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April 23, 2009

Ms Kirsten Walli  
Board Secretary  
Ontario Energy Board  
2300 Yonge Street, 27<sup>th</sup> Floor  
Toronto, ON  
M4P 1E4

Re: 2008 Reporting for Funding Granted under Third Tranche of MARR

Dear Ms. Walli:

Please find attached the 2008 Report for Funding Granted under Third Tranche of MARR.

Should you have any questions please feel free to contact myself at the number below.

Regards,

A handwritten signature in blue ink that reads "David Mackay".

David Mackay  
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Conservation & Demand Management  
Evaluation Report  
3<sup>rd</sup> Tranche Marr Programs  
RP-2004-0203

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# **Conservation & Demand Side Management Evaluation Report Introduction**

Bluewater Power Distribution Corporation (“Bluewater Power”) is a progressive utility providing electrical distribution and related services to approximately 35,000 customers in Southwestern Ontario. Bluewater Power was formed in 2000 upon completion of a merger of the Sarnia Hydro-Electric Commission, Petrolia Public Utilities Commission, Point Edward Public Utilities Commission, Watford Public Utilities Commission, Alvinston Public Utilities Commission and Oil Springs Hydro-Electric Commission.

Bluewater Power participated in Conservation and Demand Side Management (“CDM”) initiatives in response to a request made by the Ontario government to local distribution companies to assist in the creation of a “culture of conservation” among provincial electricity consumers. Funding for electricity conservation programs was approved as part of the 2006 EDR; (RP-2005-0020/EB-2005-0340); thus the programs were entirely funded through distribution rates and followed established guidelines for the delivery of CDM programs.

Bluewater Power’s goal was to position itself as the leader in energy efficiency and energy conservation expertise for Sarnia-Lambton. The initial focus was on educational programs and increasing awareness of the environmental and social benefits of energy conservation among all rate classifications of customers. Bluewater Power delivered multiple print and radio advertising campaigns as well as engaging customers at community outreach events that targeted the mass residential market. Trade fairs and breakfast meetings were sponsored to promote energy conservation among Bluewater Power’s commercial and industrial customers. An in-house “Power Smart Team” was established to increase employee awareness of the importance of energy conservation in the office and at home. Bluewater Power representatives delivered a conservation seminar to elementary school children while another pilot program was designed specifically with seniors in mind.

This summary will outline an evaluation of the above-mentioned educational-based programs and initiatives and provide market support assessment criteria as contained within the Ontario Energy Board’s Total Resource Cost Guide.

## Section 1 - Discussion of the Programs

### *Bluewater Power Green Team ("Power Smart Team")*

Bluewater Power established its Power Smart Team with representatives from all areas of the corporation whose mandate was to develop and implement an energy conservation plan for employees. Furthermore, the Power Smart Team identified energy saving opportunities within Bluewater Power and developed a plan of action to take advantage of these opportunities. Electricity consumption data was collected for benchmarking purposes and a load inventory was completed. The focus was to heighten employee awareness of the importance of energy conservation through a signage campaign pertaining to building lighting, office printers and computers, and building air conditioning. The Power Smart Team was responsible for implementing policy changes within the organization that would reduce electricity consumption. The Team identified garage lighting as an area for improvement; 21 fixtures changed from 400 watt metal halide to T5 lamps resulted in a yearly energy savings of 6,888 kWh and a total demand savings of 6.2 kW. This energy savings will be detailed in a section specific to T5 lighting within the Evaluation Report.

All Power Smart Team goals were met and were documented within the 2005 Conservation & Demand Side Management Annual Report.

