



**Essex Powerlines Corporation | RP-2004-0203  
EB-2004-0499**

**2008 Annual Report, CDM Third Tranche Funding**

*Expanding the Culture of Conservation Mandate*



# **Conservation and Demand Management Annual Report 2008**

**Kristopher Taylor**  
Essex Powerlines Corporation



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## Introduction & Overview of Reported Programs

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Essex Powerlines Corporation is proud to present you with their 2008 Annual Conservation & Demand Management Report. Our slogans; “**Your Power, our Priority**”, and “**Doing the Right Thing, Leading by Example**” have been further reinforced this year and they certainly hold true. We are continually leading by example and attempting to represent the epitome of energy conservation in Essex County and southwestern Ontario.

Essex Powerlines’ CDM Plan consists of 5 primary categories:

- i) Energy Awareness
- ii) Residential Conservation <50 kW
- iii) General Service Conservation > 50 kW
- iv) Municipal Green Project
- v) 4 kV Conservation

With approximately three years of intense conservation related focus behind us, there is no doubt that **Essex Powerlines Corporation’s Conservation and Demand Management (CDM)** program is expanding the reach and message of a culture of conservation in Ontario through a variety of innovative and resourceful programs. These CDM programs are available to residents, businesses as well as the municipalities that Essex Powerlines is proud to service.

By partnering with industry-specific service partners, Essex Powerlines is providing *best-in-class* energy conservation and education solutions to all of their electricity customers.

Essex Powerlines has had great success as it pertains to energy conservation and demand side management and we are proud to report the results within. We look forward to working with our customers as well as all appropriate entities to ensure that conservation is constantly in the mind of all Ontarians.

Essex Powerlines is proud to have been able to offer a wide array of conservation initiatives throughout the last few years and looks forward to being to work further with the Ontario Energy Board as a delivery agent and expert in the very near future.



Kristopher W. A. Taylor  
Conservation & Special Projects Manager  
Essex Powerlines Corporation

## EnerGuide Home Audit Incentive Program

Teaming up with a reputable and professional home inspection service has enabled Essex Powerlines to promote the federal **EnerGuide for Houses Grants for Homeowners** program. By offering our customers \$75 off the price of a professional home energy audit along with a box of LED Christmas as an added incentive, we are able to assist homeowners in identifying areas for improvement and increased energy efficiency. The overall effect includes customer education, lower energy bills and reduced peak demand.



The Home energy program has been promoted through the Essex Powerlines website, bill inserts, magazine ads and local newspaper articles.

Since the programs inception in early 2005 177 homes within the Essex Powerlines service territory have taken advantage of the Home Energy audit program resulting in incalculable savings.



## Christmas Light Exchange Program

Essex Powerlines once again, sponsored a Christmas light exchange program for each of our 4 municipalities. The replacement LED lights consume on average 90% less energy than standard 5W Christmas bulbs.

In only one day, 2200 boxes of 60 bulb LED Christmas lights were exchanged for their energy wasting incandescent counterparts which greatly exceeded our expectations! This program is a perfect example of how easy it really is to make



Results
Each municipality was provided 20 - 70 bulb strings. The total savings between this program and the xmas light exchange with customers is 151,200 kwh/yr

a small change but contribute towards a significantly larger result. Customers are already inquiring about a future programs of this nature and we will be working diligently to ensure that we can bring this beloved program to our customer base once again.

## **Wholesale Embedded Generation Incentive Program**

Essex Powerlines is a firm believer that excellent opportunities exist within the standby generation market. There are programs that currently exist that would allow small standby generators, typically used for emergency “back-up” power, to provide stability to Ontario electrical grid via means of wholesale embedded generator aggregation. This aggregation of smaller generators (typically no smaller than 500 kW and no larger than 1 MW) is seen by the Independent Electricity System Operator (IESO) as one large, dispatchable generator. This aggregation is necessary to avoid the many costs of having multiple connection points.

