



November 1, 2010

Ms. Kirsten Walli
Board Secretary
Ontario Energy Board
P.O. Box 2319
2300 Yonge Street, 27th Floor
Toronto, ON M4P 1E4

Re: CDM Strategy for Middlesex Power Distribution Corporation (EB-2010-0215)

Dear Ms. Walli:

Enclosed is the Conservation and Demand Management (“CDM”) Strategy for Middlesex Power Distribution Corporation (“MPDC”). This CDM Strategy has been developed in accordance with the Conservation and Demand Management Code for Electricity Distributors and provides a high-level description of how MPDC intends to achieve its CDM Targets. In the absence of finalized targets, the Strategy is based on the proposed targets of June 22, 2010.

If you have any further questions, please do not hesitate to contact David Ferguson at (519) 352-6300 x558 or email davidferguson@ckenergy.com.

Yours truly,

A handwritten signature in black ink, appearing to read 'Cheryl Decaire', is written over a light blue horizontal line.

Cheryl Decaire
Co-ordinator of Regulatory and Rates
(519) 352-6300 x405
Email: cheryldecaire@ckenergy.com

cc: Dave Kenney, President of Middlesex Power Distribution Corporation
Dan Charron, Director of Engineering & Technical Services
Matthew Meloche, System Engineer
David Ferguson, Director of Regulatory and Risk Management

CDM Strategy

Distributor's Name: Middlesex Power Distribution Corporation

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

Total Reduction in Electricity Consumption (kWh) Target: 10,000,000

This document was prepared for Middlesex Power Distribution Corporation by
IndEco Strategic Consulting Inc.

November 1, 2010

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CDM Strategy

This document is the CDM Strategy for Middlesex Power Distribution Corporation (MPDC). This CDM Strategy provides a high-level description of how MPDC intends to achieve its CDM Targets.

About Middlesex Power

MPDC is the local distribution company serving urban areas of Middlesex including the communities of Parkhill, Strathroy, Mt. Bridges, Newbury and Dutton. MPDC's customer base is as follows:

- 6,984 residential customers
- 780 general service customers <50 kW
- 95 general service customers > 50 kW and
- 1 larger user customer (>5000 kW)

Industry in MPDC's service territory includes production of stainless steel, aluminum and magnesium casted automotive parts, woodworking and recreational vehicle production.

MPDC is proud to be a provincial leader in the implementation of smart meters and has participated enthusiastically in the OPA Standard Programs, consistently achieving its targets and for some programs (e.g. Power Savings Blitz) saturating the market.

Principles

This CDM Strategy is guided by the following principles.

General

- The CDM Strategy should build on the Corporation's vision and mission statements
- The CDM Strategy should be flexible enough to respond to changing circumstances, and MPDC's understanding of its customers and their needs

Customers and Shareholders

- The CDM Strategy should address the energy priorities of the Province as these relate to MPDC's customers
- The CDM Strategy should offer programs to all customer types where appropriate
- The CDM Strategy should make sense for MPDC customers and shareholders

- The CDM Strategy should enhance economic development within their service territory
- The CDM Strategy should help position MPDC and its shareholder as leaders in the community on energy efficiency

Partnerships

- The CDM Strategy should build on existing programs and partnerships where possible
- The CDM Strategy should make working with local channel partners a priority
- The CDM Strategy should pursue administrative efficiencies and coordination with other distributors, natural gas distributors, social service agencies, any level of government, government agencies, the OPA and other organizations where possible

Programs

- The CDM Strategy should be made up of OPA programs and other programs that are complementary to, and not duplicative of, OPA programs
- The CDM programs should provide deep and comprehensive measures that require MPDC to visit a customer only once to maximize energy savings from MPDC program offerings
- The CDM programs within the Strategy should provide a ‘one stop shop’ for energy efficiency for MPDC customers
- The CDM programs should strive to achieve market transformations in MPDC’s service territory
- The CDM programs should be designed and backed by sound research and scientific principles

Year by Year Plan

Table 1 provides a year by year plan for how the CDM Strategy will meet MPDC’s CDM Targets¹.

