

2006 Annual Report, Third Tranche Funding, Guelph Hydro Electric Systems Inc.

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1. Introduction

1.1. Amalgamation

As noted in the 2005 CDM Annual Report, the Ontario Energy Board (OEB) issued a Decision and Order granting leave for Guelph Hydro Electric Systems Inc. (GHESI) and Wellington Electric Distribution Company (WEDCO) to amalgamate on February 21, 2006. Consistent with the direction noted in the 2005 CDM Annual Report, all results have been amalgamated and reported by GHESI beginning with this 2006 Annual CDM Report.

1.2. 2006 Objectives

The ultimate goal of Guelph Hydro Electric Systems Inc's (GHESI) Conservation and Demand Management Plan is to create a "conservation culture" through sustained behavioural change in all of its customers.

This goal is aligned with its vision,

"Delivering sustainability through innovative energy solutions and the most energy efficient customers",

And also the vision of GHESI's parent company, Guelph Hydro Inc.,

"Powering community well-being and environmental stewardship with energy and information solutions".

GHESI's objective is to provide an array of CDM programs over a broad cross-section of its customer base to continue to learn about the relative strengths and weaknesses of various approaches to stimulate a conservation culture locally. The CDM funded incentives in 2006 were applied to diverse programs ranging from Educational programs to Distributed Energy programs such as a back-up generator, as well as support for the development of a progressive Community Energy Plan.

Overall, the approach was to encourage and stimulate a conservation culture while continuing to evaluate the cost effectiveness of various methods of achieving this goal. The learning around the cost effectiveness of various energy conservation and demand management initiatives will continue to assist GHESI in planning future programs.

1.3. Measurement

GHESI used the measurements provided by the Ontario Energy Board (OEB) in the TRC Guidelines unless otherwise noted in Section 3, Discussions of Programs. Where a program or initiative did not have measurable results, GHESI provided as much



tracking information as possible to support the success of the educational component of the initiatives.

1.4. Discount Rate

The Net Present Value (NPV) discount rate used in the TRC analysis is 7.63% which is equal to 50% of the rate of return on deemed equity and 50% of the debt rate.

2. Evaluation of the CDM Plan

CDM Program Evaluation

GHESI's CDM Plan was evaluated by following the OEB Total Resource Cost (TRC) Guide of October 14, 2005 as amended. A TRC analysis was done for each initiative and the initiative results were then reported in the required Appendices.

2.1. 2006 TRC Results at the Portfolio Level

For 2006, the TRC analysis at the Portfolio level is shown in Appendix A. This analysis covered all the CDM initiatives that were implemented in 2006.

The benefit to cost ratio for the 2006 CDM portfolio is 2.05 and the Net TRC Benefit is \$1,202,973. The 2006 CDM expenditures are shown in Appendix A and equal \$322,281. The total electricity saved over the life cycle of the 2006 initiatives is 12,912,165 kilowatt-hours and total kW reductions for 2006 initiatives is 540 kW.

Program Analysis

The Residential programs had an overall TRC Benefit to Cost ratio of 3.10 with a cost to GHESI of \$0.01 per kWh saved and the Commercial programs had an overall TRC Benefit to Cost ratio of 1.86 with a cost to GHESI of \$460.90 per kW saved. Portfolio administration costs account for the difference between these two program results and the overall results.

GHESI moved \$98,500 of the Builder Partnership budget to the Distributed Generation program in 2006. The remaining \$1,500 of the Builder Partnership budget was spent during 2006 as described in Section 3.1.5.

Update on Smart Metering

In third quarter of 2006 GHESI deployed 213 smart meters and associated regional data collectors as part of the smart metering pilot. Training on the installation and commissioning of the meters and their communications configuration, as well as on the



operation of system's Advanced Metering Control Computer (AMCC) was received in the third quarter 2006. Following the training, GHESI worked with the system vendor to recommend and test refinements to the AMCC software. Late in the fourth quarter of 2006 the pilot was expanded through the installation of an additional 50 meters to test a significantly improved communications infrastructure.