<b>Proposed Budget</b>	<b>Actual Expenditure</b>	<b>Variance</b>
<b>\$55,000.00</b>	<b>\$45,161.00</b>	<b>\$9,839.00</b>

### *Distributed Generation*

Bluewater Power initially focused on the deployment of a showcase micro-generation project to highlight alternative energy technology and to improve public awareness. In the early stages of this initiative the Sarnia Lambton Economic Partnership was exploring the possibility of hydrogen as the basis of economic diversification; however, after no viable projects could be identified a feasibility study was undertaken for landfill gas electricity generation. This shift in focus led to increased internal labour costs and third party consulting costs. Negotiation with the owners of the landfill was required as well. Bluewater Power proposed that the results of the landfill gas feasibility study and an educational component would be shared with Lambton College and its Alternative Energy Program and this still remains our intent.

<b>Proposed Budget</b>	<b>Actual Expenditure</b>	<b>Variance</b>
<b>\$90,000.00</b>	<b>\$108,417.00</b>	<b>(\$18,417.00)</b>

### *Community Outreach*

Bluewater Power recognized that its community outreach program was a conservation initiative that would differentiate the corporation from other utilities. While the corporation acknowledges that

perhaps this was not the most cost effective approach to reach our customers, the Energy Conservation Community Tent Events positioned Bluewater Power as a good local corporate citizen and earned the utility tremendous positive response from the public. The Community Tent Events demonstrated Bluewater Power’s commitment to the citizens of its community in assisting them in reducing their energy consumption.

Radio and print media advertising was utilized for mass market messaging regarding the Community Tent Events. These events were held in all shareholder municipalities, and in addition town hall style meetings were held at various multi-residential buildings specifically targeting senior citizens. In return for electricity consumption survey data collected at these events, a customer was given a free CFL. Bluewater Power distributed 480 CFL’s which represented a yearly energy savings of 50,112 kWh. This energy savings will be detailed in a section specific to CFL’s within the Evaluation Report.

In partnership with Chatham Kent Hydro, Bluewater Power launched the “Energize your Minds” energy conservation program targeted towards elementary school children. This program was presented to over 1,000 children in Lambton County schools within Bluewater Power’s service area. Although not a component of our original program design, this program proved to be a very rewarding experience. However, participation in this program did contribute to expenditures exceeding the proposed budget.

<b>Proposed Budget</b>	<b>Actual Expenditure</b>	<b>Variance</b>
<b>\$26,100.00</b>	<b>\$53,438.00</b>	<b>(\$27,338.00)</b>

#### *Web Based Energy Toolbox*

Bluewater Power proposed the design and implementation of an internet based toolbox to be housed at [www.bluewaterpower.com](http://www.bluewaterpower.com). The web-based Energy Services E-Resource Centre officially launched on April 5<sup>th</sup> 2006. The Centre provides information for both residential and commercial customers; the web site features energy conservation tips, an energy use calculator for homes and business, energy management news and a learning centre for children. The web site registered close to 30,000 visitors in the first year, however, consulting fees and third party development cost over-runs led to the expenditure exceeding the budget.

<b>Proposed Budget</b>	<b>Actual Expenditure</b>	<b>Variance</b>
<b>\$13,000.00</b>	<b>\$28,314.00</b>	<b>(\$15,314.00)</b>

#### *Seasonal LED Lights (“SLED’s” or LED Christmas Lights)*

Bluewater Power partnered with the Sarnia Celebration of Lights to retrofit one of the seasonal light displays with LED’s and sponsored a new energy efficiency lighting competition category. Signage was erected at the Celebration of Lights site indicating the energy savings realized if customers used SLED’s rather than incandescent holiday lights. Furthermore, all Bluewater Power shareholders were offered an incentive to purchase SLED’s for use in their municipalities; 100% of the corporation’s shareholders accepted this offer. Incentive levels were very generous and in retrospect the incentives

should have been lower given that expenditures exceeded the proposed budget. However, this was Bluewater Power’s first foray into providing incentives to its customers. The SLED energy savings will be detailed in a section specific to SLED’s in the Evaluation report.

