

The proposed Monitoring & Targeting ("M&T") Initiative is offered to industrial customers with annual energy consumption of up to 15GWh and to commercial businesses with average demand above 200kW. Potential participants will be offered financial incentive to install a monitoring and targeting system that assesses the energy use against key performance indicators such as productivity. M&T will assist these customers to better understand their energy performance. It will also give the participants an opportunity to benchmark their consumption against best practices by other similar businesses. The Initiative is intended to enable customers to achieve sustainable behavioural and continuous improvements. The Initiative will be offered between 2011 and 2014. By the end of the fourth year Hydro One expects to enrol about 2% of the target market in the M&T Initiative (between 35 and 40 commercial and industrial customers) and achieve approximately 5MW in peak demand reduction and over 10GWh in energy savings.

This Initiative offers financial incentives toward an M&T system up to a maximum of [REDACTED] per M&T installation as well as performance incentives up to [REDACTED] for

1 achieved energy savings. In addition, the participants will receive a full range of behind-
2 the-meter services to assist customers to implement energy efficiency improvements.

3
4 The Initiative delivery will be carried out by various third party vendors, although Hydro
5 One will be the primary point of contact for participants and interested customers. M&T
6 system providers as well as energy managers will also play a key role in the delivery of
7 the Initiative by providing ongoing assistance to customers throughout the project cycles.

8 9 **2. Non Duplicative Features of the Initiative**

10 The distinct elements of the Initiative are:

- 11 • Based on the OPA's Industrial Accelerator ("IA") participation rules, only 300
12 industrial customers out of 1,900 Hydro One C&I customers with annual energy
13 consumption over 15 GWh would qualify to receive an M&T system. The proposed
14 Initiative is intended to address the needs of the remaining 1,600 customers with less
15 than 15 GWh of annual consumption.
- 16 • In the OPA's IA Initiative, M&T is offered merely as an enabler to assist with capital
17 projects. The proposed M&T Initiative, by contrast, is a comprehensive, all-
18 encompassing Initiative that will assist participants to undertake M&T as the main
19 project and not merely as an enabler.
- 20 • This Initiative will also provide a full range of behind-the meter services (e.g.
21 customized website with specific customer consumption information, on-site visits
22 and M&T workshops), not offered in the OPA-contracted Initiatives.

23 24 **3. Initiative Elements**

25 The key Initiative offerings include:

26
27 **M&T system funding:** the proposed Initiative offers financial assistance of [REDACTED] per
28 expected kW savings, up to a maximum of [REDACTED] towards the purchase of an M&T

1 system. Customers that agree to install an M&T system will be required to commit
2 contractually to a minimum term of four years.

3
4 **Performance Incentives:** this Initiative offers the participants a performance incentive of
5 [REDACTED] based on four year annualized verified energy savings, which will be paid out
6 in annual instalments.

7
8 **Behind-the-meter services:** this Initiative will offer ongoing technical services,
9 including:

- 10 • customized online information
11 • expert site visits
12 • project management assistance
13 • employee engagement kits
14 • M&T workshops

15
16 Additional Initiative offerings include:

17
18 **Operational and process driven improvements:** the proposed Initiative will help
19 customers understand the impact of operational and process improvements to achieve
20 energy savings and help identify low-cost or no-cost opportunities.

21
22 **Educational component:** the proposed Initiative will provide training sessions and
23 workshops to educate customers on energy efficiency drivers and their energy usage.

24
25 **Buy-in from senior management:** The Initiative will ensure that customer's senior
26 management fully support the M&T project to establish it as a continuous improvement
27 process.

4. Purpose of the Initiative

The M&T Initiative will offer the key elements required to assist the medium-to-large C&I sectors in the successful pursuit of continuous and deeper energy savings beyond the traditional C/I CDM programs that focus only on technology or equipment replacement.

5. Projected Reduction in Peak Provincial Electricity Demand (MW):

Projected coincident peak demand reduction by end of 2014 is 4.8MW.

Total Peak Reduction (MW) 2011-2014					
	2011	2012	2013	2014	Total Coincident Peak Demand Reduction by end of 2014 (MW)
M&T Peak Demand reduction (MW)	-	1.6	3.2	4.8	4.8

*Peak demand savings are expected to be achieved from 2012 onward because of the nature of the Initiative and business cycle

6. Projected Reduction in Electricity Consumption (MWh):

Projected energy consumption reduction by 2014 is estimated at 10,450MWh.

Total Energy Conservation Reduction (MWh) 2011-2014					
	2011*	2012	2013	2014	Total Energy Reduction Cumulative (2011-2014)
M&T Energy Consumption reduction (MWh)	-	1,750	3,500	5,200	10,450

**Peak demand savings are expected to be achieved from 2012 onward because of the nature of the Initiative and business cycle

7. Projected budget

The total cost of the Initiative will be approximately \$4.3 million, inclusive of over [REDACTED] in financial incentives to customers as well as [REDACTED] in financial incentives towards the M&T system

Monitoring & Targeting (M&T) - Budget (\$) 2011- 2014					
Program costs	2011	2012	2013	2014	Total 2011-2014
Marginal costs					
<i>Fixed</i>					
Administrative costs	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
Marketing & Site visits	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
EM&V	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
Total Fixed	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
<i>Variable</i>					
M&T System*	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
Total variable	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
Total Marginal costs	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
Allocable costs					
<i>Fixed Allocable</i>	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
<i>Variable Allocable</i>	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
Total Allocable costs	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
Total Program Cost	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
Performance Incentives 5 cents per kWh	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
Total Program Budget	\$ 1,106,000	\$ 1,286,000	\$ 1,286,000	\$ 572,000	\$ 4,250,000

*Note: Incentive towards the M&T system (up to [REDACTED] per applicant) will be provided for the first three years, to ensure that there is enough time to identify and achieve energy savings opportunities. Average incentive per participant is assumed to be approx. [REDACTED]

Note: The total budget shown above is projected to be allocated between commercial and industrial participants on a 40/60 basis, respectively.

8. Cost Effectiveness Tests Results:

- TRC: 1.6

- PAC: 1.5

9. Draft Evaluation Plan:

Hydro One will ensure that the Monitoring and Targeting Initiative will be evaluated in accordance with the OPA's EM&V for any custom measures not included in the OPA's Measures and Assumption List. A Draft Evaluation Plan is attached based on the most current version available on the OPA's website as of Oct. 15, 2010. The Initiative Final Evaluation Plan will be prepared by an independent third party. The selection of the evaluation criteria and detailed elements of the Evaluation Plan will be determined by the independent third party. Measurement and verification of Initiative peak demand savings (kW) and electricity savings (kWh) results will be conducted by a third party review contractor selected through an RFP process from the OPA's "Third Party Vendor of Record" list once the Initiative is approved.