In the latter half of 2006 GHESI also participated in a Meter Data Management Repository (MDMR) working group to look at issues associated with data flow between the smart meters and the MDMR as well as MDMR and our Customer Information System.

While it is unclear that Smart Meters on their own will provide an incentive to energy users to become more energy efficient, GHESI expects that Smart Meters in conjunction with new rate plans and load management devices will enable customers to reduce and/or shift their energy consumption. There were no Smart Metering expenditures in 2006, but we will incur operating costs in 2007 for the "hosting service" required for the operation of the smart metering system.

3. Discussions of Programs

3.1. Residential Programs

3.1.1. Education and Promotion

An overview of GHESI's Education and Promotion initiatives is provided below along with the CDM Budget expenditures and TRC Results at the Program level. An overview, a description of the actions taken, and a discussion of the applicable TRC results have been provided for each of the 2006 Education and Promotion initiatives.

Overview

Education and Promotion initiatives have the primary role of encouraging a sustainable conservation culture in the Guelph community.

Alternate methods of tracking have been provided for initiatives with no measurable conservation impact. However, some of these initiatives had components that were measurable, even when they were designed primarily as educational or promotional vehicles. In these cases, a TRC analysis was completed comparing the TRC costs of the initiative, including program costs, to the energy savings resulting from the measurable component(s).



CDM Budget Expenditures

The Education and Promotion program has a CDM budget of \$141,560 for the threeyear period 2005 to 2007. The strategy was to spend a significant amount of these funds in the first year to generate community awareness in the beginning. GHESI spent \$80,238 or 55% of these funds in 2005 and \$43,738 in 2006 (30%) for a year-to-life expenditure of \$123,976 or 85%. During 2006, GHESI focused budget amounts on initiatives that were effective in achieving the goals of this program. The same approach will be used in 2007.

In this report, we note that the Energy Wheel initiative shows that \$109.94 was spent by WEDCO on energy wheels. These energy wheels were actually used in the 2005 Seasonal Basket initiative. As this amount was not allocated to WEDCO in 2005, an adjustment was made in the first quarter of 2006 to correct this allocation problem.

Regardless of the success of this program in 2006, GHESI may not continue with all of the programs or in exactly the same manner in 2007.

3.1.1.1. CDM Memberships and Workshops

Overview

Costs for memberships in associations and attendance at workshops related to CDM are included in this category. GHESI's goal is to ensure partnerships can be utilized whenever possible to reduce costs and to increase opportunities for CDM measures as well as to ensure staff has sufficient opportunity to learn from the CDM experiences of others.

Description of Actions Taken

The annual fee of \$1,500 for GHESI's membership in the Canadian Energy Efficiency Alliance for 2006 has been included. GHESI completed a presentation on energy CDM to a seminar sponsored by the Ministry of Economic Development and Trade in Guelph and presented seminars to employees related to energy CDM without incurring any reportable costs.

TRC Results

There was no TRC completed for this initiative since there were no measurable benefits. However, the total CDM expenditures of \$1,500 were included in the Residential program level TRC analysis.



3.1.1.2. Enerconnect Coupon

Overview

In 2005, GHESI participated in the Enerconnect Coupon initiative. This initiative was replaced in 2006 with the Ontario Power Authority's (OPA's) Every Kilowatt Counts spring and fall campaigns.

Description of Actions Taken

During 2006, there were costs totaling \$17,875 invoiced for work that was completed in 2005. These costs were offset by an accrual that had been completed totaling \$19,250. The net amount of -\$1,375 has been reported for 2006.

TRC Results

There was no TRC completed for this expenditure since the costs were related to initiatives undertaken during 2005.

3.1.1.3. Spring Every Kilowatt Counts

Overview

In the spring of 2006, the Ontario Power Authority (OPA) initiated a residential coupon program across Ontario with the assistance of local electricity distribution companies. The program was called Every Kilowatt Counts (EKC) and included coupons to be redeemed at local hardware and other retailers for compact fluorescent lights (CFLs), ceiling fans, timers and programmable thermostats.