<b>Proposed Budget</b>	<b>Actual Expenditure</b>	<b>Variance</b>
<b>\$15,000.00</b>	<b>\$19,647.00</b>	<b>(\$4647.00)</b>

### *Streetlighting*

Bluewater Power purchased two LED streetlight fixtures which were installed for pilot project purposes in the Village of Point Edward and the Village of Oil Springs. The pilot project indicated rather quickly that the lighting levels were too low and the LED streetlights have since been removed. Increased labour and truck costs resulted from the installation and subsequent replacement of the LED streetlights in the field.

<b>Proposed Budget</b>	<b>Actual Expenditure</b>	<b>Variance</b>
<b>\$15,000.00</b>	<b>\$16,701.00</b>	<b>(\$1701.00)</b>

### *Fridge/Air Conditioner Exchange*

Bluewater Power decided to act on the advice of other local distribution companies and non-governmental organizations before proceeding with the fridge/air conditioner exchange program. Therefore, upon written request to the OEB, permission was given to re-allocate funds from this initiative to other programs within the CDM portfolio. As a result no monies were spent on the fridge/air Conditioner program. Subsequent to this decision the Ontario Power Authority launched “The Great Refrigerator Round-Up” in June of 2007.

### *Business Programs*

Bluewater Power proposed a program that would enable business organizations to reduce energy costs. A major component of this initiative was education and focused on raising awareness of how to reduce energy consumption within the business community. To educate businesses Bluewater Power partnered with the Sarnia Lambton Chamber of Commerce and the IESO to deliver an energy conservation breakfast seminar for 37 commercial customers.

Bluewater Power hosted a Business Customer Energy Conservation Trade Fair in partnership with the Chamber of Commerce and the Ontario Ministry of Economic Development and Trade. The trade fair initially began as an opportunity to work with the local Chamber of Commerce to promote energy conservation among local businesses. However, when the attendance of then Ontario Minister of Energy Donna Cansfield was confirmed the event became much larger in scope. This caused the expenditures to exceed the proposed budget; however, Bluewater Power gained tremendous positive feedback from all attendees, trade fair exhibitors and presenters. An estimated three hundred fifty visitors attended the trade fair throughout the day-long event. Concurrent with the trade show

Bluewater Power sponsored a Natural Resources Canada “Dollars to Sense” energy conservation workshop with 19 attendees.

A town hall style meeting was held with Steeves and Rozema, a large local property management and development company to provide education on energy conservation. Bluewater Power also facilitated a workshop in Sarnia on behalf of the Association of Major Power Consumers of Ontario.

<b>Proposed Budget</b>	<b>Actual Expenditure</b>	<b>Variance</b>
<b>\$23,000.00</b>	<b>\$49,873.00</b>	<b>(\$26,873.00)</b>

### *Low and Fixed Income Consumers*

Bluewater Power partnered with the Inn of the Good Shepherd (the “Inn”) on the development of educational programs for low income electricity consumers. An energy conservation workshop was organized at the Inn; however, there were no registrations so the workshop was cancelled.

Also in partnership with the Inn, Bluewater Power sponsored the “Inn to Win” lottery and purchased energy saving appliances for part of the Inn’s “Inn to Win” lottery prize board. The Energy Star-rated appliances were displayed prominently in the Lambton Mall along with energy conservation information. Close to 5,000 tickets were sold in year one of the lottery which helped the Inn with fundraising efforts. The Energy Star dishwasher has an energy savings of 101 kWh per year; the Energy Star clothes washer has an energy savings of 481 kWh per year; and the Energy Star central air conditioning unit has an energy savings of 351 kWh per year. These energy savings will be detailed in a section specific to Energy Star appliances in the Evaluation Report.

Bluewater Power partnered with the Canadian Centre for Pollution Prevention (“C2P2”) on a pilot program entitled Senior Ambassadors for Energy Conservation. This program consisted of free energy conservation workshops for seniors on fixed incomes.

