



CAMBRIDGE AND NORTH DUMFRIES HYDRO INC.

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November 1, 2010

Ms. Kirsten Walli, Board Secretary
Ontario Energy Board
P.O. Box 2319
2300 Yonge Street
Toronto, Ontario
M4P 1E4

Dear Ms. Walli:

**Re: Cambridge and North Dumfries Hydro Inc. (OEB License ED-2002-0574)
CDM Strategy**

In accordance with the Conservation and Demand Management Code for Electricity Distributors, Section 2.1 please find attached the Conservation and Demand Management Strategy for Cambridge and North Dumfries Hydro Inc.

This submission was completely jointly as the CKW Group representing Cambridge and North Dumfries Hydro Inc., Kitchener-Wilmot Hydro Inc., and Waterloo North Hydro Inc. While the body of the document references the entire CKW Group, appendices are attached with individual LDC projections.

Yours truly,

CAMBRIDGE & NORTH DUMFRIES HYDRO INC.

A handwritten signature in black ink, appearing to read "J. Grotheer", with a horizontal line extending to the right.

John W. Grotheer, CMA
President & CEO

CKW Group CDM Strategy



Prepared by:



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Table of Contents

1. Distributor’s Name: CKW Group (Cambridge and North Dumfries Hydro Inc., Kitchener Wilmot Hydro Inc., Waterloo North Hydro Inc.) 2

2. Total Reduction in Peak Provincial Electricity Demand (MW) Target: 2

3. Total Reduction in Electricity Consumption (kWh) Target: 2

4. CDM Strategy 3

5. OPA-Contracted Province-Wide CDM Programs..... 4

 Residential Programs:..... 6

 Industrial Programs:..... 19

6. Potential Board-Approved CDM Programs..... 24

7. Program Mix 24

8. CDM Programs Co-ordination..... 25

Appendix A: Cambridge and North Dumfries Hydro Inc..... 27

Appendix B: Kitchener Wilmot Hydro Inc..... 28

Appendix C: Waterloo North Hydro Inc..... 29

CKW Group Conservation and Demand Management (CDM) Strategy

The following CDM Strategy has been prepared following the template provided in the CDM Code as published by the Board on September 16, 2010.

1. Distributor's Name: CKW Group (Cambridge and North Dumfries Hydro Inc., Kitchener Wilmot Hydro Inc., Waterloo North Hydro Inc.)

The CKW Group represents the three electric distribution companies serving the Region of Waterloo. The CDM Strategy which follows describes a combined plan for **Cambridge North Dumfries Hydro Inc., Kitchener Wilmot Hydro Inc., and Waterloo North Hydro Inc.** While the three utilities have developed a co-ordinated, combined strategy in the interests of improved efficiency and effectiveness, separate information for each utility is presented in the attached appendices.

2. Total Reduction in Peak Provincial Electricity Demand (MW) Target:

See discussion and Table 1 in next section.

3. Total Reduction in Electricity Consumption (kWh) Target:

The following CDM targets for reductions in peak provincial electricity demand and electricity consumption have been proposed for the three utilities in the CKW Group. The targets shown in Table 1 are taken from the June 22, 2010 letter from the Ontario Energy Board to all licensed electrical distributors regarding "*Electricity Conservation and Demand Management Targets* (EB-2010-0216)¹.

Table 1: Proposed CDM Targets for CKW Group

LDC Name	Total Reduction in Peak Provincial Electricity Demand Target (kW)	Total Reduction in Electricity Consumption Target (MWh)
Cambridge and North Dumfries Hydro Inc.	18,000	77,000
Kitchener-Wilmot Hydro Inc.	22,000	93,000
Waterloo North Hydro Inc.	16,000	68,000
CKW Group Total	56,000	238,000

We note that the OEB has published these proposed targets for comment and has not yet established final targets for each of the LDC's.

¹<http://www.oeb.gov.on.ca/OEB/Industry/Regulatory+Proceedings/Policy+Initiatives+and+Consultations/Conservation+and+Demand+Management+%28CDM%29/CDM+Management+Targets>

4. CDM Strategy

The CKW Group retained Navigant Consulting to carry out modelling and analysis of the achievable CDM potential associated with OPA-Contracted Province-Wide program initiatives and to identify additional opportunities which would enable the utilities in the CKW Group to meet their assigned CDM targets.

Navigant Consulting projected the impact of current OPA-funded province-wide CDM initiatives in the CKW Group's service area by sector for the coming 4-year period. The CKW Group intends to achieve the milestones set out in the table below through active involvement and support of these OPA initiatives. Utility specific projections for each of the members of the CKW Group are provided in Appendices A, B and C.