Description of Actions Taken

GHESI has included our results from the Spring EKC program even though there were no third tranche CDM expenditures since this program replaced the Enerconnect Coupon program that GHESI participated in during 2005 using CDM funding.

TRC Results

The Net TRC Benefits were \$110,745 and the TRC Benefit to Cost ratio was 3.26. There were no CDM expenditures for this initiative in 2006.



3.1.1.4. Fall Every Kilowatt Counts

Overview

In the fall of 2006, the OPA continued the EKC program with another residential coupon offering across Ontario. The second coupon offering included coupons to be redeemed at local hardware and other retailers for compact fluorescent lights (CFLs), seasonal LED lights (SLEDs), programmable thermostats, baseboard programmable thermostats, dimmers and motion sensors for light switches.

Description of Actions Taken

As with the Spring EKC initiative, GHESI has included our results from the Fall EKC program even though there were no third tranche CDM expenditures since this program replaced the Enerconnect Coupon program that GHESI participated in during 2005 using CDM funding.

TRC Results

The Net TRC Benefits were \$483,564 and the TRC Benefit to Cost ratio was 6.03.

3.1.1.5. Guelph Environmental Leadership

Overview

This initiative was a partnership with Guelph Environmental Leadership (GEL), a local public interest group.

Description of Actions Taken

GEL produced a Guelph Environmental Leadership Calendar. GHESI sponsored two pages (February and August) of this 2007 calendar. These pages promote energy conservation through energy efficiency messaging, conservation tips, and a call to action for homeowners. GHESI's contribution of \$3,400 funded the printing of 200 of the total 5,000 calendars that were printed and distributed. Copies of the sponsored pages have been provided in Appendix D.

TRC Results

There was no TRC for this initiative since this was a purely educational initiative.



3.1.1.6. Guelph Partnerships for Innovation

Overview

Guelph Partnerships for Innovation (GPI) is a consortium of life science stakeholders with the vision of making Guelph one of the top five life science centres in North America. Their mandate is to coordinate information sharing among life science and agri-food companies in Guelph and area while fostering the development of Guelph as a leading centre for life science and agri-food research, development and commercialization through advocacy, education and communication. The goal of this initiative was to educate Guelph Partnerships for Innovation members and the local business community about the need for Conservation and Demand Management.

Description of Actions Taken

A total of 445 CFLs were distributed to create conservation awareness at Guelph Partnership for Innovation's annual golf tournament on September 26, 2006, and at GHESI's open house, on October 14th, 2006. The open house showcased solar energy and geothermal systems in GHESI's newly built energy efficient building. The costs for these CFLs were reported in 2005, so there were no CDM expenditures in 2006.

TRC Results

The TRC Benefit to Cost ratio was 9.72 with Net TRC Benefits of \$8,727.

3.1.1.7. Operation Power Down

Overview

A black out day challenge was held on August 13, 2006 in response to a friendly challenge from the City of Woodstock. The challenge was founded to commemorate the black-out of August 2003 and also creates awareness around energy conservation. A copy of the press release has been provided in Appendix E.

Description of Actions Taken

GHESI's total energy reduction during Operation Power Down was 9,100 kWh and expenditures related to promotion and awareness of this event including radio advertisements.



TRC Results

There was no TRC calculated for this awareness initiative. The costs of \$7,107 were included in the total Residential program TRC calculation.

3.1.1.8. Community Energy Plan

Overview

GHESI participated in educational activities relating to Guelph's Community Energy Plan. A Consortium consisting of the City of Guelph, GHESI, the Guelph Chamber of Commerce and School Boards is developing an official Community Energy Plan, to enable the advancement of sustained programs in the community. The plan is intended to identify the need for changes to city by-laws, codes and regulations. Local builders and developers are on board with the plan. There is a possibility that it will lead to larger scale projects such as district energy projects.

Description of Actions Taken

In 2006, five Community workshops were planned and held, along with a public forum and presentation to City Council. Additional meetings with other community leaders were also held.