Since this concept is relatively new, the cost structure for the connection of these small generators is, in many cases, identical to the



### **Results**

Having these two dispatchable units within our distribution system will help provide approximately 400,000 kWh to the system as well as maintain the integrity of the electrical grid.

costs associated with connecting their much larger counterparts. This would normally mean these projects could not be economically viable. This is why Essex Powerlines has sponsored the connection of 2 1MW units within our service territory with a \$75,000 incentive! These two units will be able to provide 2000 kW of electricity to our system at anytime the IESO deems them economically viable! Historically, units similar to these in this program typically run 200 hours per year and provide roughly 400,000 kWh to grid each year!

## Appendix A - Evaluation of the CDM Plan

Highlighted boxes are to be completed manually, white boxes are linked to Appendix C and will be brought forward automatically.

	Total for 2008	Residential	<sup>5</sup> Low Income	Commercial	Institutional	Industrial	Agricultural	LDC System	<sup>4</sup> Smart Meters	Other #1	Other #2
Net TRC value (\$):	\$ 5,700	\$ (5,700)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Benefit to cost ratio:	0.90	0.90	-	-	-	-	-	-	-	-	-
Number of participants or units delivered:	16.00	16.00	-	-	-	-	-	-	-	-	-
Lifecycle (kWh) Savings:	91,200	91,200.00	-	-	-	-	-	-	-	-	-
Report Year Total kWh saved (kWh):	4,560	4,560	-	-	-	-	-	-	-	-	-
Total peak demand saved (kW):	-	-	-	-	-	-	-	-	-	-	-
Total kWh saved as a percentage of total kWh delivered (%):	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Peak kW saved as a percentage of LDC peak kW load (%):	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
<sup>1</sup> Report Year Gross C&DM expenditures (\$):	\$ 87,102	\$ 12,102	\$ -	\$ -	\$ -	\$ 75,000	\$ -	\$ -	\$ -	\$ -	\$ -
<sup>2</sup> Expenditures per kWh saved (\$/kWh):	\$ 0.96	\$ 0.13	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<sup>3</sup> Expenditures per kW saved (\$/kW):	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Utility discount rate (%):	7.73										

<sup>1</sup> Expenditures are reported on accrual 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. Only actual expenditures for the year need to be reported.

# Appendix C - Program and Portfolio Totals

Report Year: 2008

## 1. Residential Programs

List each Appendix B in the cells below; Insert additional rows as required.

Note: To ensure the integrity of the formulas, please insert the additional rows in the middle of the list below.

Name of Program	TRC Benefits (PV)		TRC Costs (PV)	\$ Net TRC Benefits	Benefit/Cost Ratio	Report Year Total kWh Saved	Lifecycle Savings (kWh)	Total Peak Demand (kW) Saved	Report Year Gross C&DM Expenditures (\$)
	\$	(PV)							
Christmas Light Exchange	\$ -	\$ -	\$ -	\$ -	0.00	0	0	0	\$ 9,102
Energyside Home Audit	\$ 2,700	\$ 3,000	\$ -	\$ 5,700	-0.90	4,560	91,200	0	\$ 3,000
Name of Program C					0.00				
Name of Program D					0.00				
Name of Program E					0.00				
Name of Program F					0.00				
Name of Program G					0.00				
Name of Program H					0.00				
Name of Program I					0.00				
Name of Program J					0.00				
<b>*Totals App. B - Residential</b>	<b>-\$ 2,700</b>	<b>\$ 3,000</b>	<b>-\$</b>	<b>\$ 5,700</b>	<b>-0.90</b>	<b>4,560</b>	<b>91,200</b>	<b>0</b>	<b>\$ 12,102</b>

Residential Indirect Costs not attributable to any specific program

Total Residential TRC Costs

**Totals TRC - Residential	-\$ 2,700	\$ 3,000	-\$ 5,700	-0.90
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## 2. Commercial Programs

List each Appendix B in the cells below; Insert additional rows as required.