The estimated CDM reductions as a result of all OPA-contracted province-wide initiatives is shown below by sector. Due to overlapping coverage of some programs (i.e. *Year Round Instant Rebates* and *Bi-Annual Instant Rebate Events*) estimates of the achievable potential were not developed for specific programs.

Table 2: Energy (MWh) and Demand (MW) Milestones

CKW Group	Cumulative Energy (MWh)			
	2011	2012	2013	2014
Residential	15,479	27,893	43,501	54,369
Commercial	24,689	48,498	72,503	95,999
Industrial	9,463	17,377	26,206	35,600
Total -	49,631	93,769	142,211	185,968

CKW Group	Demand (MW)			
	2011	2012	2013	2014
Residential	5.0	9.0	12.8	16.6
Commercial	6.4	12.2	18.1	24.0
Industrial	3.8	7.4	11.1	14.9
Total -	15.2	28.6	42.1	55.5

The CKW Group intends to meet its CDM Targets over the 4-year period to 2014 by actively participating in OPA-Contracted Province-Wide programs and by developing additional Tier 2 and 3 initiatives for Board approval that will address areas of potential not covered by province-wide OPA initiatives. As additional information becomes available on OPA programs the CKW Group will review opportunities for leveraging these programs in the Region. Additional Tier 2 and 3 programs will also be developed in the coming months. Once these plans have been refined, and CDM targets are finalized, a revised CDM Strategy will be

submitted in the 2011 Annual Report for the Board's consideration which will meet the following milestones.

	2011	2012	2013	2014
Cumulative Energy (MWh)				
Tier 1 Programs	49,631	93,769	142,211	185,968
Tier 2 & 3 Programs	13,008	26,016	39,024	52,032
Total (CDM Target)	62,639	119,785	181,235	238,000
Demand (MW)				
Tier 1 Programs	15.2	28.6	42.1	55.5
Tier 2 & 3 Programs	0.1	0.2	0.4	0.5
Total (CDM Target)	15.3	28.9	42.5	56.0

Milestones for each of the utilities involved are provided in Appendices A, B and C.

5. OPA-Contracted Province-Wide CDM Programs

The following table describe the province-wide CDM programs currently offered and expected to be available to customers in the CKW Group territory. For purposes of planning a CDM Strategy for the CKW Group we have assumed that these programs will continue to be available throughout the period from 2011 to 2014. *We note that these programs are offered at the discretion of the OPA. Decisions to cancel, expand or modify these programs are not within the control of the CKW Group.*

The OPA has released draft descriptions of the following programs to be offered by the CKW Group during the period 2011 to 2014. While a portion of these programs will be centrally managed by the OPA, the CKW Group will maintain a supporting role in their delivery.

Table 3: Proposed OPA Programs for 2011 to 2014

Residential Programs	Commercial and Institutional Programs	Industrial Programs
<i>Year Round Instant Rebates</i>	<i>Commercial and Institutional Province Wide Program</i>	<i>Industrial Accelerator</i>
Bi-Annual Instant Rebate Events	<i>ERIP Commercial</i>	<i>ERIP Industrial</i>
<i>Appliance Retirement Program</i>	<i>Direct Install</i>	<i>DR1 - Industrial</i>

Residential Programs	Commercial and Institutional Programs	Industrial Programs
<i>Bi-Annual Appliance Exchange Events</i>	<i>DR1 - Commercial</i>	<i>DR3 - Industrial</i>
<i>HVAC On-line Rebates Program</i>	<i>DR3 – Commercial</i>	
<i>New Construction Program</i>		
<i>Midstream Incentives Program</i>		
Consumer Enabling Initiatives		
<i>Low Income Program</i>		
<i>Residential Demand Response Initiative</i>		

The CKW Group intends to participate or support each of the initiatives indicated in bold/italics in the above list. The remaining two programs listed above will be operated by the OPA on a province-wide basis.

The following pages describe specific OPA-contracted province-wide programs that the CKW Group plans to participate in. For convenience the following tables summarize each program. And the CKW Group’s role with respect to each program. A fuller description of the programs and the role played by LDC’s is provided in the “2011 – 2014 OPA-Contracted Province Wide CDM Programs” Summary Guides published by the OPA in October 2010. Information on funding rules was not available for all programs when this submission was being prepared. Estimated annual budgets for the CKW Group, as well as for each specific utility will be calculated once funding information is available.