The following is a DRAFT EVALUATION PLAN TEMPLATE:

1 **MONITORING AND TARGETING INITIATIVE**
2
3 **OPA DRAFT EVALUATION PLAN TEMPLATE**
4

<p>Program Description</p>	<p>Description: See Section 1</p> <p>Key Program Elements: See Sections 2 and 3</p> <p>Goals and Objectives: See Section 4</p> <p>Program Theory: See Sections 1 and 2</p> <p>Program Timing (Subject to funding approval from the Board) Program Launch Date: January 1, 2011</p> <p>Program End Date: December 31, 2014</p> <p>Estimated Participation and Results: See Sections 1,5 and 6</p> <p>Draft Budget: See Section 7</p>
<p>Conservation Measures</p>	<p>Non-Equipment-based measures may include:</p> <ul style="list-style-type: none"> • Process driven changes <p>Equipment-based measures include: N/A</p>
<p>Evaluation Goals and Objectives</p>	<p>Evaluation Goals and Objectives</p> <ul style="list-style-type: none"> • i) Process Design Effectiveness • ii) Program Administration Effectiveness • iii) Measures and Assumptions Review • iv) Establish gross and net energy savings and demand reductions achieved • v) Estimate Program Cost-Effectiveness • vi) Ensure Level of Customer Satisfaction

Evaluation Deliverables	Evaluation Deliverables <ul style="list-style-type: none"> • Draft Evaluation Plan • Final Program Evaluation Plan • Annual Report – Elements • Final Report
Evaluation Description	<p>The evaluation elements of the Evaluation Goals and Objectives are anticipated to include, without limitation, those listed in the corresponding sections below. It is expected that these elements will be reviewed, discussed, evaluated or analyzed as appropriate and according to the OPA’s EM&V Protocols to ensure that they meet the Program Evaluation Goals and Objectives during the Draft Evaluation Plan development phase. Review of these elements will assist Hydro One in determining and/or validating the appropriateness of the program design, administration and measures assumption elements and whether adjustments are necessary in order to successfully deliver the Initiative and to achieve the anticipated goals and objectives and estimated participation and results.</p>

1

Evaluation Elements	<p>i) Program Process Design Effectiveness - Evaluation criteria:</p> <ul style="list-style-type: none"> • Goals of program • Staffing and training • Program timing and timelines • Incentives and motivation for participation • Participant satisfaction feedback • Non participant feedback back – participant satisfaction • Monitoring and tracking procedures • Reporting procedures <p>ii) Program Administration Effectiveness - Evaluation Criteria:</p> <ul style="list-style-type: none"> • Program statistics – including participants, calculations of energy and demand reductions etc. • Program Impact Evaluation • Pre- and post-Project Analysis Assessment • Marketing Effectiveness Assessment • Actual versus Budget Reporting • Market Participant review <p>iii) Measures and Performance Assumptions Review:</p> <ul style="list-style-type: none"> • Custom Measures Assumptions Review • Behavioural and Performance Assumptions Review
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	<p>iv) Gross and Net Energy Savings and Demand Reductions Achieved: **to be performed by a third party based on the OPA's EM&V protocols</p> <ul style="list-style-type: none"> • Measurement and verification of program energy and demand savings achieved • Net to Gross ratio (including free rider rate) • Audit and Verification of project completion <p>v) Program Cost Effectiveness:</p> <ul style="list-style-type: none"> • Verification of program expenditures versus budget • Verification of incurred payments
Special Provisions	N/A
Data Collection Responsibilities to Support Program Evaluation	<p>This area is still under development and will be completed with the assistance of a third party EM&V expert to ensure complete and appropriate collection of data to support Program evaluation.</p> <p>Data collection and evaluation activities anticipated to support the evaluation of the Initiative may include the following:</p> <ul style="list-style-type: none"> • Historical account consumption data • Number of participants • Program Costs • Program incentives • Customer site attributes • Program delivery metrics • Interviews with Initiative designers, delivery agents, administrators • Interviews with market allies and market channel reps • Interviews with participants and non-participants • M&T system costs (supported by invoices)

Evaluation Schedule & Budget	Evaluation Deliverable	Budget	Date
	Draft Evaluation Plan	TBD	TBD
	Final Evaluation Plan	TBD	TBD
	Verification of Projects	TBD	TBD
	Verification of Energy Reductions	TBD	TBD
	Verification of Program Costs	TBD	TBD
	Draft Final Evaluation Report	TBD	TBD
	Final Evaluation report	TBD	TBD
	Total Evaluation Budget		
Evaluation Team	Organization	Name	Title / Accountability
	Hydro One	TBD	Program Manager
	Hydro One	TBD	Senior Conservation Analyst
	3 rd party (Final Evaluation Plan Development)	TBD	TBD
	3 rd Party Measurement and Verification Contractor (selected from OPA "Third Party Vendor of Record" list	TBD	TBD

BOARD-APPROVED CDM PROGRAM

COMMERCIAL PROGRAM

Initiative Number: 4

Initiative Name: Small Commercial Energy Management and Load Control

Year(s) of Operation for the Initiative: 2011- 2014

Initiative Frequency: Year round

Target Customer Type(s): Small- and medium-size General Service customers with
average monthly peak demand of up to 200kW

1. Initiative Description:

This is an Energy Management and Demand Response Initiative that aims at helping approximately 85,000 small- and medium-size General Service customers with average monthly peak demand of up to 200kW to reduce their energy consumption by 20GWh and peak system demand by 20MW over the term of the Initiative. Hydro One expects to enrol approximately 5,500 customers by the end of 2014.

The program will offer an Energy Management System as well as load control devices (e.g., switches) for end-use control. The Energy Management System ("EMS") included in this Initiative will assist in initiating load control events as well as help customers to achieve energy savings.

This Initiative will be delivered through a third-party vendor selected through a competitive bidding process. The implementation vendor will be responsible for marketing, installing and maintaining all equipment, and tracking and reporting results. Hydro One staff will coordinate the Initiative deployment and provide assistance to the vendors, as needed, while ensuring that the program delivery milestones, targets and timelines are met.

Hydro One will issue an RFP to select a viable demand response system with the required energy management functions for the participating customers to use. The selected EMS system will meet the functional and technical requirements of both Hydro One and the program participants. Rigorous system acceptance testing will be performed on the selected system based on well-defined test conditions to ensure the suitability of the system for program deployment.