Consumer and Business (non-DR) Program savings are calculated using the OPA Resource Planning Tool distributed by the OPA to MPDC on September 17, 2010. Business (DR) and Industrial Program savings are based on provincial savings found in the LDC summary guides distributed by the OPA to MPDC on

¹ The numbers in Table 1 are the energy savings (or peak demand savings) that are realized in each given year. For example, this means that energy savings given for 2013 are the result of savings from programs started in 2013 plus any savings in 2013 that are still occurring from programs started in 2011 and in 2012.

October 7, 2010. Low-income savings are based on estimated provincial savings estimated provided in a webinar hosted by the OPA².

MPDC participant rates for OPA programs are the provincial participant rates scaled down using MPDC's portion of the province's 2008 residential and non-residential energy use. In the absence of the specific targets and budgets for MPDC, and a description of how these were derived, it is not clear whether this scale-down approach is appropriate for MPDC. MPDC recognizes that participant rates will be refined over time as adjustments are made for market saturation from the success of programs in earlier years, and for targeted marketing that MPDC may undertake to push results beyond provincial averages for certain measures. These adjustments will be monitored and reported on in MPDC's annual reports, and appropriate amendments will be made to the program mix offered to customers.

Savings from Board-Approved Programs are those required beyond the savings from OPA programs in order for MPDC to meet 100% of both its 2011-2014 energy savings target and its 2014 summer peak demand savings target.

Table 1 Year by year plan for meeting CDM Targets

Program name	Energy savings (GWh)				Peak demand savings (MW)			
	2011	2012	2013	2014	2011	2012	2013	2014
Industrial	0.05	0.30	0.50	0.75	0.04	0.17	0.31	0.40
Business	0.20	0.90	1.30	1.60	0.14	0.38	0.62	0.82
Consumer	0.15	0.50	1.00	1.30	0.05	0.19	0.34	0.47
Low-income	0.02	0.05	0.10	0.10	0.00	0.00	0.01	0.01
Board-Approved Programs	0.10	0.30	0.45	0.55	0.03	0.15	0.23	0.29
Total	0.5	2.0	3.3	4.3	0.3	0.9	1.5	2.0

² Tier 1 Conservation Program Webinar Series. Webinar 1: 2011 Industrial, Commercial/Institutional and Consumer Program Design. Delivered by the OPA 29 July 2010.

Annual Milestones

Table 2 shows the annual milestones MPDC plans to achieve.

Table 2 Annual milestones

Type of savings	2011	2012	2013	2014	Total
Energy (GWh)					
From programs in that year	0.5	1.5	1.6	1.6	5.2
From programs in previous years	0.0	0.5	1.7	2.7	4.9
Total in-year savings	0.5	2.0	3.3	4.3	10.0
Peak demand (MW)					
From programs in that year	0.3	0.7	1.0	1.0	
From programs in previous years	0.0	0.2	0.5	1.0	
Total in-year demand reductions	0.3	0.9	1.5	2.0	

OPA-Contracted Province-Wide CDM Programs

MPDC plans to participate in all of the OPA-Contracted Province-Wide CDM Programs between 2011 and 2014. A description of this participation is shown in Table 3.

Table 3 OPA-Contracted Province-Wide CDM Programs to be undertaken

Program name	Year(s) of operation	Program description	Projected budget	Summer 2014 peak demand reductions (kW)	Electricity consumption reductions (MWh)
Industrial	2011 through 2014	See detailed description below	NA	403	1,497
Business	2011 through 2014	See detailed description below	NA	825	3,993
Consumer	2011 through 2014	See detailed description below	NA	470	2,872
Low-income	2011 through 2014	See detailed description below	NA	9	230

NA – Not available

The descriptions below are based on the information currently available from the OPA on the OPA-Contracted Province-Wide CDM Programs³ and based on output generated from the OPA CDM Resource Planning Tool. At the time of writing, the contracts for the OPA-Contracted Province-Wide CDM Programs were not available from the OPA.