Residential Programs:

Program Name	Year Round Instant Rebates
Operating Years	2011 to 2014 (<i>at OPA's discretion</i>)
Program Description	This program is a year round initiative that offers instant rebates to customers towards the purchase of low cost, easy to install measures. It is an enhancement to the old OPA provincial coupon initiative (aka. <i>EKC Power Savings Event</i>) which was only offered twice a year (Spring & Fall). In the past, the program was centrally managed by the OPA and promoted strictly during the months of April & October. The program has now been enhanced to offer customers the opportunity to redeem instant rebates at any time throughout the year.
CKW Group Role	Use communications and marketing opportunities to support program and educate consumers of the benefits of products covered by the rebates.
Program Budget	Not available at this time.
Projected Reduction in Peak Provincial Electricity Demand (kW)	Reductions not estimated on a program-specific basis.
Projected Reduction in Electricity Consumption (MWh)	Reductions not estimated on a program-specific basis.

Program Name	Appliance Retirement/Exchange Program
Operating Years	2011 to 2014 (<i>at OPA's discretion</i>)
Program Description	<p>This initiative is a carry forward and enhancement of <i>The Great Refrigerator Roundup</i>. It includes free pick-up and decommissioning of old, inefficient, working, appliances:</p> <ul style="list-style-type: none"> • Refrigerators that are at least 15 years old in 2011 and 2012 and 20 years old in 2013 and 2014 • Freezers that are at least 15 years old in 2011 and 2012 and 20 years old in 2013 and 2014 • Room air conditioners (only picked up if a fridge/freezer is also scheduled to be picked up at same time) • Dehumidifiers (only picked up if a fridge/freezer is also scheduled to be picked up at same time) <p>There is also opportunity to integrate municipal appliance pick-up services (where available).</p> <p>LDCs may engage municipalities to see if local appliance collection programs can be integrated and the OPA will arrange for appliances that meet the Program eligibility criteria to be picked-up and decommissioned.</p> <p>The OPA will also work with retailers to arrange for the decommissioning of eligible appliances upon the replacement of new, the age requirements will be consistent with those identified above.</p> <p>The Exchange Events portion of the Program is a carry forward and enhancement of exchange events previously hosted by retailers. It includes exchange events held biannually at participating retailers for room air conditioners and dehumidifiers. The Spring exchange event will feature a \$50 coupon toward the purchase of a high efficiency replacement unit; the Fall event will feature a \$25 gift card.</p> <p>The initiative will also include local marketing and may include engagement opportunities for LDCs where LDCs can negotiate them locally. Savings from the Exchange Events will be proportionally allocated to LDCs based on the size of their residential customer base.</p>

Program Name	Appliance Retirement/Exchange Program
CKW Group Role	Promote program through Customer Service contacts, communications and marketing.
Program Budget	Not available at this time.
Projected Reduction in Peak Provincial Electricity Demand (kW)	Reductions not estimated on a program-specific basis.
Projected Reduction in Electricity Consumption (MWh)	Reductions not estimated on a program-specific basis.

Program Name	HVAC Online Rebate Program
Operating Years	2011 to 2014 (<i>at OPA's discretion</i>)
Program Description	The HVAC rebates initiative has been in market since 2006 (aka. <i>Cool Savings Program</i>). The program has been enhanced to include LDC's 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 qualifying replacement of electronically commutated motors (ECMs) and central air conditioners. Training will be available for contractors to educate them on quality installation principles. LDC's 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.
CKW Group Role	Promote program through Customer Service contacts, communications and marketing. Communicate with local contractors to build awareness of available training and support program.
Program Budget	Not applicable.
Projected Reduction in Peak Provincial Electricity Demand (kW)	Reductions not estimated on a program-specific basis.
Projected Reduction in Electricity Consumption (MWh)	Reductions not estimated on a program-specific basis.