2. Non-Duplicative Features of the Initiative

The distinct elements of the Initiative are:

- The proposed Initiative is solely designed to meet the needs of small commercial customers with up to 200kW load. This Initiative stands in contrast to the OPA-contracted Residential Demand Response Initiative which is primarily intended to meet the needs of residential customers. Although the OPA Initiative has been offered to small commercial customers (under 50kW load), over the last three years the participation rate has remained very limited (less than 1%) and OPA projected uptake to 2014 remains at less than 1%.
- Another distinct feature of the proposed Initiative is the targeting of a broader commercial customer group compared to the OPA Residential Demand Response Initiative. The proposed Initiative is offered to customers below 50kW and is extended to customers with peak load greater than 50kW and up to 200kW.
- The proposed Initiative is distinct from the OPA Residential Demand Response Program as it provides customers with an EMS system that can assist them to take full advantage of TOU rates. Unlike the OPA Residential Demand Response, the proposed Initiative covers the monthly fee required to allow the customers to have access to the full use of the EMS system that is installed in their premises. As a result, the system is used for both demand response and the customers' energy efficiency/TOU purposes.

- One of the distinct features of this program is the offering of technical assistance to the participants on an ongoing basis. At the point of installation, customers will receive training from the EMS installers for programming the EMS system to save energy and take advantage of TOU rates. The program will also provide online technical support to customers throughout the year.

3. Initiative Elements

The key Initiative offerings include:

- The program offers an installed Energy Management system and end-use load control devices, such as a switch. The value of this offering including installation cost is estimated at approximately [REDACTED] which will be fully funded by Hydro One. This system will provide small commercial establishments with a programmable energy management tool to monitor and control their energy use to save energy and reduce their peak demand. This system will also be used by Hydro One to initiate and execute load control events.
- To allow the customer to exploit the full potential of the EMS system Hydro One will cover the monthly EMS access fee on behalf of the customer - valued at [REDACTED] over four years.
- Participants in the load control events will receive a \$10 incentive per event up to 15 events in a year to an annual total of \$150.
- At the point of installation customers will receive training from the EMS installers for programming the EMS system to save energy and take advantage of TOU rates. The program will also provide online technical support to assist the customers to program the EMS system.

4. Background

While general service customers under 50kW are eligible to participate in the *PeakSaver* Program, so far less than one percent of this customer group has participated in the program. This is primarily due to the fact that the *PeakSaver* Program is designed to

respond to the needs of residential customers. This is the foundation of the need for the proposed Initiative – i.e. to specifically address the needs of the small commercial customers by helping them to better manage their energy usage and to take advantage of the upcoming TOU rates.

5. Purpose of the Initiative

The purpose of this Initiative is two fold:

1. Provide Customer Benefits: provide business customers with an Energy Management System (“EMS”) that would help them monitor and control their energy consumption and/or bills in a time-of-use (“TOU”) environment. This will help customers manage their energy consumption and change their behaviour in a sustainable manner.
2. Provide System Benefits: enable the utility to install a load control device in customers’ businesses which, when activated, will reduce system peak load and increase the reliability of the electricity grid.

6. Projected Reduction in Peak Provincial Electricity Demand (MW):

Projected coincident peak demand reduction by the end of 2014 is 20MW.

Total Peak Reduction (MW) 2011-2014					
	2011	2012	2013	2014	Total coincident peak demand reduction by end of 2014 (MW)
Small Commercial Energy Management System & Load Control (MW)	2.8	8.4	14.2	20.0	20.0

7. Projected Reduction in Electricity Consumption (MWh):

Projected energy consumption reduction by 2014 is estimated at approximately 20,000MWh.

Total Energy Consumption Reduction (MWh) 2011-2014					
	2011	2012	2013	2014	Total Cumulative (2011-2014)
Small Commercial Energy Management System & Load Control (MWh)	1,200	3,750	6,250	8,950	20,150

8. Projected Budget

The total projected budget for this Initiative is \$15.2 million, inclusive of [REDACTED] in customer incentives

Program Budget Small Commercial Demand Response (\$) 2011-2014					
	2011*	2012	2013	2014	Total 2011-2014
Marginal costs					
Fixed costs					
Administrative costs					
Marketing					
Turn-key vendor					
EM&V					
Total Fixed Costs					
Variable Costs					
Turn-Key Vendor (Load Control + EMS installation)					
Total Variable Costs					
Allocable costs					
Fixed Overhead					
Variable Overhead					
Total Program Costs					
Incentives					
Total Budget	\$ 1,959,500	\$ 3,953,500	\$ 4,412,500	\$ 4,874,500	\$ 15,200,000

* Initiative deployment is expected to commence July 2011

9. Cost Effectiveness Tests Results

- TRC: 1.7
- PAC: 1.9

1 **10. Draft Evaluation Plan:**

2 Hydro One will ensure that the Commercial Energy Management and Load Control
3 Initiative will be evaluated in accordance with the OPA's EM&V Protocol for any
4 custom measures not included in the OPA's Measures and Assumption List. A Draft
5 Evaluation Plan is attached based on the most current version available on the OPA's
6 website as of Oct. 15, 2010. The Initiative Final Evaluation Plan will be prepared by an
7 independent third party. The selection of the evaluation criteria and detailed elements of
8 the Evaluation Plan will be determined by the independent third party. Measurement and
9 verification of Initiative peak demand savings (kW) and electricity savings (kWh) results
10 will be conducted by a third party review contractor selected through an RFP process
11 from the OPA's "Third Party Vendor of Record" list once the Initiative is approved.

12
13 The following is a DRAFT EVALUATION PLAN TEMPLATE:

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**SMALL AND MID SIZE COMMERCIAL ENERGY MANAGEMENT AND
LOAD CONTROL
OPA DRAFT EVALUATION PLAN TEMPLATE**

<p>Program Description</p>	<p>Description: See Sections 1 and 2</p> <p>Key Program Elements: See Section 1 and 3</p> <p>Goals and Objectives: See Sections 1 and 5</p> <p>Program Theory: See Sections 2,3 and 4</p> <p>Program Timing (subject to funding approval from the Board) Program Launch Date: July 1st, 2011</p> <p>All program elements are expected to be deliverable commencing immediately after the program launch date.</p> <p>Program end date: December 31, 2014</p> <p>Estimated Participation and Results: See Sections 1, 6 and 7</p> <p>Draft Budget: See Section 8</p>
<p>Conservation Measures</p>	<p>Behavioural Changes Energy Management System Load control service (included in the EMS system)</p>
<p>Evaluation Goals and Objectives</p>	<p>Evaluation Goals and Objectives</p> <ul style="list-style-type: none"> • i) Process Design Effectiveness • ii) Program Administration Effectiveness • iii) Establish gross and net energy savings and demand reductions