Note: To ensure the integrity of the formulas, please insert the additional rows in the middle of the list below.

Name of Program	TRC Benefits (PV)		TRC Costs (PV)	\$ Net TRC Benefits	Benefit/Cost Ratio	Report Year Total kWh Saved	Lifecycle Savings (kWh)	Total Peak Demand (kW) Saved	Report Year Gross C&DM Expenditures (\$)
	\$	(PV)							
Name of Program A					0.00				
Name of Program B					0.00				
Name of Program C					0.00				
Name of Program D					0.00				
Name of Program E					0.00				
Name of Program F					0.00				
Name of Program G					0.00				
Name of Program H					0.00				
Name of Program I					0.00				
Name of Program J					0.00				
<b>*Totals App. B - Commercial</b>	<b>-\$</b>	<b>\$</b>	<b>-\$</b>	<b>\$</b>	<b>0.00</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>\$</b>









### 9. Other #2 Programs

List each Appendix B in the cells below; Insert additional rows as required.  
 Note: To ensure the integrity of the formulas, please insert the additional rows in the middle of the list below.

Name of Program	TRC Benefits (PV)	TRC Costs (PV)	\$ Net TRC Benefits	Benefit/Cost Ratio	Report Year Total kWh Saved	Lifecycle Savings (kWh)	Total Peak Demand (kW) Saved	Report Year Gross C&DM Expenditures (\$)
Name of Program A				0.00				
Name of Program B				0.00				
Name of Program C				0.00				
Name of Program D				0.00				
Name of Program E				0.00				
Name of Program C				0.00				
Name of Program G				0.00				
Name of Program H				0.00				
Name of Program I				0.00				
Name of Program J				0.00				
<b>*Totals App. B - Other #2</b>	\$ -	\$ -	\$ -	0.00	0	0	0	\$ -
<i>Other #2 Indirect Costs not attributable to any specific program</i>								
<b>Total TRC Costs</b>	\$ -	\$ -	\$ -	0.00				

### LDC's CDM PORTFOLIO TOTALS

TRC Benefits (PV)	TRC Costs (PV)	\$ Net TRC Benefits	Benefit/Cost Ratio	Report Year Total kWh Saved	Lifecycle Savings (kWh)	Total Peak Demand (kW) Saved	Report Year Gross C&DM Expenditures (\$)
-\$ 2,700	\$ 3,000	-\$ 5,700	-0.90	\$ 4,560	\$ 91,200	\$ -	\$ 87,102
<i>Any other Indirect Costs not attributable to any specific program</i>							
<b>TOTAL ALL LDC COSTS</b>	\$ 3,000	\$ 3,000					
<b>**LDC' PORTFOLIO TRC</b>	-\$ 2,700	\$ 3,000	-\$ 5,700				

\* The savings and spending information from this row is to be carried forward to Appendix A.  
 \*\* The TRC information from this row is to be carried forward to Appendix A.

## **Discussion of Programs**

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### ***Appendix B***

- 1- Xmas light LED exchange Program
- 2- Energuide Home Audit Program
- 3- Wholesale EG Incentive Program

# Appendix B - Discussion of the Program

**(complete this Appendix for each program)**

A. **Name of the Program:** Christmas Light Exchange Program

**Description of the program (including intent, design, delivery, partnerships and evaluation):**

Essex Powerlines electricity customers were able to exchange strands of incandescent christmas lights for their LED counterparts at no cost. Kiosks were setup in each municipality (4) and lights were exchanged for a prescribed amount of time. All old lights were recycled by a local group which converts a large percentage of the existing wire into useful electronics such as laptops, for less fortunate children.