TRC Results

There was no TRC completed for this initiative since there were no measurable benefits. However, the total CDM expenditures of \$33,183 were included in the Residential program level TRC analysis.

3.1.1.9. Energy Wheels

Overview

Energy Wheels are educational materials provided to customers through various initiatives in the GHESI portfolio. One of GHESI's goals is to promote energy efficient behaviour to customers and the energy wheels provide information on how to conserve and save electricity. A total of 5,000 energy wheels were purchased in 2005. Most of the energy wheels were distributed in 2005 and the remaining energy wheels were distributed in 2006.



Description of Actions Taken

There were 453 energy wheels handed out to interested Grade 8 students at Career Pathways on October 26, 2006. Career Pathways is a one-day career exposition held by various employers in the Guelph area.

Also, GHESI held an open house on October 14th, 2006, which showcased solar energy and geothermal systems in GHESI's newly built energy efficient building. A total of 350 Energy Wheels were distributed at the open house event at GHESI's offices.

TRC Results

There was no TRC completed for this initiative since there were no measurable benefits. The CDM expenditures for the Energy Wheels were included in the Residential program level TRC analysis in 2005, so there were no expenditures in 2006.

3.1.2. Low Income Programs

The Low Income program addresses the needs of some of the more vulnerable residents in Guelph. The two initiatives undertaken in 2006 were Seasonal Baskets and Light Up a Life. The Willow Place audits completed in 2005 identified a number of opportunities for energy savings however, Willow Place was unable to complete any of the actions identified due to a lack of funding.

3.1.2.1. Seasonal Baskets

Overview

GHESI donated CFLs to be included in the Salvation Army's Christmas Hamper program to provide relief to low-income families during the winter holidays.

Description of Actions Taken

GHESI's contributions to the Seasonal Baskets consisted of one 13 Watt CFL and the Government of Ontario's brochure "Educational Tips on How to Conserve Energy". GHESI donated a total of 1,000 CFLs for this annual program. The costs of the CFLs were reported in the 2005 annual report.



TRC Results

A TRC analysis was completed for the initiative comparing the total costs to the energy savings generated by the 13 watt CFLs provided in the baskets. The results of the analysis show a net TRC benefit of \$19,610 and a TRC Benefit to Cost ratio of 9.72.

3.1.2.2. Washer Dryer Replacement

Overview

The laundry facilities were upgraded to efficient units at Willow Place, an 83-unit residence in Guelph for people with disabilities. In addition to upgrading to efficient equipment, the new machines are also more accessible for many of the residents since the units are all front-loading machines. This program was delivered in partnership with the City of Guelph who is interested in generating water savings.

Description of Actions Taken

GHESI provided an incentive for the replacement of 6 washers and 6 dryers at Willow Place as a pilot program to generate energy savings. As part of the promotion for this program a laundry party was held with the residents of Willow Place. Information on how to save energy was presented. CTV attended and put the coverage on the 6 o'clock news. A draw was held for 15 prizes of laundry baskets containing Tide for cold water washing, LED seasonal lights, and a CFL. This program also involved providing each unit in this low-income facility for people with disabilities with a CFL and an energy wheel. In addition, low flow showerheads were provided to the 21 units with roll-in showers that had not previously received low flow showerheads. A copy of the press release has been provided in Appendix F.

TRC Results

The TRC analysis includes the benefits, costs and savings resulting from the new washers and dryers as well as the installation of the CFLs, seasonal LEDs and efficient showerheads that were provided as gifts and prizes during the laundry party held to celebrate the installation of these new appliances and to encourage a conservation culture. The results of the analysis show a net TRC benefit of \$6,528 and a TRC Benefit to Cost ratio of 4.11.



3.1.2.3. Light Up a Life

Overview

Rotary Club volunteers encouraged Canadian Tire patrons to donate CFLs or money to buy CFLs for low-income residents. GHESI agreed to match the donated CFLs.