Industrial Program

The purpose of this program is to achieve peak demand reduction and energy savings among the industrial customers of the LDC. There are four main initiatives included in this program:

- **Industrial ERIIP** is targeted at industrial customers of the LDC. Its purpose is to encourage the installation of new and replacement energy efficient equipment (e.g. lighting, fans and pumps, synchronous belts).

³ This information was obtained from the OPA Conservation Programs Webinar Series provided by the OPA on the following dates July 29, 2010, August 12, 2010, August 26, 2010, September 9, 2010 and October 7, 2010.

- **LDC Industrial Accelerator** is targeted at larger industrial, commercial and institutional customers of the LDC with a level of potential savings at or above 100 MWh. Its purpose is to improve the energy efficiency of equipment and production processes.
- **DR1 Industrial** is targeted at industrial customers of the LDC with a peak demand of 50 kW or more. Its purpose is to reduce system peak demand and increase system reliability through the customer's voluntary reduction of electricity demand during the peak demand period, and to encourage the DR1 customers to participate in the LDC Connected Industrial DR3 initiative.
- **LDC Connected Industrial DR3** is targeted at industrial customers of the LDC with peak demand of 50 kW or more that have a minimum hourly interval meter supported by recorders with 5-minute interval capability and demand response capacity. Its purpose is to reduce system peak demand and increase system reliability through the customer's mandatory reduction of electricity demand during peak demand periods.

Business Program

The Business Program covers both existing and new buildings in all business market segments. The purpose of this program is: to assist owners and operators of commercial and institutional buildings, farms, and multi-family residences to achieve reduced demand and energy savings through the purchase and operation of energy efficient equipment and to participate in demand response initiatives; to provide education to tenants and occupants regarding in-suite energy efficiency and demand response opportunities; and to achieve peak demand reduction and energy savings among the business customers of the LDC. This program also aims to facilitate a culture of conservation among these communities and the supply chains that serve them. The initiatives in the business program focus on buildings with the following descriptions/designations:

- Small Office
- Large Office
- Small Retail
- Large Retail
- Agricultural
- Multi-Family Condo
- Multi-Residential Buildings
- Elementary Schools
- Secondary Schools.

There are four main initiatives included in this program:

- **Direct Installed** is targeted at LDC customers in the General Service <50 kW account category. The program offers eligible customers up to \$1000 in measures related to lighting equipment upgrades and space cooling at no charge.
- **Small Commercial DR** is targeted at LDC customers in the General Service <50 kW account category with central air conditioning systems. Its purpose is to reduce system peak demand and increase system reliability through the reduction of electricity use during peak demand via remote load control. Customers may also participate without remote load control, that is, customers may still access price and real-time usage information and can choose to act on their own.
- **DR1 Commercial** is targeted at LDC customers with a peak demand of 50 kW or more. Its purpose is to reduce system peak demand, increase system reliability through the customer's voluntary reduction of electricity use during peak demand periods and encourage DR1 customers to participate in the LDC Connected Industrial DR3 initiative.
- **LDC Connected Commercial DR3** is targeted at LDC customers with peak demand of 50 kW or more that have interval meters supported by recorders with 5 minute interval capability and demand response capacity. Its purpose is to reduce system peak demand and increase system reliability through the customer's mandatory reduction of electricity use during peak demand periods.

Consumer Program

The Consumer Program is available to residential customers of the LDC. The purpose of the program to help these residential customers improve the energy efficiency of their homes, empower them by giving residential customers access to consumption and price information to help them better manage their electricity use, and to achieve peak demand reduction and energy savings. There are eight main initiatives included in this program:

- **Instant Rebates** are targeted at LDC customers in single-family homes. Its purpose is to encourage residential consumers to purchase energy efficient products by providing discounts on these products.
- **Midstream Electronics Incentive** is targeted at the retailers of televisions and set-top boxes. Its purpose is to encourage retailers to promote energy efficient models of televisions and set-top boxes by offering incentives to retailers.
- **Midstream Pools Incentive** is targeted at contractors who install pool equipment. Its purpose is to encourage contractors to install "right-sized" pool equipment (i.e. pool pumps) by offering incentives to contractors.