**Measure(s):**

	Measure 1	Measure 2 (if applicable)	Measure 3 (if applicable)
Base case technology:			
Efficient technology:			
Number of participants or units delivered for reporting year:			
Measure life (years):			
Number of Participants or units delivered life to date			

<b>B. TRC Results:</b>	<b>Reporting Year</b>	<b>TRC Results:</b>
<sup>1</sup> TRC Benefits (\$):		
<sup>2</sup> TRC Costs (\$):		
Utility program cost (excluding incentives):		
Incremental Measure Costs (Equipment Costs)		
Total TRC costs:		
<hr/> <b>Net TRC (in year CDN \$):</b> <hr/>		
Benefit to Cost Ratio (TRC Benefits/TRC Costs):		

<b>C. Results:</b> (one or more category may apply)	<b>Cumulative Results:</b>	
<b><u>Conservation Programs:</u></b>		
Demand savings (kW):	Summer Winter lifecycle	
Energy saved (kWh):	in year	
Other resources saved :		
Natural Gas (m3):		
Other (specify):		
<b><u>Demand Management Programs:</u></b>		
Controlled load (kW)		
Energy shifted On-peak to Mid-peak (kWh):		
Energy shifted On-peak to Off-peak (kWh):		
Energy shifted Mid-peak to Off-peak (kWh):		
<b><u>Demand Response Programs:</u></b>		
Dispatchable load (kW):		
Peak hours dispatched in year (hours):		
<b><u>Power Factor Correction Programs:</u></b>		
Amount of KVar installed (KVar):		
Distribution system power factor at beginning of year (%):		
Distribution system power factor at end of year (%):		

**Line Loss Reduction Programs:**

Peak load savings (kW):			
	lifecycle	in year	
Energy savings (kWh):			

**Distributed Generation and Load Displacement Programs:**

Amount of DG installed (kW):		
Energy generated (kWh):		
Peak energy generated (kWh):		
Fuel type:		

**Other Programs (specify):**

Metric (specify):		
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<b>D. Actual Program Costs:</b>		<b>Reporting Year</b>	<b>Cumulative Life to Date</b>
Utility direct costs (\$):	Incremental capital:	\$ -	\$ 3,000.00
	Incremental O&M:	\$ 9,102.00	\$ 41,791.02
	Incentive:	\$ -	\$ -
	Total:	\$ 9,102.00	\$ 44,791.02
Utility indirect costs (\$):	Incremental capital:		
	Incremental O&M:		
	Total:		

**E. Assumptions & Comments:**

As per the 2007 annual CDM report, costs for the 2007 program were paid in 2008 and are reported above. These costs were factored into TRC calculations for 2007 results but simply reported for your convenience.

<sup>1</sup> Benefits should be estimated if costs have been incurred and the technology has been deployed. Benefits reflect the present value of the measure for the number of units deployed in the year, i.e. the number of units times the net present value per unit benefit specified in the TRC Guide.  
<sup>2</sup> For technologies which have not been deployed but for which the LDC has incurred costs, report only the TRC costs on a present value basis. Incentives (e.g. rebates) from the LDC to a customer are not a component of the TRC costs. However, payments made to a third party service provider to run an incentives program are program costs, and are to be included as TRC costs under the "Utility Program Costs" line.

# Appendix B - Discussion of the Program

(complete this Appendix for each program)

A. **Name of the Program:** EnerGuide Home Audit Program

**Description of the program (including intent, design, delivery, partnerships and evaluation):**

Administered through Amerispec for all residential Essex Powerlines electricity customers, the EnerGuide Home Audit Program allows customers to identify potential energy deficiencies that their home may have.