Description of Actions Taken

The Light Up a Life initiative was a partnership with the Rotary Club and resulted in the delivery of 437 CFLs to low income customers in Guelph. The CFL costs were included in 2005. In addition, GHESI purchased a discounted stock of 168 CFLs and committed to use them in the 2007 Light up a Life initiative. The \$363 of CDM expenditures shown are the costs for these discounted CFLs to be used in 2007. A copy of the press release and an article from the August 2006 Salvation Army magazine called "Salvationist" has been included as Appendix G.

TRC Results

The Net TRC Benefits are \$9,553 and the TRC Benefit Cost ratio is 9.72.

3.1.3. City Leadership

3.1.3.1. Community Energy Plan

Overview

As mentioned in Section 3.1.1.7, a Consortium of the City of Guelph, GHESI, the Guelph Chamber of Commerce and School Boards is developing an official Community Energy Plan, to enable the advancement of sustained programs in the community. The plan is intended to identify the need for changes to city by-law codes. Local builders and developers are on board with the plan. There is a possibility that it may lead to larger scale projects such as district energy projects.

Description of Actions Taken

GHESI agreed to pay for 50% of the cost of developing the Community Energy Plan with the City of Guelph paying the other 50%. A consultant was hired to complete the document at a total cost of \$50,000 with GHESI's share being \$25,000.



TRC Results

There was no TRC calculated since the Community Energy Plan is a planning document and there have not yet been any tangible benefits generated based on the recommendations of the plan.

3.1.4. Load Control

Overview

During 2005, GHESI reported costs of \$1,775 in the Load Control program. A reporting error of \$1,265 was identified following the completion of 2005 Annual CDM Report.

Description of Actions Taken

The \$1,265 identified was removed from the CDM expenditures in 2006.

TRC Results

There was no TRC completed for this expenditure since the costs were an adjustment to those reported in 2005.

3.1.5. Builder Partnership

3.1.5.1. Residential Geothermal

Overview

Selectpower held two information sessions to encourage residential customers to install geothermal systems for their homes. The geothermal systems can replace air conditioning, heating or water heater loads with high efficiency geothermal energy that uses minimal energy in comparison.

Description of Actions Taken

GHESI offered to provide an incentive of \$1,500 to the first three customers who agreed to install a geothermal system by March 31, 2006, and one customer agreed to do so. The customer converted their electric air conditioning system, gas furnace as well as their gas water heater to a geothermal system and the \$1,500 CDM expenditure was reported in 2006. A copy of the newspaper coverage has been provided in Appendix H. The TRC details for Residential Geothermal have been provided in Appendix I.



TRC Results

The Net TRC Benefits are \$13,429 with a TRC Benefit to Cost ratio of 0.56.

3.2. Commercial Programs

3.2.1. Technology, Research and Demonstration

3.2.1.1. Solar Hot Water

Overview

This project uses a solar vacuum tube system for the domestic hot water requirements of the new office building of GHESI.

Description of Actions Taken

The costs for this initiative were reported in 2005 however, there was a small cost that was reported in 2006 totaling \$245.

TRC Results

There was no TRC completed for expenditure since the significant costs were reported in 2005. However, the CDM expenditure for 2006 was included in the Commercial program level results.

3.2.2. Distributed Energy

3.2.2.1. Seniors Complex

Overview

As mentioned in the 2005 Annual CDM Report, the "Ukrainian Health Care Centre Solar Project" in Etobicoke is a leading edge new technology project designed to overcome the barriers to development and deployment for use of solar cooling at a Long-term Care Home.

GHESI participated in this project before the OEB TRC Guide was released. The location of the Long-term Care Home is outside the supply area of GHESI. GHESI asked OEB staff of the implications of funding such studies outside its service area. According to the attribution guideline of the TRC Guide, GHESI could not claim the



TRC benefits relating to Shared Service Mechanism and Lost Revenue Adjustments from this project.

Description of Actions Taken

The \$5,000 refund mentioned in the 2005 Annual CDM Report GHESI was received in 2006.

TRC Results

There was no TRC calculated for this refund and the life-to-date expenditures for this initiative are \$0.