<b>Proposed Budget</b>	<b>Actual Expenditure</b>	<b>Variance</b>
<b>\$60,000.00</b>	<b>\$52,609.00</b>	<b>\$7,391.00</b>

### *Memberships*

Memberships in various energy conservation associations allowed Bluewater Power an opportunity to leverage on existing conservation programs and resulted in partnerships with entities possessing experience delivering the message of conservation. In addition, these partnerships provided excellent networking opportunities. The Seniors Ambassadors program offered by Bluewater Power was a result of the membership in the Canadian Centre for Pollution Prevention, and Bluewater Power’s association with the Canadian Energy Efficiency Alliance resulted in participation in the nationally recognized “Switch to Cold” campaign. Over 500 Bluewater Power customers participated in this program.

<b>Proposed Budget</b>	<b>Actual Expenditure</b>	<b>Variance</b>
<b>\$5,000.00</b>	<b>\$5,539.00</b>	<b>(\$539.00)</b>

### *Load Control*

Budgeted funds were re-allocated upon approval from OEB. No monies were spent on this initiative.

### *Energy Data Management*

Bluewater Power proposed the implementation of an integrated system to report on time based consumption data and export this data to the customer billing module. This system will give Bluewater Power the capacity to manage time-of-use ("TOU") data assigned to specific accounts and the ability to forecast and plot TOU consumption for presentation and reporting.

<b>Proposed Budget</b>	<b>Actual Expenditure</b>	<b>Variance</b>
<b>\$200,000.00</b>	<b>\$174,262.00</b>	<b>\$25,738.00</b>

### *Smart Meter Pilot*

Bluewater Power proposed a pilot program of between 250-500 smart meters in order to gain the experience and understanding of smart meter installations, communication, data flow and impact to the customer. The Smart Meter Pilot Project was launched in Watford November 2005 with the Ontario Minister of Energy in attendance. Once the pilot project was complete Bluewater Power hosted a public meeting in Watford to report on findings. Following this meeting Bluewater Power staff hosted two information sessions at the Watford Public Library to discuss smart metering with customers on a one-on-one basis.

<b>Proposed Budget</b>	<b>Actual Expenditure</b>	<b>Variance</b>
<b>\$35,000.00</b>	<b>\$29,662.00</b>	<b>\$5,338.00</b>

### *Energy Audit Program*

Bluewater Power re-allocated funds from other initiatives in the CDM portfolio to create the Energy Audit Program. The program was modeled after on Natural Resources Canada's "Dollars to Sense" workshops and provided analysis of consumption and demand profile for commercial customers.

<b>Proposed Budget</b>	<b>Actual Expenditure</b>	<b>Variance</b>
<b>\$100,000.00</b>	<b>\$73,464.00</b>	<b>\$26,536.00</b>

### *Lessons Learned*

In the early stages of planning and delivering CDM programs Bluewater Power's focus was to enter the marketplace quickly and engage our customers with educational based programming.

However, there existed a very real lack of experience within the utility regarding CDM program delivery. To overcome this deficiency many of the Bluewater Power programs were based on initiatives that were successful in other jurisdictions. Although some areas were overspent, Bluewater Power created momentum in the marketplace for energy conservation and received very positive feedback on the programs. Because of the momentum and positive feedback it was determined that it would be worthwhile to continue along the chosen route with respect to which energy conservation programs to offer.

A further lesson learned was that some Bluewater Power customers viewed the energy conservation programs with a measure of skepticism; customers had experienced unsuccessful CDM initiatives previously with the former Ontario Hydro and therefore were reluctant to participate initially.

Bluewater Power found that there was a great deal of messaging directed at customers from a number of stakeholders (utilities, government, private business, etc.) These multiple sources of messaging at times caused confusion for Bluewater Power customers. However, being the area's long time trusted source of electricity delivery, Bluewater Power positioned itself very quickly as the local expert in the area of electricity conservation and energy efficiency.