**Measure(s):**

	Measure 1	Measure 2 (if applicable)	Measure 3 (if applicable)
Base case technology:			
Efficient technology:			
Number of participants or units delivered for reporting year:		16	
Measure life (years):		20	
Number of Participants or units delivered life to date		100	

	Reporting Year	TRC Results:
B. <b>TRC Results:</b>		
<sup>1</sup> TRC Benefits (\$):	-\$ 2,700.00	\$ 20,400.00
<sup>2</sup> TRC Costs (\$):		
Utility program cost (excluding incentives):	\$ 3,000.00	\$ 15,300.00
Incremental Measure Costs (Equipment Costs)	\$ -	\$ 5,000.00
Total TRC costs:	\$ 3,000.00	\$ 20,300.00
<hr/>		
Net TRC (in year CDN \$):		
<hr/>		
Benefit to Cost Ratio (TRC Benefits/TRC Costs):	- 0.90	0.85

C. **Results:** (one or more category may apply) **Cumulative Results:**

**Conservation Programs:**

Demand savings (kW):	Summer	0	1
	Winter	0	2
	<i>lifecycle</i>	<i>in year</i>	
Energy saved (kWh):	91200	4560	
Other resources saved :			
Natural Gas (m3):			
Other (specify):			

**Demand Management Programs:**

Controlled load (kW)		
Energy shifted On-peak to Mid-peak (kWh):		
Energy shifted On-peak to Off-peak (kWh):		
Energy shifted Mid-peak to Off-peak (kWh):		

**Demand Response Programs:**

Dispatchable load (kW):		
Peak hours dispatched in year (hours):		

**Power Factor Correction Programs:**

Amount of KVar installed (KVar):		
Distribution system power factor at beginning of year (%):		
Distribution system power factor at end of year (%):		

**Line Loss Reduction Programs:**

Peak load savings (kW):		
	<i>lifecycle</i>	<i>in year</i>
Energy savings (kWh):		

**Distributed Generation and Load Displacement Programs:**

Amount of DG installed (kW):

Energy generated (kWh):

Peak energy generated (kWh):

Fuel type:

**Other Programs (specify):**

Metric (specify):

**D. Actual Program Costs:**

		<u>Reporting Year</u>	<u>Cumulative Life to Date</u>
Utility direct costs (\$):	Incremental capital:	\$ -	\$ 5,000.00
	Incremental O&M:	\$ 3,000.00	\$ 15,300.00
	Incentive:	\$ -	\$ -
	Total:	\$ 3,000.00	\$ 20,300.00
Utility indirect costs (\$):	Incremental capital:	<input type="text"/>	<input type="text"/>
	Incremental O&M:	<input type="text"/>	<input type="text"/>
	Total:	<input type="text"/>	<input type="text"/>

**E. Assumptions & Comments:**

An incremental 16 assessments were completed within the allowed period of time and are identified above.

<sup>1</sup> Benefits should be estimated if costs have been incurred and the technology has been deployed. Benefits reflect the present value of the measure for the number of units deployed in the year, i.e. the number of units times the net present value per unit benefit specified in the TRC Guide.

<sup>2</sup> For technologies which have not been deployed but for which the LDC has incurred costs, report only the TRC costs on a present value basis. Incentives (e.g. rebates) from the LDC to a customer are not a component of the TRC costs. However, payments made to a third party service provider to run an incentives program are program costs, and are to be included as TRC costs under the "Utility Program Costs" line.





Fuel type:

Diesel

Diesel

**Other Programs (specify):**

Metric (specify):

**D. Actual Program Costs:**

Utility direct costs (\$):

Incremental capital:

	<u>Reporting Year</u>	<u>Cumulative Life to Date</u>
	\$ -	\$ -
	\$ -	\$ 13,108.75
	\$ 75,000.00	\$ 75,000.00
	\$ 75,000.00	\$ 88,108.75

Incremental O&M:

Incentive:

Total:

Utility indirect costs (\$):

Incremental capital:

Incremental O&M:

Total:

**E. Assumptions & Comments:**

The incentive not yet paid in 2007 has been realized in 2008 and is depicted above. TRC calculated and attributed to 2007.

<sup>1</sup> Benefits should be estimated if costs have been incurred and the technology has been deployed. Benefits reflect the present value of the measure for the number of units deployed in the year, i.e. the number of units times the net present value per unit benefit specified in the TRC Guide.