3.2.2.2. GHESI Generator

Overview

During 2006, GHESI completed the installation of a 500 kW natural gas fired stand-by generator at its administration & service centre. This generator is primarily used to provide emergency back-up power, but will also be able to contribute to provincial load reduction efforts by offsetting GHESI building load during those periods where system demand is high.

Description of Actions Taken

CDM expenditures for the GHESI generator totaled \$230,596 in 2006.

TRC Results

The TRC for the GHESI generator incorporates the kW savings, revenues from the IESO administered market of \$46,000 per year escalated by 2% per year to account for inflation and OPA revenue for demand reduction based on the average payment for a 1 MW reduction of \$67,224 prorated for the generator's capacity (490 kW) and escalated by 2% each year to account for inflation. The TRC results in Net Benefits of \$775,723 and a TRC Benefit to Cost ratio of 1.85. The TRC details have been provided in Appendix J.

4. Lessons Learned

In both the Education and Promotion and Low Income programs, GHESI purchased CDM materials in bulk to save on unit costs in 2005. As noted in the 2005 report, this means that for CFLs or educational material bought in bulk and not used in 2005, the CDM expenditures per kWh saved were higher in 2005 and lower in 2006 and 2007.



4.1. Residential Programs

4.1.1. Education and Promotion Initiatives

The Education and Promotion program was quite successful in 2006. Given the need to continue increasing awareness and participation in energy saving technology and behaviour, it is a necessary program to continue in 2007 and beyond. However, certain initiatives warrant further discussion in terms of lessons learned.

Participating in the OPA Spring and Fall Every Kilowatt Counts initiatives was more cost effective for the province overall than having each LDC manage their own program. Given the high TRC results, GHESI expects to continue to participate in this type of coupon program in future.

Finally, the purely educational initiatives were effective in that they tended to reach a large number of customers without much expense. Based on the objective of having a sustainable conservation culture in the Guelph Community, the interest demonstrated and the low expense incurred, GHESI intends to continue to provide purely educational programs to its customers.

4.1.2. Low Income Initiatives

The Low Income program consisted of the Seasonal Baskets initiative, the Washer Dryer replacement program as well as the Light Up a Life initiative in 2006.

The Seasonal Baskets and Light Up a Life initiatives were both very successful. Not only were some of the most at risk customers assisted and educated by these initiatives, but the economic results were positive as well. With a Net TRC Value of \$19,610 for Seasonal Baskets and \$9,553 for Light up a Life, and a benefit to cost ratio of 9.72 for both programs, these initiatives were very successful. The biggest factor contributing to the success of these initiatives was the high relatively large number of participants.

4.1.3. Builder Partnerships

GHESI contributed to residential customer energy education by encouraging participation at community energy sessions by providing an incentive to customers who agreed to install residential geothermal projects. We have discovered that the ideal situation would be converting from a fully electric home energy situation. However, the one project that did move forward was not converting from a fully electric home energy situation, as the space heating and water heater were both fuelled by natural gas. The net impact of replacing these two units as well as the air conditioning with energy efficient geothermal units was an overall reduction to energy costs, but an increase in



electricity use. In future, if GHESI offers this type of program again, the potential participants will be screened for electric space and water heating as well.

5. Conclusion

5.1. GHESI Budget and Costs

In addition to the positive results from the Portfolio TRC analysis and the energy and peak reductions achieved, GHESI has remained within their budget tolerances as can be seen in the tables below. The actual 2006 expenditures for the 2006 initiatives are shown in Table 1. The expenditures to date for active programs have been provided in Table 2 on the following page.