	<p>achieved</p> <ul style="list-style-type: none"> iv) Estimate Program Cost Effectiveness
Evaluation Deliverables	<p>Evaluation Deliverables</p> <ul style="list-style-type: none"> Draft Evaluation Plan Final Program Evaluation Plan Annual Report – elements Final Report
Evaluation Description	<p>The evaluation elements of the Evaluation Goals and Objectives are anticipated to include (but are not limited to) those listed in the corresponding sections below. It is expected that these elements will be reviewed, discussed, evaluated or analyzed as appropriate and according to the OPA’s EM&V Protocols to ensure that they meet the Program Evaluation Goals and Objectives during the Draft Evaluation Plan development phase. Review of these elements will assist Hydro One in determining and/or validating the appropriateness of the program design, administration and measures assumption elements and whether adjustments are necessary in order to successfully deliver the Initiative and to achieve the anticipated Goals and Objectives and estimated participation and results.</p>

1

Evaluation Elements	<p>i) Program Process Design Effectiveness - Evaluation criteria:</p> <ul style="list-style-type: none"> Staffing and training Program timing and timelines Use of new procedures and best practices Eligibility and participants – original assumptions vs. actual Procedure for load control event implementation – results of program participation from event Motivation for participation and incentive level Customer satisfaction feedback – participant satisfaction Non participant feedback Program management monitoring procedures Roles and responsibilities of team members and stakeholders Reporting procedures <p>ii) Program Administration Effectiveness - Evaluation Criteria:</p> <ul style="list-style-type: none"> Program statistics – including participants, calculations of energy and demand reductions etc. Marketing Effectiveness Actual versus Budget Reporting
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	<ul style="list-style-type: none"> • Market Participant review <p>iii) Measures and Performance Assumptions Review:</p> <ul style="list-style-type: none"> • Custom Measures Assumptions Review • Behavioural and Performance Assumptions Review <p>iv) Gross and Net Energy Savings and Demand Reductions Achieved: **to be performed by a third party based on the OPA's EM&V protocols</p> <ul style="list-style-type: none"> • Measurement and verification of program energy and demand savings achieved • Net to Gross ratio (including free rider rate) • Audit and Verification of project completion <p>v) Program Cost Effectiveness:</p> <ul style="list-style-type: none"> • Verification of program expenditures versus budget • Verification of program funding and payments • Cost benefit Analysis – funding vs. program performance
Special Provisions	N/A
Data Collection Responsibilities to Support Program Evaluation	<p>This area is still under development and will be completed with the assistance of a third party EM&V expert to ensure complete and appropriate collection of data to support Program evaluation.</p> <p>Data collection and evaluation activities anticipated to support the evaluation of the Initiative may include the following:</p> <ul style="list-style-type: none"> • Historical account consumption data • Number of participants • Program Costs • Program incentives • Program delivery metrics • Interviews with Initiative designers, delivery agents, administrators • Interviews with market allies and market channel reps • Interviews with participants and non-participants

Evaluation Schedule & Budget	Evaluation Deliverable	Budget	Date
	Draft Evaluation Plan	TBD	TBD
	Final Evaluation Plan	TBD	TBD
	Verification of Projects	TBD	TBD
	Verification of Energy Reductions	TBD	TBD
	Verification of Program Costs	TBD	TBD
	Draft Final Evaluation Report	TBD	TBD
	Final Evaluation report	TBD	TBD
	Total Evaluation Budget		
Evaluation Team	Organization	Name	Title / Accountability
	Hydro One	TBD	Program Manager Senior Conservation Analyst
	Hydro One	TBD	
	3 rd party (Final Evaluation Plan Development)	TBD	TBD
	3 rd Party Measurement and Verification Contractor (selected from OPA "Third Party Vendor of Record" list	TBD	TBD

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BOARD-APPROVED CDM PROGRAM

COMMERCIAL PROGRAM

Initiative Number: 5

Initiative Name: Municipal and Hospital Energy Efficiency Performance

Year(s) of Operation for the Initiative: 2011- 2014

Initiative Frequency: Year round

Target Customer Type(s): All municipal and hospital customers in Hydro One service areas

1. Initiative Description:

The Municipal and Hospital Energy Efficiency Performance Program provides monetary incentives to municipal and hospital customers for overall electrical energy efficiency reductions within facilities and across their portfolio of accounts. By requiring participants to commit to continuous electrical energy management and efficiency actions and improvements year over year, Hydro One expects that the unique offerings of the Initiative will assist in transforming this segment of the broader public sector to entrench energy efficiency and energy conservation as a core best practice within their organizations.

The key elements and comprehensive approach of the Initiative seek to assist this historically hard to reach sector in the pursuit of sustained and deeper energy savings by going beyond technology-based incentives offered in traditional or proposed Province-wide commercial CDM programs. Participating customers will be eligible to receive a financial incentive at [REDACTED] for overall energy performance improvements for each year of participation.

The Initiative is expected to be made available to all municipal and hospital account customers across Hydro One's service areas. Hydro One services, or shares service, in

1 82% of the municipalities and approximately 35% of hospitals across Ontario. Total
2 Initiative participation is anticipated to be a minimum of 27 municipalities and 6
3 hospitals. The expected total energy savings of this Initiative is approximately 26 GWh
4 and peak demand savings of 1 MW.

5
6 Delivery of the Initiative will be carried out by Hydro One and contracted resources and
7 experts in the field of energy Conservation and Demand Management (“CDM”).

8
9 This Initiative could be further extended to the other public sector institutions.

10 11 **2. Non Duplicative Features of the Initiative**

12 This Initiative is non duplicative as it goes beyond technology specific savings and
13 encourages the sector to focus on whole buildings, systems and processes within their
14 account portfolio, and to adopt energy efficiency technical, management, and
15 organizational best practices. The Initiative includes unique elements that are not offered
16 in any other commercial CDM program in Ontario. The proposed province wide
17 commercial and institutional programs (i.e. The Electricity Retrofit Incentive Program
18 and the Power Savings Blitz) offer incentives based on capital investment and equipment
19 replacement by the participant rather than organizational best practices in energy
20 management and efficiency and overall energy performance improvements.

21
22 The proposed Initiative focuses on on-going, long term customer commitment to energy
23 savings. Participants will be required to sign a memorandum of understanding (“MoU”)
24 committing to: the assembly of a cross-functional team; the development of a
25 comprehensive Energy Conservation Action Plan; ongoing electrical energy consumption
26 and demand benchmarking, tracking and target setting; employee engagement and
27 training; and commitment from top levels of the organization. A commitment to reinvest
28 incentives (realized from energy and peak demand reductions) into further energy
29 efficiency actions will also be encouraged.