<sup>2</sup> For technologies which have not been deployed but for which the LDC has incurred costs, report only the TRC costs on a present value basis. Incentives (e.g. rebates) from the LDC to a customer are not a component of the TRC costs. However, payments made to a third party service provider to run an incentives program are program costs, and are to be included as TRC costs under the "Utility Program Costs" line.

## 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	Energy Awareness	Municipal
Net TRC value (\$):	\$ 4,131,441.00	\$ 1,330,718.00	\$ -	\$ 39,537.00	\$ 82,718.00	\$ 2,640,191.00	\$ -	\$ 23,977.00	\$ -	\$ -	\$ 18,300.00
Benefit to cost ratio:	5.47	6.56	0.00	0.41	0.97	16.71	0.00	0.16	0.00	0.00	0.72
Number of participants or units delivered:	22,681	17,211	-	1,232	246	3	-	1	-	4,000	4
Lifecycle (kWh) Savings:	101,603,856.00	20,352,716.00	-	33,700,010.00	1,443,210.00	44,704,400.00	-	996,720.00	-	-	406,800.00
Total kWh saved (kWh):	5,833,075.00	2,326,325.00	-	481,430.00	288,642.00	2,671,800.00	-	24,198.00	-	-	40,680.00
Total peak demand saved (kW):	3.206	556.00	-	82.00	132.00	2,305.00	-	5.00	-	-	126.00
Total kWh saved as a percentage of total kWh delivered (%):	1.09%	0.43%	0.00%	0.09%	0.05%	0.50%	0.00%	0.00%	0.00%	0.00%	0.01%
Peak kW saved as a percentage of LDC peak kW load (%):	2.26%	0.39%	0.00%	0.06%	0.09%	1.62%	0.00%	0.00%	0.00%	0.00%	0.09%
<sup>1</sup> Gross C&DM expenditures (\$):	\$ 755,591.16	\$ 202,927.20	\$ -	\$ 85,834.37	\$ 85,456.39	\$ 158,031.75	\$ -	\$ 151,336.45	\$ -	\$ 46,757.00	\$ 25,248.00
<sup>2</sup> Expenditures per kWh saved (\$/kWh):	\$ 0.13	\$ 0.09	\$ -	\$ 0.18	\$ 0.30	\$ 0.06	\$ -	\$ 6.25	\$ -	\$ -	\$ 0.62
<sup>3</sup> Expenditures per kW saved (\$/kW):	\$ 235.68	\$ 364.98	\$ -	\$ 1,046.76	\$ 647.40	\$ 68.56	\$ -	\$ 30,267.29	\$ -	\$ -	\$ 200.38
Utility discount rate (%):	7.73										

<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.

## Lessons Learned

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Maintaining constant visibility is the key to conservation in Southwestern Ontario. Our customer base, if kept properly informed, is always excited and motivated to help contribute to the province's mandate of creating a "Culture of Conservation".

Whether you consider targeting our residential, commercial, or industrial customers is irrelevant; they *all* want to know how to conserve, and need help doing it. This requires face to face activity with customers; not just flyers sent in the mail. We have received, and continue to receive compliments from customers who are surprised by the fact that we take a passion in helping them conserve electricity.

The following programs have been well received, successful, and will be part of our ongoing activities:

### ***Public Awareness and Trade Show Representation***

Increasing public awareness and educating our customers has been a focus for Essex Powerlines. We have developed promotional and educational materials, as well created interactive and static displays to help deliver the message of demand management. We have participated in home shows, industry specific tradeshow and displayed materials at each municipal office within our service territory.

### ***EnerGuide Home Audit Program***

Essex Powerlines contributes \$75 to all residential customers looking for a home electrical audit. Through a very reputable, reliable and professional company, our incentive payment has generated an incalculable savings for customers as well as for the province.

### ***OPA Every Kilowatt Counts Campaign***

Essex Powerlines has continued to support the Ontario Power Authority's "Every Kilowatt Counts" campaign by cross promoting it with all other conservation initiatives that we embark on. The EKC program has experienced great success in Southwestern Ontario as a result.