Program Name	New Construction Program
Operating Years	2011 to 2014 (<i>at OPA's discretion</i>)
Program Description	<p>This is a new initiative. It includes incentives for builders to construct new, single family homes that include energy efficiency standards that are above current building codes. It includes incentives for:</p> <ul style="list-style-type: none"> • Prescriptive measures: <ul style="list-style-type: none"> ○ “All-off” Switches ○ ECM Motors ○ SEER 15 CAC ○ Lighting Control Products ○ Energy Efficient Lighting Fixtures ○ Residential Demand Responses Devices (subject to results of the pilots) • Custom Projects (incentive will be based on a per \$/kW or per \$/KWh subject to eligibility criteria) (i.e. solar hot water heating where it can be demonstrated as a cost-effective measure) • Performance Incentives: <ul style="list-style-type: none"> ○ EnerGuide 83 ○ EnerGuide 85 • Enabling Initiatives: <ul style="list-style-type: none"> ○ Training on Energy Efficiency Building Techniques and Practices ○ Consumer Education (no incentives) <p>The initiative will be delivered by LDCs, including local marketing, approvals, data collection, and reporting. LDCs will also be responsible for local engagement of builders; with support from OPA air cover driving builders to their LDCs for additional information (possible air cover options include trade publications, Home Builders Associations etc.). The OPA will be responsible for payments, as well as enabling initiatives including builder training and consumer education.</p>
CKW Group Role	Engage local contractors and developers through new service application process and local homebuilder and contractor associations. Marketing Review and approve applications to the program and provide site verifications.
Program Budget	Not available at this time.
Projected Reduction in	Reductions not estimated on a program-specific basis.

Program Name	New Construction Program
Peak Provincial Electricity Demand (kW)	
Projected Reduction in Electricity Consumption (MWh)	Reductions not estimated on a program-specific basis.

Program Name	Midstream Incentives Program
Operating Years	2011 to 2014 (<i>at OPA's discretion</i>)
Program Description	This is a carry over and enhancement of the midstream television incentive from the Power Savings Event. In addition to providing incentives for retailers to promote energy efficient televisions, it will include incentives for satellite and cable providers to use high-efficiency set-top boxes and network configurations. It will also include pool pumps, providing contractors with incentives to install "right sized" pool equipment. Savings from the midstream initiatives will be proportionally allocated to LDCs based on the size of their residential customer base.
CKW Group Role	Promote program to relevant local contractors and service providers.
Program Budget	Not applicable.
Projected Reduction in Peak Provincial Electricity Demand (kW)	Reductions not estimated on a program-specific basis.
Projected Reduction in Electricity Consumption (MWh)	Reductions not estimated on a program-specific basis..

Program Name	Low Income Program
Operating Years	2011 to 2014 (<i>at OPA's discretion</i>)
Program Description	<p>This is a new program that has been specifically developed to meet the needs of the low income consumer. This is a comprehensive program that involves a variety of activities intended to improve the energy efficiency of low income homes. The program 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 program will pay 100% for the purchase and installation of the electricity saving products.</p> <p>The process begins with an in-home audit which will identify the opportunities within the home. The installation measures range from basic measures (CFL's, weather-stripping, water heater blanket and more) to a full list of extended measures (light fixtures, air conditioning units, freezers, refrigerators, dehumidifiers, draft-proofing and insulation).</p>
CKW Group Role	Promote availability of program through Customer Service contacts and through relationships with community partners.
Program Budget	Not available at this time.
Projected Reduction in Peak Provincial Electricity Demand (kW)	Reductions not estimated on a program-specific basis.
Projected Reduction in Electricity Consumption (MWh)	Reductions not estimated on a program-specific basis.

Program Name	Residential Demand Response Program
Operating Years	2011 to 2014 (<i>at OPA's discretion</i>)
Program Description	<p>This is a re-design of <i>peaksaver</i>®, the residential demand response initiative. Existing program features will continue to be offered through June 30, 2011 pursuant to existing agreements between the OPA and participating LDCs. The OPA and the Residential Demand Response Work Group are currently conducting pilot projects to test new technologies for use in the future province wide residential demand response initiative with an anticipated start of July 1, 2011. Further details will be provided at the conclusion of pilot in December 2010. The initiative has been designed to include two options available to consumers:</p> <p>Option A: Participation with Demand Response – under this option, four end-uses will be eligible for load control participation:</p> <ul style="list-style-type: none"> • central air conditioners • electric water heaters • room air conditioners • pool pumps <p>Participants will get load control devices (Home Energy Interface (HEI)) installed free and they will have access to real time consumption and price information. This information can be accessed on an in-home device (IHD) or on-line, depending on the customer's choice. When developed, a Dashboard will also be available under Option A. A Dashboard is a single device that includes load control capabilities and IHD. Consumers will receive subsidized Dashboards.</p> <p>Option B: Participation without Demand Response – under this option, customers have the opportunity to access price and real-time consumption information. Participants get a subsidized amount toward a HEI and can opt for an IHD or on-line display.</p>
CKW Group Role	Promote program through Customer Service contacts, communications and marketing.
Program Budget	Not available at this time.

Program Name	Residential Demand Response Program
Projected Reduction in Peak Provincial Electricity Demand (kW)	Reductions not estimated on a program-specific basis.
Projected Reduction in Electricity Consumption (MWh)	Reductions not estimated on a program-specific basis.