1
2 **3. Initiative Elements**

3 The value proposition to customers participating in the Municipal and Hospital Energy
4 Efficiency Performance Initiative includes the following unique elements:

- 5 • Compile and provide useful historical energy consumption data for eligible accounts
6 within the hospital or municipal portfolio
- 7 • A signed memorandum of understanding ("MoU") committing to:
 - 8 ○ assembly of a cross-functional team including top level management
 - 9 ○ development of an Energy Conservation Action Plan
 - 10 ○ annual benchmarking and monitoring of electrical energy usage
 - 11 ○ set annual reduction targets
 - 12 ○ continuous action and implementation of energy efficient initiatives
 - 13 ○ participation in the Initiative to December 31, 2014
 - 14 ○ to direct any incentive monies related to energy efficiency actions back to Energy
15 Efficiency initiatives within the organization (encouraged)
- 16 • [REDACTED] toward tools, training and/or memberships that help achieve energy and
17 demand consumption benchmarking, tracking and targeting; Conservation Action
18 Plan development assistance, technical training and energy management best
19 practices.
- 20 • CDM Specialist -- including consultation and review of current vs. best practices for
21 management, operations and technology
- 22 • Up to [REDACTED] of the cost (to a maximum of [REDACTED] for pre-assessment and/or audit of
23 energy intensive facilities within a portfolio. Participants are eligible for one pre-
24 assessment and audit incentive within the Initiative delivery period (2011 to 2014).

1 **4. Background:**

2 Municipalities are the second largest energy consuming sector in Ontario, representing an
3 estimated expenditure of over \$955 million per year (\$680 million in electricity and \$275
4 million in natural gas¹.)

5
6 Many of the municipalities and hospitals in Hydro One's service area are small- to mid-
7 size and remotely located which may impact internal resources, knowledge base, budgets
8 and access to CDM support as compared to their larger counter parts. For many, facility
9 management and electricity bill payment and accountabilities are decentralized, and
10 equipment upgrade projects are often reactive. Energy efficient projects also compete
11 with non-discretionary projects and budget constraints. These barriers are thought to
12 have impacted the limited participation from this sector in technology-based Provincial
13 CDM programs to date. This Initiative seeks to remove these barriers.

14
15 **5. Purpose of the Initiative:**

16 The Municipal and Hospital Energy Efficiency Performance Initiative will offer the key
17 elements required to assist this broader public sector in the successful pursuit of
18 continuous and deeper energy savings beyond the traditional commercial CDM programs
19 that focus only on technology or equipment replacement. Using a comprehensive delivery
20 model and performance-based incentive approach, this Initiative will help this sector
21 make appropriate technology, process, management and organizational decisions that
22 best fit their business, community and facility needs.

23
24 **6. Projected Reduction in Peak Electricity Demand (MW)**

25 The Initiative is expected to achieve approximately 1.1 MW of peak reduction by the end
26 of 2014.

27

¹ Association of Municipalities of Ontario and Local Authority Services Ltd. website

Total Peak Reduction (MW) 2011-2014					
	2011	2012	2013	2014	Total Coincident Peak Demand Reduction by end of 2014 (MW)
Municipal - Hospital Energy Performance (MW)	0.3	0.5	0.8	1.1	1.1

7. Projected Reduction in Electricity Consumption (MWh):

The Initiative is expected to achieve 25,500 MWh cumulative energy reduction by the end of 2014.

Total Energy Reduction (MWh) 2011-2014					
	2011	2012	2013	2014	Total Energy Reduction Cumulative (2011-2014)
Municipal - Hospital Energy Performance (MWh)	2,000	4,800	7,800	10,900	25,500

8. Projected Budget

The estimated budget to deliver the Municipal and Hospital Efficiency Performance Initiative is approximately \$4 million including [REDACTED] in performance incentives. Administrative, marketing and third party delivery and EM&V costs are included in the estimated budget.

Municipal - Hospital Energy Efficiency Performance (\$) 2011-2014					
	2011*	2012	2013	2014	Total 2011-2014
Marginal costs					
Fixed costs					
Administrative costs					
Marketing (includes tools and Employee Engagement)					
CDM specialist					
EM&V					
Total Fixed Costs					
Variable Costs					
Third Party Project Review					
Membership/Tools/Training					
Performance Review / Audits					
Total Variable Costs					
Allocable costs					
Fixed Overhead					
Variable Overhead					
Total Program Costs					
Incentives					
Total Budget	\$ 780,000	\$ 965,000	\$ 1,055,000	\$ 1,150,000	\$ 3,950,000

9. Cost-Effectiveness Test Results

- TRC: 1.4
- PAC: 1.1

10. Draft Evaluation Plan

This Initiative focuses on reducing Municipal and Hospital peak demand and energy consumption through behavioural changes and equipment upgrades. The equipment upgrade component falls under the measures included in the OPA's M&A List, while the behavioural component assumptions are based on consultations with industry experts.

1 Hydro One will ensure that the Municipal – Hospital Energy Efficiency Performance
2 Initiative will be evaluated in accordance with the OPA’s EM&V Protocols for any
3 custom measures not included in the OPA’s Measures and Assumption List. A Draft
4 Evaluation Plan is attached based on the most current version available on the OPA’s
5 website as of Oct. 15, 2010. A Final Evaluation Plan will be prepared by an independent
6 third party after OEB approval of the Initiative. The selection of the evaluation criteria
7 and detailed elements of the Evaluation Plan will be determined by the independent third
8 party. Measurement and verification of Initiative peak demand savings (kW) and
9 electricity savings (kWh) results will be conducted by a third party review contractor
10 selected through an RFP process from the OPA's “Third Party Vendor of Record” list.

11
12 The following is a DRAFT EVALUATION PLAN TEMPLATE:

**OPA DRAFT EVALUATION PLAN
MUNICIPAL AND HOSPITAL ENERGY EFFICIENCY PERFORMANCE
DRAFT EVALUATION PLAN TEMPLATE**

Program Description	<p>Description (see Section 1)</p> <p>Key Program Elements ((see sections 2 and 3)</p> <p>Goals and Objectives (see sections 1 and 5)</p> <p>Program Theory (see section 1 and 2)</p> <p>Program Timing (subject to funding approval from the Board) Program Launch Date: January 1st, 2011</p> <p>All program elements are expected to be deliverable commencing immediately after the program launch date. CDM Specialist, consultation, membership in sector specific Energy performance or monitoring programs or associations, participating account identification and benchmarking will be the key elements offered early in program delivery and throughout the four years of the program for as long as the customer(s) accounts are still eligible or participating.</p> <p>Customer enrolment end date: June 30th, 2012.</p> <p>Program end date: December 31, 2014</p> <p>Estimated Participation and Results (see sections 1, 7 & 8)</p> <p>Draft Budget (see Section 9)</p>
Conservation Measures	<p><i>Equipment-based Measures:</i></p> <p>The Initiative will focus on energy efficient lighting, controls, motors, pumps and HVAC systems, however, will allow for and financially incent retrofitting of other proven energy efficient technologies. Assumptions for measures considered eligible under the Initiative that are not included under the OPA's Measures and Assumptions List have been, or will be, developed by a third party based on the OPA's EM&V Protocols.</p> <p><i>Non-Equipment-based Measures may include:</i></p>