### ***Christmas Light Exchange Program and Energy Innovators Program***

Essex Powerlines once again, sponsored a Christmas light exchange program for each of our 4 municipalities. The replacement LED lights consume on average 90% less energy than standard 5W Christmas bulbs.

In only one day, 2200 boxes of 60 bulb LED Christmas lights were exchanged for their energy wasting incandescent counterparts which greatly exceeded our expectations! This program is a perfect example of how easy it really is to make a small change but contribute towards a significantly larger result.

## ***Energy Conservation and Kid's Energy Conservation Portal***

Essex Powerlines knows that it doesn't take a lot to conserve energy and strives to provide our customers with simple and affordable power saving solutions through their "Energy Conservation Web portal".

Through web sites and interactive media, Essex Powerlines is helping to create the culture of conservation at home and in businesses by offering home efficiency and renovation tips, and hands on solutions to improve profits and productivity, including our utilismart software, which can help you master the energy market from your desktop.

### ***Kids Energy***

Essex Powerlines knows that getting the next generation of power consumers thinking about energy conservation today is a major step towards solving future power crises.

The Kids Energy Web portal puts this knowledge into action! Young minds absorb information like powerful batteries storing energy. Kids Energy uses games, experiments and a Home Energy Audit project to provide a playful, interactive learning environment where young minds are exposed to energy, its uses, and how it's distributed.



A culture of conservation and demand management must include and embrace the upcoming generations, the people who will be making the energy decisions of the future. Essex Powerlines is already there, guiding them towards energy savings and greater efficiency.

## ***Essex Powerlines Sponsored Utilismart Monitoring for Interval Metered Customers***

Utilismart currently provides a wide range of services to Local Utilities, Industrial and Large Use consumers in the Ontario Electricity Marketplace. Utilismart Corporation operates a web-based service that provides customers with the information needed to make informed business decisions about electricity usage.

Utilismart enables a company to visualize how it uses power. Organizations could be operating under the impression that their business is a paragon of efficiency; meanwhile, they have been squandering and mismanaging their energy concerns for years.

The Utilismart software monitors efficiency by identifying and avoiding the high peak demand charges that appear on monthly utility bills due to out-of-control energy use. The lower the peak demands, the more a company can reduce the energy bill.

Utilismart also offers a Cost Prediction model for the Ontario Market. To assist end users of electricity in reducing their consumption and demand, utilismart now has the capability of predicting what your electricity will cost tomorrow! Now a company will have the information to make decisions on whether or not to shift or reduce the load.



Good information is the key to making good decisions and Essex Powerlines has always been at the forefront, providing customers with the information needed to make these decisions.

### ***Wholesale Embedded Generation Incentive Program***

Essex Powerlines is a firm believer that excellent opportunities exist within the standby generation market. There are programs that currently exist that would allow small standby generators, typically used for emergency “back-up” power, to provide stability to Ontario electrical grid via means of wholesale embedded generator aggregation. This aggregation of smaller generators (typically no smaller than 500 kW and no larger than 1 MW) is seen by the Independent Electricity System Operator (IESO) as one large, dispatchable generator. This aggregation is necessary to avoid the many costs of having multiple connection points.

Since this concept is relatively new, the cost structure for the connection of these small generators is, in many cases, identical to the costs associated with connecting their much larger counterparts. This would normally mean these projects could not be economically viable. This is why Essex Powerlines has sponsored the connection of 2 1MW units within our service territory with a \$75,000 incentive! These two units will be able to provide 2000 kW of electricity to our system at anytime the IESO deems them economically viable! Historically, units similar to these in this program typically run 200 hours per year and provide roughly 400,000 kWh to grid each year!

Essex Powerlines is proud to announce that the 2 1MW units were connected in the latter portion of the 2<sup>nd</sup> quarter of 2008 and have exported close to 50,000 kWh during peak times in the system. These units have created excellent support for our distribution system.