| | Program Name | Budget GHESI Capital | Budget GHESI Operating | Budget Total | 2006 GHESI Capital Expenditure | 2006 GHESI Operating Expenditure | 2006 GHESI Total Expenditure |
|----------|---------------------------------------|----------------------------|------------------------------|--------------|--------------------------------------|---|------------------------------------|
| 1 | Education & Promotion | 0 | 146,560 | 146,560 | 0 | 43,738 | 43,738 |
| 2 | Low Income | 0 | 160,000 | 160,000 | 0 | 4,336 | 4,336 |
| 0 | City Leadership - Community Energy | 0 | 25.000 | 25.000 | 0 | 25,000 | 25.000 |
| <u> </u> | Fidii | 120,000 | 25,000 | 25,000 | 0 | 25,000 | 25,000 |
| 4 | Load Control Motoring Dilet | F0.000 | 30,000 | 75,000 | 0 | (1,205) | (1,265) |
| | Took & Dooooroh | 50,000 | 25,000 | 75,000 | 0 | 0 | 0 |
| 0 | Tech. & Research | 60,000 | 15,000 | 75,000 | 0 | 240 | 240 |
| 7 | Builder Partnership | 0 | 1,500 | 1,500 | 0 | 1,500 | 1,500 |
| 8 | Distributed Energy | 85,000 | 145,596 | 230,596 | 230,596 | (5,000) | 225,596 |
| 9 | Portfolio Administration ** | 0 | 0 | 0 | 0 | 23,131 | 23,131 |
| | Total | 315,000 | 548,656 | 863,656 | 230,596 | 91,685 | 322,281 |

Table 1: 2006 Active CDM Programs

** During 2005, these costs were reported across all programs, in 2006 the portfolio administration costs are reported separately.



| | | | | | Life-to-Date | Life-to-Date | |
|----|---------------------|-----------|-----------|---------------------------|--------------|--------------|--------------|
| | | Budget | Budget | | GHESI | GHESI | Life-to-Date |
| | | GHESI | GHESI | D 1 1 T 1 1 | Capital | Operating | GHESI Iotal |
| | Program Name | Capital | Operating | Budget I otal | Expenditure | Expenditure | Expenditure |
| | Education & | | | | | | |
| 1 | Promotion | \$0 | \$146,560 | \$146,560 | \$0 | \$123,976 | \$123,976 |
| 2 | Low Income | \$0 | \$160,000 | \$160,000 | \$0 | \$26,195 | \$26,195 |
| | City Leadership - | | | | | | |
| | Community Energy | | | | | | |
| 3 | Plan | \$0 | \$25,000 | \$25,000 | \$0 | \$25,000 | \$25,000 |
| 4 | Load Control | \$120,000 | \$30,000 | \$150,000 | \$0 | \$510 | \$510 |
| 5 | Metering Pilot | \$50,000 | \$25,000 | \$75,000 | \$54,902 | \$1,251 | \$56,153 |
| 6 | Tech. & Research | \$60,000 | \$15,000 | \$75,000 | \$40,000 | \$5,554 | \$45,554 |
| | | | | | | | |
| 7 | Builder Partnership | \$0 | \$1,500 | \$1,500 | \$0 | \$1,500 | \$1,500 |
| 8 | Distributed Energy | \$85,000 | \$145,596 | \$230,596 | \$230,596 | \$458 | \$231,054 |
| | City Leadership - | | | | | | |
| 9 | LED Lighting | \$0 | \$41,655 | \$41,655 | \$0 | \$41,655 | \$41,655 |
| | City Leadership - | | | | | | |
| 10 | Building Retrofit | \$0 | \$115 | \$115 | \$0 | \$115 | \$115 |
| 11 | Air Conditioning | \$0 | \$7,446 | \$7,446 | \$0 | \$7,446 | \$7,446 |
| | Portfolio | | | | | | |
| 12 | Administration ** | \$0 | \$0 | \$0 | \$0 | \$23,131 | \$23,131 |
| | Total | \$315,000 | \$597,872 | \$912,872 | \$325,498 | \$256,791 | \$582,292 |

Table 2: Comparison of CDM Budget and Life-to-Date Expenditures

Four programs have CDM budgets, but have not yet had capital or operating expenditures. These programs are summarized in Table 3 below. GHESI expects to implement these programs during 2007. Some of these programs have begun, but the expenditures and results will be reported in 2007.