	<ul style="list-style-type: none"> • Retro commissioning • Continuous Optimization (Maintenance) • Employee awareness • Historical energy usage benchmarking • Comparison to best in class and peer buildings (social benchmarking), • Energy efficiency best practices (management, operations, technical etc) • Monitoring and target setting • Training and capability building • Building or system auditing • Ongoing membership with organizations offering tools, resources, capacity building and peer consultation focusing on energy use benchmarking, monitoring, tracking, target setting and reductions.
Evaluation Goals and Objectives	Evaluation Goals and Objectives <ul style="list-style-type: none"> • i) Process Design Effectiveness • ii) Program Administration Effectiveness • iii) Measures and Assumptions Review • iv) Establish gross and net energy savings and demand reductions achieved • v) Estimate Program Cost-Effectiveness • vi) Special Provisions
Evaluation Deliverables	Evaluation Deliverables <ul style="list-style-type: none"> • Final Program Evaluation Plan • Annual Report – elements • Final Report
Evaluation Description	<p>The evaluation elements of the Evaluation Goals and Objectives are anticipated to include (but are not limited to) those listed in the corresponding sections below. It is expected that these elements will be reviewed, discussed, evaluated or analyzed as appropriate and according to the OPA's EM&V Protocols to ensure that they meet the Program Evaluation Goals and Objectives during the Draft Evaluation Plan development phase. Review of these elements will assist Hydro One in determining and/or validating the appropriateness of the program design, administration and measures assumption elements and whether adjustments are necessary in order to successfully deliver the Initiative and to achieve the anticipated Goals and Objectives and estimated participation and results.</p>

1

Evaluation Elements	i) Program Process Design Effectiveness - Evaluation criteria:
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	<ul style="list-style-type: none"> • Goals of program • Staffing and training • Program timing and timelines • Marketing Plan • Use of new procedures and best practices • Original assumptions vs. actual • Incentives and motivation for participation • Customer satisfaction feedback – participant satisfaction • Non participant feedback • Monitoring and tracking procedures • Roles and responsibilities of team members and stakeholders • Reporting procedures <p>ii) Program Administration Effectiveness - Evaluation Criteria:</p> <ul style="list-style-type: none"> • Program statistics – including participants, calculations of energy and demand reductions etc. • Program Impact Evaluation • Market Effects Assessment • Pre and post Project Analysis Assessment • Marketing Effectiveness Assessment • Actual versus Budget Reporting • Market Participant review <p>iii) Measures and Performance Assumptions Review:</p> <ul style="list-style-type: none"> • Custom Measures Assumptions Review • Behavioural and Performance Assumptions Review <p>iv) Gross and Net Energy Savings and Demand Reductions Achieved*: *to be performed by a third party based on the OPA's EM&V protocols</p> <ul style="list-style-type: none"> • Measurement and verification of program energy and demand savings achieved • Net to Gross ratio (including free rider rate) • Audit and Verification of project completion <p>v) Program Cost Effectiveness:</p> <ul style="list-style-type: none"> • Verification of program expenditures versus budget • Verification of program funding and payments • Cost benefit Analysis – funding vs. program performance
Special Provisions	Special Provisions:

	N/A
Data Collection Responsibilities to Support Program Evaluation	<p>This area is still under development and will be completed with the assistance of a third party EM&V expert to ensure complete and appropriate collection of data and evaluation activities to support Initiative evaluation.</p> <p>Data collection and evaluation activities anticipated to support the evaluation of the Initiative may include the following. :</p> <ul style="list-style-type: none"> • Historical account consumption data • Gross number of participants • Program Costs • Program incentives • Number of and types of measures installed • Actual values of participant inputs (i.e. hrs of operation) used to generate kWh and kW savings estimates • Building or account attributes • Program delivery metrics (i.e. web hits, marketing materials delivered) • Interviews with Initiative designers, delivery agents, administrators • Interviews with market allies and market channel reps • Interviews with participants and non-participants • Observation of field efforts and operation • Base case technology or process data • Project and equipment costs (supported by invoices) • Post project (new measure) data • On-site inspection / verification of implemented measures • Copy of customer draft Energy Conservation Action Plan • Energy Efficiency Activities and Actions Report from participants

Evaluation Schedule & Budget	Evaluation Deliverable		Budget	Date
	Draft Evaluation Plan		TBD	TBD
	Final Evaluation Plan		TBD	TBD
	Verification of Projects		TBD	TBD
	Verification of Energy Reductions		TBD	TBD
	Verification of Program Costs		TBD	TBD
	Draft Final Evaluation Report		TBD	TBD
	Final Evaluation report		TBD	TBD
	Budget			
Evaluation Team	Organization	Name	Title / Accountability	
	Hydro One	TBD	Program Manager	
	Hydro One 3 rd party	TBD	Senior Conservation Analyst	
	(Final Evaluation Plan Development) 3 rd Party Measurement and Verification Contractor (selected from OPA "Third Party Vendor of Record" list	TBD	TBD	
		TBD	TBD	

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BOARD-APPROVED CDM PROGRAM

COMMERCIAL PROGRAM

Initiative Number: 6

Initiative Name: Double Return Plus ("DRP")

Initiative Frequency: Year round

Target Customer Type(s): Commercial and industrial interval metered customers with average peak load of 200 kW or above.

Years of Operation for the Initiative: 2011 to 2014, subject to annual reviews and approvals.

1. Initiative Description

The Double Return Plus Initiative ("DRP") targets approximately 900 interval-metered commercial and industrial ("C/I") customers with an average monthly peak load in excess of 200 kW. The objective of this Initiative is to reduce the customers' peak demand, which, in turn, is expected to reduce the total system peak demand by up to 20 MW. This Initiative has an expected program cost of \$4.1 million (\$200/kW) inclusive of incentives.

The Double Return Plus Initiative has two components: a peak demand reduction and an energy efficiency component. This Initiative encourages the customers to reduce their summer peak demand relative to their summer demand in the previous year by at least 5%. The energy efficiency savings will be achieved through the installation of a load management system. The proposed Initiative will fund [REDACTED] of the cost of a load management system, up to a maximum of [REDACTED]. This Initiative will enable customers to control and reduce their summer peak demand as well as achieve sustainable energy savings.