### ***Essex Powerlines Energy Conservation Web Sites***

From our web site [www.essexpowerlines.ca](http://www.essexpowerlines.ca), you have access to powerful, very informative websites, which have received very positive feedback. We will continue to update these web sites as we continue forward. We have put on presentations at 10 grade schools show casing these sites with great response.

Kids Energy knows that getting the next generation of power consumers thinking about energy conservation today is a major step towards solving future power crises. The Kids Energy Web portal at [www.essexpowerlines.ca](http://www.essexpowerlines.ca) puts this knowledge into action! Young minds absorb information like powerful batteries storing energy. Kids Energy uses games, experiments and a Home Energy Audit project to provide a playful, interactive learning environment where young minds are exposed to energy, its uses, and how it's distributed.

A culture of conservation and demand management Energy conservation Essex Powerlines knows that it doesn't take a lot of energy to conserve energy and strives to provide our customers with simple and affordable power saving solutions through the Energy Conservation Web portal at [www.essexpowerlines.ca](http://www.essexpowerlines.ca). Through Web sites and interactive media, Essex Powerlines is helping to create the culture of conservation at home and in businesses by offering home efficiency and renovation tips, and hands on solutions to improve profits and productivity.

## Conclusion

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Our CDM programs for 2008 were once again classified as great successes! With programs targeting both the residential and C&I sectors, Essex Powerlines has strengthened their role as a utility, and has provided our local community with tangible benefits. The following table summarizes all expenditures since 2004 and directly shows that we are on target to great achievements in conservation while still remaining within our approved budget!

	2008 acc. CDM Expenditures	Total approved CDM
1. Energy Awareness Program	c – 28,808.00 o – 78,602.12	c – 20,000 o – 30,000
2. Residential Conservation <50 kW	c – 0.00 o – 142,274.08	c – 25,000 o – 55,000
3. General Service Conservation >50 kW	c – 0.00 o – 85,834.37	c – 60,000 o – 85,000
4. Large User – Standby & Co-Generation	c – 0.00 o – 158,031.75	c – 15,000 o – 135,000
5. Municipal Green Project – “Lead by Example” and “Doing the Right Thing”	c – 0.00 o – 110,704.39	c – 20,000 o – 80,000
6. 4kV Conversion	c – 114,607.15 o – 36,729.30	c – 139,904 o – 35,000
7. Incremental Approved Funding		\$56,400
Total	\$755,591.16	\$756,304.00

### ***EnerGuide Home Audit Program***

Since the programs inception in early 2005, more than 170 residential Essex Powerlines electricity customers have taken advantage of our Home Audit incentive program! The savings for these types of programs are vast since participating customers learn all about how and where to conserve electricity and many even implement significant energy efficient changes in their homes.

### ***Christmas Light Exchange Program***

Essex Powerlines hosted a xmas light exchange program with all 4 municipalities. The turnout was incredible as we gave away 2200 boxes of Christmas lights in only one day! Estimated savings have calculated to be more than 50,000 kWh's last year alone!

### ***Essex Powerlines Energy Conservation Web Sites***

In 2008, our conservation websites continued to receive acclaim as many of our customers called us to tell us how much they appreciate the information. Essex Powerlines will continue to sponsor these websites to better educate the general public about the roles they can play every day for the conservation cause.



### ***Utilismart Program***

Utilismart offers invaluable day to day operational information for our C&I customers. Being able to monitor load and accurately estimate month to month energy costs has provided businesses with the opportunity to be energy champions and lead the way in savings and conversation.

### ***Wholesale Embedded Generation Incentive Program***

The two 1MW units were connected late in the 2<sup>nd</sup> quarter of 2008 and Essex Powerlines is proud to report that these units have exported close to 50,000 kWh back into the wholesale market. The support that these units provide to the system is invaluable and we are thrilled to be able to support this program.