### **Conclusion**

Under the direction of the Ontario provincial government, Bluewater Power submitted a Conservation and Demand Side Management Program proposal. The proposed spending was approved and Bluewater Power set out to implement the initiatives contained within the approved proposal. Bluewater Power succeeded in "rolling out" a conservation plan that adhered to the guiding principles of Conservation and Demand Side Management delivery. The programs took a balanced approach, allowed for customer participation and were designed to address all rate classifications. Bluewater Power is committed to providing CDM initiatives to its customers and it is our contention that we delivered on that commitment.

## Appendix 1 - Program Summary

	<b>Proposed Budget</b>	<b>Actual Expenditure</b>
Green Team	\$55,000	\$45,161
Distributed Generation	\$90,000	\$108,417
Community Outreach	\$26,100	\$53,438
Web Based Toolbox	\$13,000	\$28,314
Seasonal LED	\$15,000	\$19,647
Streetlighting	\$15,000	\$16,701
Business Products	\$23,000	\$49,873
Low Income Consumers	\$60,000	\$52,609
Memberships	\$5,000	\$5,539
EDM System	\$200,000	\$174,262
Smart Meter Pilot	\$35,000	\$29,662
Energy Audit Program	\$100,000	\$73,464
<b>Totals</b>	<b>\$657,600</b>	<b>\$657,710</b>

**\*Note\*** Bluewater Power remained within \$110 of its proposed budget.

## **Appendix D - Total Life Evaluation of the CDM Plan**

Table is to be completed manually by totalling the information from each year of activity

	<sup>5</sup> Cumulative Totals Life-to-date	Residential	<sup>6</sup> Low Income	Commercial	Institutional	Industrial	Agricultural	LDC System	<sup>4</sup> Smart Meters
<i>Net TRC value (\$):</i>	\$14,464.00	\$ 3,152.00	\$	\$ 464.00	\$	\$	\$	\$	
<i>Benefit to cost ratio:</i>	5.38	2.00		0.14					
<i>Number of participants or units delivered:</i>	606	585		21					
<i>Lifecycle (kWh) Savings:</i>	293,074	258,634		34,440					
<i>Total kWh saved (kWh):</i>	240,876	213,324		27,552					
<i>Total peak demand saved (kW):</i>	52.6	48		4					
<i>Total kWh saved as a percentage of total kWh delivered (%):</i>	0.022	0.02		0.002					
<i>Peak kW saved as a percentage of LDC peak kW load (%):</i>	0.026	0.024		0.002					
<sup>1</sup> <i>Gross C&amp;DM expenditures (\$):</i>	40,664.00	\$ 29,453.00	\$	\$ 11,211.00	\$	\$	\$	\$	\$
<sup>2</sup> <i>Expenditures per kWh saved (\$/kWh):</i>	0.169	\$ 0.14	\$	\$ 0.40	\$	\$	\$	\$	
<sup>3</sup> <i>Expenditures per kW saved (\$/kW):</i>	773.08	\$ 613.60	\$	\$ 2,802.75	\$	\$	\$	\$	
<i>Utility discount rate (%):</i>	6.82								

<sup>1</sup> Expenditures are reported on cumulative basis.

<sup>2</sup> Expenditures include all utility program costs (direct and indirect) for all programs which primarily generate energy savings.

<sup>3</sup> Expenditures include all utility program costs (direct and indirect) for all programs which primarily generate capacity savings.

<sup>4</sup> Please report spending related to 3rd tranche of MARR funding only. TRC calculations are not required for Smart Meters. Actual expenditures for the total third tranche period need to be reported.

<sup>5</sup> Includes total for the reporting year, plus prior years, if any (for example, 2008 CDM Annual report for third tranche will include 2007, 2006, 2005 and 2004 numbers, if any).

<sup>6</sup> Includes totals from Low Income programs that fall under both commercial and residential.

Other #1	Other #2
\$	\$
\$	\$
\$	\$
\$	\$