- **HVAC rebates** are targeted at LDC customers in single-family homes with inefficient central air conditioning and/or heating systems. Its purpose is to encourage customers to replace inefficient systems by offering rebates (delivered through participating contractors) for the installation of efficient systems.
- **Appliance Retirement** is targeted at LDC customers in single-family homes with inefficient working appliances (i.e. refrigerators, freezers, room air conditioners, dehumidifiers). Its purpose is to encourage customers to decommission these appliances through free pick-up and recycling of the appliances.
- **Exchange Events** are targeted at LDC customers in single-family homes who wish to replace a room air conditioner or dehumidifier in the spring or fall. Its purpose is to encourage customers to purchase an energy efficient model by offering a coupon or gift card for a replacement unit.
- **Residential New Construction** is targeted at builders of new, single-family homes. Its purpose is to encourage builders to construct new, single-family homes that include energy efficiency standards that are above current building codes by offering incentives to the builders.
- **Residential DR** is targeted at LDC customers in single-family homes with central air conditioning systems, electric water heaters, room air conditioners, and pool pumps. Its purpose is to reduce system peak demand and increase system reliability through the shift of electricity during peak demand. Customers may also participate without remote load control, that is, customers may still access price and real-time consumption information which allows them to act voluntarily.
- **Low-income single family home conservation** is targeted at LDC customers of low-income single family households as defined by Part 9 of the Ontario Building Code as well as consumers in multi-family buildings as defined by Part 3 of the Ontario Building Code. It provides a set of services and the purchase and installation of measures in the home or in-suite measures at no cost to the low-income consumer. Services to low-income consumers include audits as well as basic, low cost measures (e.g. CFL's, hot water pipe wrap, power bar with integrated timer); extended measures: generally appliance replacement; and weatherization (e.g. draft proofing, attic/basement insulation). The initiative may also include enabling initiatives such as training for delivery partners, capability building for social housing providers and marketing and education materials.

Potential Board-Approved CDM Programs

The OPA expects that the OPA-Contracted Province-Wide CDM Programs will meet only 91% of the provincial energy target and only 78% of the provincial demand target. MPDC's analysis of the proposed programs, for its service territory, based on the OPA CDM Resource Planning Tool is that in the MPDC service territory, the OPA programs will meet only 86% of the LDC energy target but 85% of the LDC demand target.⁴ Therefore MPDC plans to make up the anticipated shortfall through Board-Approved CDM Programs. The potential Board-Approved CDM Programs that are currently under investigation by MPDC are presented in Table 4.

Over the next few months MPDC will be doing more work on the development of its potential Board-Approved Programs which may involve further developing and refining the potential programs described herein in order to submit an application to the Board for proposed Board-Approved CDM Programs.

For the purpose of this high-level strategy, peak demand reductions and electricity consumption reductions have not yet been calculated for each individual Board-Approved Program. However, Table 1 provides an estimate of what reductions would be required in order for MPDC to meet 100% of both its 2011-2014 energy savings target and its 2014 summer peak demand savings target. The applications for specific Board-Approved Programs will address targets and budgets, including provision for contingencies.

⁴ The version of the tool provided September 17, 2010 does not offer provincial targets for demand response, or for the industrial programs. However, these have been estimated based on scaling down provincial estimates for these programs provided separately by the OPA.