1 The performance incentive payments will be set equal to double the amount of reduction
2 in delivery charges on the customer's bill resulting from achieving a reduction in their
3 peak load. While the participants are encouraged to optimize their reduction in their peak
4 demand, incentives are only applied to savings that range from a minimum of 5% to a
5 maximum of 10% reduction. For every dollar the customer saves in reduced delivery
6 charges, the program will provide two dollars in incentive payments.

7
8 In addition to performance incentives, this Initiative will offer a range of behind-the
9 meter services including online technical services, on-site visits, energy efficiency and
10 demand response workshops, and employee engagement kits.

11
12 The program will primarily be delivered directly by Hydro One with the help of a number
13 of third party vendors to assist with the promotion and delivery of the technical services
14 to the customers.

15 16 **2. Non-Duplicative Features of the Initiative**

17 The unique elements of the Initiative are:

- 18 • **Non-Dispatchable versus Dispatchable Demand Response:** The Double Return
19 Plus Initiative is not duplicative of the OPA Demand Response Programs because it is
20 based on non-dispatchable load control and it also aims at reducing energy
21 consumption. By contrast, the OPA Province-wide Demand Response programs are
22 based on dispatchable load control and, as a result, have minimal energy savings.
23 Non-dispatchable load control means that it is left to the customer's discretion
24 whether they wish to reduce their peak demand and the time at which they reduce
25 demand given the customers business needs and production cycles. Dispatchable
26 load control, on the other hand, means that the customer must respond to the IESO's
27 request that they curtail a contracted amount of their load or face penalties (e.g.,
28 under Demand Response 3) for not doing so. Further, the OPA had already approved
29 the Double Return program as a Custom Program distinct from the OPA's Demand

1 Response 1/Demand Response 3 programs, and all three programs coexisted in the
2 marketplace in 2008 and 2009.

- 3 • **Bring demand response and energy efficiency together:** The Initiative equips the
4 customer with the information and tools to meet demand reduction as well as energy
5 savings, all in one initiative. Hydro One will hire third party vendor(s) so that
6 participants will have access to a range of technical and information services that
7 would help them better understand their energy usage and assist them in identifying
8 areas where they can reduce their energy consumption and shift or shave their peak
9 load. Several tools including workshops, online assistance, and written information
10 material would be used to assist customers to reach this goal. The Initiative will also
11 offer free expert on-site visits to identify specific opportunities in customers' facilities
12 focusing on loads associated with industrial processes, motors, lighting, compressed
13 air, and electro-technologies. Bringing together demand response and energy
14 efficiency is a unique feature compared to OPA-contracted Demand Response
15 initiatives available in the market
- 16 • **No cost - low cost opportunities:** Double Return Plus helps identify savings
17 potential at limited and/or no cost to the customer. For example, a change in the
18 customer's behaviour will come at no cost, whereas an installation of a control device
19 would come at low cost. The focus on operational and behavioural changes brings
20 about a culture of conservation in the business markets.

22 **3. Background**

23 The initial Double Return Initiative was designed by Hydro One and offered under
24 Market Adjusted Rate of Return (MARR) funding in 2006/2007. This Initiative was very
25 successful and became popular among Hydro One customers as well as other
26 stakeholders. Further, the OPA approved the Double Return program as a Custom
27 Initiative in 2008/2009 where the program coexisted with the OPA's Demand Response
28 1/Demand Response 3 programs. The proposed Double Return Plus is a new generation
29 of the original Initiative with enhanced features for the 2011-2014 period.

1
2 **4. Initiative Elements**

3 While the key success factor in the original Double Return program has been the
4 simplicity of its design, the new Double Return Plus initiative includes three additional
5 components:

- 6 • **Reply Card:** A requirement to submit a "Reply Card" by participating customers.
7 The Reply Card ensures that the customer is interested and committed to the
8 Initiative.
- 9 • **Action Plan:** A requirement to complete a multiple choice two-paged "Action Plan"
10 The Action Plan identifies the steps which the customer plans to take to meet the
11 minimum peak load reduction (of at least 5% of the average summer June-August
12 peak load as compared to the previous year) to qualify for the financial incentive.
- 13 • **Load Management System:** The availability of financial incentives to enable
14 participants to purchase a Load Management System to perform load balancing
15 through energy management programming to achieve savings. The financial
16 incentives will cover [REDACTED] of the cost of the system, up to a maximum of [REDACTED].
17

18 Other Initiative offerings include:

- 19 • **Incentives:** Double Return Plus incentives will be set to equal double the amount of
20 reduction in delivery charges on the customer's bill resulting from achieving 5% -
21 10% reduction in the summer peak load as compared to the previous year. Double
22 Return Plus incentives will also provide funds up to [REDACTED] of the cost of the Load
23 Balancing/Management System up to [REDACTED] per system.
- 24 • **Behind-the-meter services:** this Initiative will offer on-going technical services
25 including:
- 26 ○ customized online information
 - 27 ○ expert site visits/assistance
 - 28 ○ Double Return Plus energy workshops
 - 29 ○ employee engagement kits

5. Purpose of the Initiative

The Double Return Plus Initiative will offer the key elements required to assist the medium to large C&I sectors in the successful pursuit of continuous and deeper energy savings beyond the traditional C/I CDM programs that focus only on technology or equipment replacement.

6. Projected reduction in Peak Electricity Demand (MW)

This Initiative is projected to achieve 21 MW peak reduction by the end of 2014. For Double Return Plus a portion of the peak reduction will have one year persistence attributable to behavioural changes, and the remaining peak reduction will have multi-year persistency attributable to the application of the load management system.

Total Peak Reduction (MW) 2011-2014					
	2011	2012	2013	2014	Total Coincident Peak Demand Reduction by end of 2014 (MW)
Double Return Plus (MW)	7.9	12.5	16.5	21.0	21

7. Total Projected Reduction in Electricity Consumption (MWh)

This Initiative is projected to achieve 52 GWh cumulative energy reduction by 2014. Energy reduction attributable to the portion of Double Return Plus for peak shaving will have one-year persistence, while the load balancing component will enhance persistency of results achieved in the Initiative.

Total Energy Reduction (MWh) 2011-2014					
	2011	2012	2013	2014	Total Energy Reduction Cumulative (2011-2014)
Double Return Plus (MWh)	9,250	12,200	14,450	16,100	52,000

8. Projected Budget

The total cost estimate for the Initiative is approximately \$4.1million (inclusive of incentives), and the incentives include a financial contribution towards a load management system (covering [REDACTED] of the cost of the system up to a maximum of [REDACTED] as well as performance incentives for achieved results for a total of approximately [REDACTED] (roughly [REDACTED] per summer season).