Commercial and Institutional Programs:

Program Name	Commercial and Institutional Program
Operating Years	2011 to 2014 (<i>at OPA's discretion</i>)
Program Description	<p>The C&I Program is designed to offer financial incentives to customers for upgrading to energy efficiency measures. This program builds on the success of the current <i>Electricity Retrofit Incentive Program (ERIP)</i> being offered to Commercial, Industrial, Institutional and Agricultural customers, and the <i>Power Savings Blitz (PSB) Program</i> offered to small commercial customers with less than 50kW of average monthly demand.</p> <p>This program will offer turn-key lighting and electric hot water heater retrofits for small businesses, and 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 40% of project costs for all other General Service customers.</p> <p>The <i>Electricity Retrofit Incentive Program (ERIP)</i>, initially developed for the business markets, promoted energy efficiency measures for lighting and high efficiency motors. The 2011-2014 program has been enhanced to include program elements such as feasibility studies and roving Energy Managers to maximize energy savings potential.</p>
CKW Group Role	Build and expand upon existing relationships with local businesses to promote awareness of incentives and benefits of resulting energy reductions. Provide technical assistance to customers to identify and assess energy savings opportunities and overcome barriers to implementation.
Program Budget	Not available at this time.
Projected Reduction in Peak Provincial Electricity Demand(kW)	Reductions not estimated on a program-specific basis.
Projected Reduction in Electricity Consumption (MWh)	Reductions not estimated on a program-specific basis.

Program Name	Demand Response 1 - Commercial
Operating Years	2011 to 2014 (<i>at OPA's discretion</i>)
Program Description	<p>DR1 is a demand response initiative for industrial and commercial customers, of 50 kW or greater and with interval meters, 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.</p> <p>This initiative makes payments for actual load reduction only. There are no payments or set-offs associated with a participant deciding not to participate, or where a participant has indicated willingness to perform and then not followed through.</p> <p>The program is managed by a centrally procured third party program administrator. Marketing of the program 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.</p>
CKW Group Role	Leverage and build upon existing relationships with local businesses to build awareness of program, an understanding of program rules and the benefits of participation. Assist customers in identifying and assessing demand reduction opportunities and linking to Aggregators.
Program Budget	Not available at this time.
Projected Reduction in Peak Provincial Electricity Demand (kW)	<p>Reductions not estimated on a program-specific basis.</p> <p>Combined commercial and industrial participation in DR1 program to 2009 has resulted in a load reduction of 5.5 MW.</p>
Projected Reduction in Electricity Consumption (MWh)	Reductions not estimated on a program-specific basis.

Program Name	Demand Response 3 - Commercial
Operating Years	2011 to 2014 (<i>at OPA's discretion</i>)
Program Description	<p>The DR3 program is open to commercial and industrial customers with a peak demand greater than 50 kW. In comparison to the DR1, which is a voluntary program, the DR3 program 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.</p> <p>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.</p> <p>The program is delivered by Demand Response Providers, under contract to the OPA, with the LDCs providing important marketing and customer outreach support in a collaborative approach with Demand Response Providers.</p>
CKW Group Role	Leverage and build upon existing relationships with local businesses to build awareness of program, an understanding of program rules and the benefits of participation. Assist customers in identifying and assessing demand reduction opportunities and linking to Aggregators.
Program Budget	Not available at this time.
Projected Reduction in Peak Provincial Electricity Demand (kW)	Reductions not estimated on a program-specific basis.
Projected Reduction in Electricity Consumption (MWh)	Reductions not estimated on a program-specific basis.

Industrial Programs:

Program Name	The Industrial Accelerator
Operating Years	2011 to 2014 (<i>at OPA's discretion</i>)
Program Description	<p>The Industrial Accelerator Initiative is an energy management program that includes both financial incentives for capital projects and enabling initiatives. It is open to industrial companies that are customers of an Ontario electric LDC and are not insolvent.</p> <p>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.</p> <p>The capital incentive for this initiative is up to \$200.00/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.</p> <p>This program will be delivered by the LDCs with technical support provided by a centrally procured technical resource.</p>
CKW Group Role	Build and expand upon existing relationships with local industries to promote awareness of incentives and benefits of resulting energy reductions. Provide technical assistance to customers to identify and assess energy savings opportunities and overcome barriers to implementation.
Program Budget	Not available at this time.
Projected Reduction in Peak Provincial Electricity Demand (kW)	Reductions not estimated on a program-specific basis.
Projected Reduction in Electricity Consumption (MWh)	Reductions not estimated on a program-specific basis.