Table 4 Potential Board-Approved CDM Programs

Program name	Year(s) of operation	Program description	Projected budget	Peak demand reductions (kW)	Electricity consumption reductions (MWh)
Residential Enhancement Program	2011 through 2014	See description below	NA	NA	NA
Municipal Energy Efficiency Leadership Program	2011 through 2014	See description below	NA	NA	NA
Small and Medium Business Enhancement Program	2011 through 2014	See description below	NA	NA	NA
Data Centre Energy Efficiency Program	2011 through 2014	See description below	NA	NA	NA
Sub-metering Program	2011 through 2014	See description below	NA	NA	NA

NA – Not available

Residential Enhancement Program

This program bundles together measures that are not covered by the OPA Consumer Program including building envelope measures, solar load displacement (non-FIT and non-microFIT installations), providing customers with a comparison of their energy use relative to that of their neighbours', financing to assist deeper measure purchase (e.g. greater insulation levels), behavioural components such as cold water wash promotions⁵, and planting of larger trees (subprogram to help pay for marginal cost of larger tree on individual lots, positioned where they will realize energy savings).

Municipal Energy Efficiency Leadership Program

This program combines the measures identified for the municipality so that it can show leadership to the community. It includes municipal lighting (street lighting replacement, traffic light replacement), night-time water pumping, upgrading pumps and motors associated with sewage and water treatment, and other municipal energy efficiency opportunities.

Small and Medium Business Enhancement Program

This program complements OPA Business offerings by including measures not covered by the OPA such as building envelope opportunities, financing, pre-demand response audits, on-bill comparison with like companies, fixing compressed air leaks, and building commissioning for buildings <50,000 sq. ft. This program also includes exploring an advisory service with St. Clair College on energy efficiency.

Data Centre Energy Efficiency Program

This program offers an audit and assistance with implementation of energy efficiency measures, as well as a custom incentive level for implemented measures in corporate data centres. Measures could include such things as server virtualization and consolidation, and efficiency improvements to the cooling systems required by data centres.

Sub-metering Program

This program would encourage through incentives and education and awareness the conversion of multi-unit residential bulk metered buildings to sub-metered buildings.⁶

⁵ This measure is contained on the OPA prescriptive measures list and described as having uncertain effectiveness and suggested to be part of an education program.

⁶ During an October 15, 2010 OEB webinar for electricity distributors on the CDM Code the OEB was asked for clarification as to whether sub-metering is considered CDM. The OEB did not have a response to this question at the time of the webinar and indicated that they would provide an answer to this question in due course. At the time of writing this answer was not available.

Program Mix

By delivering all of the OPA programs, MPDC offers CDM Programs to all customer types – industrial, commercial/institutional and consumers (residential), including low-income consumers.

The provision of Board-Approved CDM Programs will enhance this coverage for certain groups including residents with electrically heated homes, the local municipality and small and medium sized industrial, commercial and institutional facilities to match the market opportunities and customer base of the utility.

Low-income Programs

MPDC intends to offer the OPA Low-income Single Family Home Program when the program is available. Once information about this program is available MPDC will also assess the need for additional low-income programming not covered by the OPA program. By targeting residential customers with electric heat with a Board-Approved CDM Program, MPDC will also be aiding the low-income customer group as many electrically heated homes are occupied by residents with low incomes.

CDM Programs Co-ordination

In preparing this CDM Strategy MPDC sought, to the extent possible, to coordinate its CDM activities to ensure administrative efficiencies, to build on existing relationships, and to ensure maximum coverage for customers while eliminating any overlap. MPDC intends to coordinate its CDM activities with various parties including other distributors and the OPA. MPDC will also build on existing relationships developed during the implementation of third tranche and subsequent CDM activities including with delivery agents and channel partners. MPDC also intends to coordinate with social service and government agencies which may be involved in delivering programs and services to low-income customers.

In preparing this CDM Strategy, MPDC sought to pursue administrative efficiencies. MPDC intends to deliver the OPA-Contracted Province-Wide CDM Programs and Board-Approved CDM Programs with some combination of internal and external resources. The exact balance of internal and external resources will be established when more is known about the programs and what can be done to maximize efficiencies. MPDC will also deliver the CDM programs in partnership with existing delivery agents and channel partners to build on the capability already existing in the market.

To ensure that administrative efficiencies are maintained and that there is continual improvement in CDM program delivery over the four year period, MPDC will develop and implement a process to regularly monitor and enhance performance to ensure that its energy targets are met. This process will be built into EM&V plans for each Board-Approved Program.