Double Return Plus - Initiative Budget (\$) 2011-2014					
	2011	2012	2013	2014	Total 2011-2014
Marginal costs					
Fixed costs					
Administrative costs	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
Marketing	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
Site visits / Verifications	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
EM&V	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
Total Fixed Costs	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
Variable Costs					
Turn-Key Vendor / Load Balancing	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
Total Variable Costs	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
Allocable costs					
Fixed Overhead	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
Variable Overhead	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
Total Program Costs	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
Financial Incentives (Based on Load Reduction)	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
Total Budget	\$ 1,021,300	\$ 1,021,300	\$ 1,021,300	\$ 1,020,700	\$ 4,100,000

Note: The total budget shown above is projected to be allocated between commercial and industrial participants on a 40/60 basis, respectively.

9. Cost Effectiveness Test Results

- TRC ratio: 11.3
- PAC ratio: 7.4

10. Draft Evaluation Plan

Hydro One will ensure that the Double Return Plus Initiative will be evaluated in accordance with the OPA's EM&V Protocol for any custom measures not included in the OPA's Measures and Assumption List. A Draft Evaluation Plan is attached based on the most current version available on the OPA's website as of Oct. 15, 2010. The Initiative Final Evaluation plan will be prepared by an independent third party. The selection of the evaluation criteria and detailed elements of the Evaluation Plan will be determined by the independent third party. Measurement and verification of Initiative peak demand savings (kW) and electricity savings (kWh) results will be conducted by a third party review contractor selected through an RFP process from the OPA's "Third Party Vendor of Record" list once the Initiative is approved.

The following is a DRAFT EVALUATION PLAN TEMPLATE:

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DOUBLE RETURN PLUS

OPA DRAFT EVALUATION PLAN TEMPLATE

Program Description	<p>Description: See Section 1</p> <p>Key Program Elements: See Sections 2,4 and 5</p> <p>Goals and Objectives: See Sections 1 and 2</p> <p>Program Theory: See Sections 1 and 2</p> <p>Program Timing (subject to funding approval from the Board) Program Launch Date: January 1st, 2011</p> <p>Program end date: December 31, 2014</p> <p>Estimated Participation and Results: See Sections 6 and 7</p> <p>Draft Budget: See Section 8</p>
Conservation Measures	<p>Conservation Measures:</p> <p>Behavioural changes</p> <p>Load balancing/Energy Management System</p>
Evaluation Goals and Objectives	<p>Evaluation Goals and Objectives</p> <ul style="list-style-type: none"> • i) Process Design Effectiveness • ii) Program Administration Effectiveness • iii) Measures and Assumptions Review • iv) Establish gross and net energy savings and demand reductions achieved • v) Estimate Program Cost Effectiveness
Evaluation Deliverables	<p>Evaluation Deliverables</p> <ul style="list-style-type: none"> • Draft Evaluation Plan • Final Program Evaluation Plan • Annual Report – elements • Final Report

Evaluation Description	<p>The evaluation elements of the Evaluation Goals and Objectives are anticipated to include (but are not limited to) those listed in the corresponding sections below. It is expected that these elements will be reviewed, discussed, evaluated or analyzed as appropriate and according to the OPA's EM&V Protocols to ensure that they meet the Program Evaluation Goals and Objectives during the Draft Evaluation Plan development phase. Review of these elements will assist Hydro One in determining and/or validating the appropriateness of the program design, administration and measures assumption elements and whether adjustments are necessary in order to successfully deliver the Initiative and to achieve the anticipated Goals and Objectives and estimated participation and results.</p>
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Evaluation Elements	<p>i) Program Process Design Effectiveness - Evaluation criteria:</p> <ul style="list-style-type: none"> • Staffing and training • Program timing and timelines • Use of new procedures and best practices • Marketing Plan • Eligibility and participants – original assumptions vs. actual • Events implementation – results of program participation from event • Motivation for participation and incentive level • Customer satisfaction feedback – participant satisfaction • Non-participant feedback • Monitoring and tracking program management • Roles and responsibilities of team members and stakeholders • Reporting procedures <p>ii) Program Administration Effectiveness - Evaluation Criteria:</p> <ul style="list-style-type: none"> • Program statistics – including participants, calculations of energy and demand reductions etc. • Program Impact Evaluation • Pre and post Project Analysis Assessment • Marketing Effectiveness Assessment • Actual versus Budget Reporting • Market Participant review <p>iii) Measures and Performance Assumptions Review:</p> <ul style="list-style-type: none"> • Custom Measures Assumptions Review • Behavioural and Performance Assumptions Review <p>iv) Gross and Net Energy Savings and Demand Reductions Achieved:</p>
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	<p>**to be performed by a third party based on the OPA's EM&V protocols</p> <ul style="list-style-type: none"> • Measurement and verification of program energy and demand savings achieved • Net to Gross ratio (including free rider rate) • Audit and Verification of project completion <p>v) Program Cost Effectiveness:</p> <ul style="list-style-type: none"> • Verification of program expenditures versus budget • Verification of incentive payments • Cost benefit Analysis – funding vs. program performance
Special Provisions	N/A
Data Collection Responsibilities to Support Program Evaluation	<p>This area is still under development and will be completed with the assistance of a third party EM&V expert to ensure complete and appropriate collection of data to support Program evaluation.</p> <p>Data collection and evaluation activities anticipated to support the evaluation of the Initiative may include the following:</p> <ul style="list-style-type: none"> • Historical account consumption data • Number of participants • Program Costs • Program incentives • Customer site attributes • Program delivery metrics • Interviews with Initiative designers, delivery agents, administrators • Interviews with market allies and market channel reps • Interviews with participants and non-participants • Project and equipment costs (supported by invoices) • Sample on-site inspection / verification of actions implemented • Draft of Customer Energy Conservation Action Plan • Energy Efficiency Activities and Actions Report from participants

Evaluation Schedule & Budget	Evaluation Deliverable	Budget	Date
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	Final Evaluation Plan	TBD	TBD
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	Verification of Energy Reductions	TBD	TBD
	Verification of Program Costs	TBD	TBD
	Draft Final Evaluation Report	TBD	TBD
	Final Evaluation report	TBD	TBD
	Total Evaluation Budget		
Evaluation Team	Organization	Name	Title / Accountability
	Hydro One	TBD	Program Manager
	Hydro One	TBD	Senior Conservation Analyst
	3 rd party (Final Evaluation Plan Development)	TBD	TBD
	3 rd Party Measurement and Verification Contractor (selected from OPA "Third Party Vendor of Record" list	TBD	TBD