Program Name	Electricity Retrofit Incentive Program – Industrial ERIP
Operating Years	2011 to 2014 (<i>at OPA's discretion</i>)
Program Description	<p>The ERIP Program is designed to offer financial incentives to customers for completion of energy efficiency measures. The program aims to maximize opportunities to improve the energy efficiency of new and existing buildings, empower owners, operators, tenants of these buildings and the supply chains that serve them to better manage their electricity use. These objectives are accomplished through a customer-focused approach that provides facility owners, operators, and their supply chains with a focussed, yet comprehensive offering which treats the building as a system, and not a collection of end uses.</p> <p>By pursuing a multi-faceted, comprehensive approach that focuses not only on equipment and technology, but also on the development of people, policies, and processes within Ontario businesses, the goal of further developing a culture of conservation and achieving market transformation will be realized.</p> <p>The program provides 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 40% of project costs.</p> <p>ERIP is offered to industrial, commercial, agricultural and multi-family buildings. 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 100 MWh limit, will be referred to the IA program, unless approval is received from the LDC to proceed under ERIP.</p>
CKW Group Role	Build and expand upon existing relationships with local industries to promote awareness of incentives and benefits of resulting energy reductions. Provide technical assistance to customers to identify and assess energy savings opportunities and overcome barriers to implementation.
Program Budget	Not available at this time.

Program Name	Electricity Retrofit Incentive Program – Industrial ERIP
Projected Reduction in Peak Provincial Electricity Demand (kW)	Reductions not estimated on a program-specific basis.
Projected Reduction in Electricity Consumption (MWh)	Reductions not estimated on a program-specific basis.

Program Name	Demand Response 1 - Industrial
Operating Years	2011 to 2014 (<i>at OPA's discretion</i>)
Program Description	<p>DR1 is a demand response initiative for industrial and commercial customers, of 50 kW or greater and with interval meters, 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 set-offs associated with a participant deciding not to participate, or where a participant has indicated willingness to perform and then not followed through.</p> <p>The program is managed by a centrally procured third party program administrator. Marketing of the program 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.</p>
CKW Group Role	Leverage and build upon existing relationships with local businesses to build awareness of program, an understanding of program rules and the benefits of participation. Assist customers in identifying and assessing demand reduction opportunities and linking to Aggregators where appropriate.
Program Budget	Not available at this time.
Projected Reduction in Peak Provincial Electricity Demand(kW)	<p>Reductions not estimated on a program-specific basis.</p> <p>Combined commercial and industrial participation in DR1 program to 2009 has resulted in a load reduction of 5.5 MW.</p>
Projected Reduction in Electricity Consumption (MWh)	Reductions not estimated on a program-specific basis.

Program Name	Demand Response 3 - Industrial
Operating Years	2011 to 2014 (<i>at OPA's discretion</i>)
Program Description	<p>The DR3 program is open to commercial and industrial customers with a peak demand greater than 50 kW. In comparison to the DR1, which is a voluntary program, the DR3 program 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.</p> <p>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.</p> <p>The program is delivered by Demand Response Providers, under contract to the OPA, with the LDCs providing important marketing and customer outreach support in a collaborative approach with Demand Response Providers.</p>
CKW Group Role	Leverage and build upon existing relationships with local businesses to build awareness of program, an understanding of program rules and the benefits of participation. Assist customers in identifying and assessing demand reduction opportunities and linking to Aggregators where appropriate.
Program Budget	Not available at this time.
Projected Reduction in Peak Provincial Electricity Demand (kW)	Reductions not estimated on a program-specific basis.
Projected Reduction in Electricity Consumption (MWh)	Reductions not estimated on a program-specific basis.

6. Potential Board-Approved CDM Programs

The CKW Group has not yet developed a portfolio of potential Tier 2 and Tier 3 programs for Board approval at this time. We are awaiting finalization of the CDM targets by the Board and information from the OPA to fully identify all Tier 1 programs that will be operating over the period in order to avoid conflicting with those initiatives.

The CKW Group is working to identify gaps in program coverage in order to identify additional CDM opportunities and will develop additional CDM programs for Board approval that will enable the utilities in the CKW Group to fully meet their CDM targets..

7. Program Mix

CKW Group members participate in a range of **OPA-Contracted Province-Wide CDM Programs** which serve all significant customer types within the Region of Waterloo. Agricultural operations may participate in residential or commercial programs depending on the nature of the farming operation.

A list of CDM programs available to different customer types is presented in Table 4 below.

Table 4: CDM Program Coverage

Customer Type	Programs Available
Residential	<ul style="list-style-type: none">✓ Appliance Retirement Program✓ Year Round Instant Rebate Program✓ Bi-Annual Instant Rebate Events✓ HVAC On-line Rebates Program✓ Residential Demand Response Initiative (<i>Peaksaver</i>)✓ Electricity Retrofit Incentive Program (ERIP) for multi-residential
Low Income Residential	<ul style="list-style-type: none">✓ New Construction Program✓ Low Income Program✓ Appliance Retirement Program✓ Year Round Instant Rebate Program✓ Bi-Annual Instant Rebate Events✓ HVAC On-line Rebates Program✓ Residential Demand Response Initiative (<i>Peaksaver</i>)
Commercial	<ul style="list-style-type: none">✓ Commercial and Institutional Province Wide Program, including:<ul style="list-style-type: none">○ Electricity Retrofit Incentive Program (ERIP)○ Power Saving Blitz✓ Demand Response (DR1 and DR3)

- | | |
|---------------|---|
| Institutional | <ul style="list-style-type: none"> ✓ Commercial and Institutional Province Wide Program, including: <ul style="list-style-type: none"> ○ Electricity Retrofit Incentive Program (ERIP) ○ Power Saving Blitz |
| Industrial | <ul style="list-style-type: none"> ✓ Demand Response (DR1 and DR3) ✓ Industrial Accelerator ✓ Electricity Retrofit Incentive Program (ERIP) Industrial ✓ Demand Response (DR1 and DR3) |

8. CDM Programs Co-ordination

The CKW Group has co-operated in implementing CDM programs since the inception of the OPA. They have chosen to work together to co-ordinate CDM activities in the Region of Waterloo in order to improve administrative and operational efficiencies. The three utilities have a long history of working together with regards to CDM and other activities. By coming together as a group the CKW Group has been able to share many of the costs involved in the analysis of their CDM potential and in developing their CDM Strategy. By sharing marketing and communications expenditures, the CKW Group can provide a more co-ordinated message and access media which serve the Region as a whole, while minimizing spill-over that each utility would experience if proceeding alone. As a group, they are also able to co-ordinate their CDM activities with a number of key institutional and business customers which serve the Region as a whole.

All three utilities have worked with the *Residential Energy Efficiency Program (REEP)*, a non-profit environmental organization which has served the Region of Waterloo since 1999. REEP offers ecoENERGY Home Evaluations, Solar Assessments and programs for Greening Sacred Spaces, among other services. In past, the three utilities in the CKW Group have assisted REEP in promoting its services by including promotional bill inserts with their bills for residential customers. REEP has also promoted awareness of utility and OPA CDM programs as part of its services. Programs will be co-ordinated with REEP where applicable.

CKW Group members have maintained a good working relationship with energy and Facilities staff from the *local municipalities and townships*, the *Regional Municipality of Waterloo* and both *School Boards*. These working relationships will be leveraged to build on awareness of CDM program opportunities that may be of value to these organizations.

The City of Kitchener is one of only two municipalities in Ontario which have maintained their municipal franchise for natural gas distribution. It is therefore relatively unique in being the primary shareholder of the electric LDC as well as the owner of the natural gas LDC. As part of its 2005-2007 CDM Plan, Kitchener-Wilmot Hydro Inc. worked with *Kitchener Utilities* to offer a fuel switching program for water heaters and other appliances and explored the potential of

offering a similar program in the portion of its territory served by Union Gas. The CKW Group will continue to seek opportunities to co-ordinate its CDM activities with local natural gas and other energy suppliers.

The Region of Waterloo is a recognized hub for technology and manufacturing innovation. The CKW Group has had the unique opportunity to work with organizations that represent these important Key Accounts to foster stronger relations and promote their CDM activities. Advertising for past events and programs has been done through the Waterloo Manufacturing and Innovation Network and Communitech. In addition, the CKW Group has an excellent, ongoing relationship with Canada's Technology Triangle who represent and encourage growth for businesses in the Region of Waterloo.

In 2008 Sustainable Waterloo was founded to allow the Waterloo Region business community to be a part of the local solution to global climate change. This not-for-profit has a growing membership dedicated to reducing its carbon footprint through efficiency and waste reduction, with a heavy emphasis on electricity conservation. The CKW Group are supporters of this organization and their local events. Waterloo North Hydro is a Founding Partner.

The area served by the CKW Group is fortunate in having its own local CTV News station which has provided coverage of many CDM initiatives over the past few years. There is also a newspaper (*The Record*) which primarily covers the Region. This enables the CKW Group to reach customers in the Region using advertising and showcasing local programs with limited spill over. Six smaller community papers also serve the Region, offering affordable advertising and a high readership rate.

Appendix A: Cambridge and North Dumfries Hydro Inc.

Projected Results from Tier 1 Programs:

Cambridge & North Dumfries Hydro Inc.	Cumulative Energy (MWh)			
	2011	2012	2013	2014
Residential	5,236	8,353	12,137	14,741
Commercial	8,803	16,128	23,500	30,671
Industrial	3,938	6,870	10,348	14,094
<i>Total -</i>	<i>17,977</i>	<i>31,351</i>	<i>45,984</i>	<i>59,506</i>

Cambridge & North Dumfries Hydro Inc.	Demand (MW)			
	2011	2012	2013	2014
Residential	1.4	2.6	3.7	4.7
Commercial	2.2	4.2	6.3	8.3
Industrial	1.4	2.6	3.9	5.2
<i>Total -</i>	<i>5.0</i>	<i>9.4</i>	<i>13.8</i>	<i>18.2</i>

CDM Milestones

Cambridge & North Dumfries Hydro Inc.

	2011	2012	2013	2014
Cumulative Energy (MWh)				
Tier 1 Programs	17,977	31,351	45,984	59,506
Tier 2 & 3 Programs	4,374	8,747	13,121	17,494
Total (CDM Target)	22,351	40,098	59,105	77,000
Demand (MW)				
Tier 1 Programs	5.0	9.4	13.8	18.2
Tier 2 & 3 Programs	(0.0)	(0.1)	(0.1)	(0.2)
Total (CDM Target)	5.0	9.3	13.6	18.0

Note – negative value indicates reductions exceed CDM target.

Appendix B: Kitchener Wilmot Hydro Inc.

Projected Results from Tier 1 Programs:

Kitchener Wilmot Hydro Inc.	Cumulative Energy (MWh)			
	2011	2012	2013	2014
Residential	5,010	11,120	19,000	24,492
Commercial	7,500	16,667	25,833	35,020
Industrial	3,001	5,401	8,035	10,769
<i>Total -</i>	<i>15,511</i>	<i>33,188</i>	<i>52,868</i>	<i>70,281</i>

Kitchener Wilmot Hydro Inc.	Demand (MW)			
	2011	2012	2013	2014
Residential	2.2	3.9	5.6	7.2
Commercial	2.3	4.3	6.4	8.5
Industrial	1.4	2.7	4.1	5.4
<i>Total -</i>	<i>5.8</i>	<i>10.9</i>	<i>16.0</i>	<i>21.1</i>

CDM Milestones

Kitchener Wilmot Hydro Inc.

	2011	2012	2013	2014
Cumulative Energy (MWh)				
Tier 1 Programs	15,511	33,188	52,868	70,281
Tier 2 & 3 Programs	5,680	11,360	17,039	22,719
Total (CDM Target)	21,190	44,547	69,907	93,000
Demand (MW)				
Tier 1 Programs	5.8	10.9	16.0	21.1
Tier 2 & 3 Programs	0.2	0.5	0.7	0.9
Total (CDM Target)	6.1	11.4	16.7	22.0

Appendix C: Waterloo North Hydro Inc.

Projected Results from Tier 1 Programs:

Waterloo North Hydro Inc.	Cumulative Energy (MWh)			
	2011	2012	2013	2014
Residential	5,232	8,421	12,364	15,136
Commercial	8,387	15,703	23,171	30,308
Industrial	2,524	5,106	7,824	10,737
<i>Total -</i>	16,143	29,230	43,359	56,181

Waterloo North Hydro Inc.	Demand (MW)			
	2011	2012	2013	2014
Residential	1.4	2.5	3.6	4.7
Commercial	1.9	3.7	5.5	7.2
Industrial	1.1	2.1	3.2	4.3
<i>Total -</i>	4.3	8.3	12.3	16.3

CDM Milestones

Waterloo North Hydro Inc.

	2011	2012	2013	2014
Cumulative Energy (MWh)				
Tier 1 Programs	16,143	29,230	43,359	56,181
Tier 2 & 3 Programs	2,955	5,909	8,864	11,819
Total (CDM Target)	19,097	35,139	52,223	68,000
Demand (MW)				
Tier 1 Programs	4.3	8.3	12.3	16.3
Tier 2 & 3 Programs	(0.1)	(0.1)	(0.2)	(0.3)
Total (CDM Target)	4.3	8.2	12.1	16.0

Note – negative value indicates reductions exceed CDM target.