| Table 3: | CDM | Budgeted | Programs | with No | Expen | ditures | in 2006 |
|-----------|---------------|----------|-------------|----------|-------|---------|---------|
| I upic 5. | UD III | Duugeteu | I I USI amb | WICH 110 | парси | uituito | |

| | Program Name | Budget GHESI Capital | Budget GHESI Operating | Budget Total |
|----|--------------------------------------|----------------------------|------------------------------|--------------|
| 13 | University of Guelph | \$0 | \$50,000 | \$50,000 |
| 14 | City Leadership - Water Treatment | \$0 | \$110,688 | \$110,688 |
| 15 | System Optimization | \$90,000 | \$18,000 | \$108,000 |
| 16 | Power Factor Correction | \$0 | \$0 | \$0 |
| | Total | \$90,000 | \$178,688 | \$268,688 |



6. Appendices

6.1. Appendix A: 2005 Guelph Hydro – Evaluation of the CDM Plan

Appendix A - Evaluation of the GHESI 2006 CDM Plan

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

| | 5 Cumulative Totals Life-to-date | Total for 2006 | Residential | Commercial | Institutional | Industrial | Agricultural | LDC System | 4 Smart Meters | Other #1 | Other #2 |
|--|-------------------------------------|----------------|-------------|------------|---------------|------------|--------------|------------|----------------|----------|----------|
| Net TRC value (\$). | \$ 1,955,379 | \$ 1,202,973 | \$ 445,626 | \$ 780,478 | \$- | \$- | \$- | \$- | | \$- | \$- |
| Benefit to cost ratio. | 1.97 | 2.05 | 3.10 | 1.86 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 |
| Number of participants or units delivered: | 26,646 | 15,281 | 15,280 | 1 | | | | | | | |
| Lifecycle (kWh) Savings. | 37,227,118 | 12,912,165 | 12,912,165 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 |
| Report Year Total kWh saved (kWh) | 3,800,478 | 1,378,734 | 1,378,734 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 |
| Total peak demand saved (kW) | 764 | 540 | 50 | 490 | 0 | 0 | 0 | 0 | | 0 | 0 |
| Total kWh saved as a percentage of total kWh delivered (%). | 0.23% | 0.08% | 0.08% | 0.00% | | | | | | | |
| Peak kW saved as a percentage of LDC peak kW load (%). | | 0.19% | 0.02% | 0.17% | | | | | | | |
| Report Year Gross C&DM expenditures (\$): | \$ 573,085 | \$ 322,281 | \$ 73,309 | \$ 225,841 | \$- | \$- | \$- | \$- | \$- | \$- | \$- |
| ₂ Expenditures per KWh saved (\$/kWh). | 0.02 | \$ 0.02 | \$ 0.01 | \$ - | \$ - | \$ - | \$ - | \$ - | | \$ - | \$ - |
| ₃ Expenditures per KW saved (\$/kW). | 750.46 | \$ 597.21 | \$ 1,476.69 | \$ 460.90 | \$ - | \$ - | \$ - | \$ - | | \$ - | \$ - |
| | | | | | | | | | | | |

Utility discount rate (%): 7.63



6.2. Appendix B: GHESI Discussion of the Programs

6.2.1. Residential Programs

6.2.1.1. Education and Promotion Programs

6.2.1.1.1. CDM Memberships and Workshops

Appendix B - Discussion of the Program

RES Education - C&DM Workshops and Memberships

A. Name of the Program: RESIDENTIAL - Education: C&DM Workshops and Memberships

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

Costs for memberships in associations and attendance at workshops related to CDM are included in this category. GHESI's goal is to ensure partnerships can be utilized whenever possible to reduce costs and to increase opportunities for CDM measures as well as to ensure staff has sufficient opportunity to learn from the CDM experiences of others. The annual fee of \$1,500 for GHESIOs membership in the Canadian Energy Efficiency Alliance for 2006 has been included. GHESI also did a presentation on energy CDM to a seminar sponsored by the Ministry of Economic and Development and Trade in Guelph and presented seminars to employees related to energy CDM without incurring any reportable costs.

| | Measure(s): | Moosuro 1 | | Magguro 2 (if applicable) | | Mooguro 2 | (if applicable | |
|----|---|---|-----|---------------------------|-----|--------------|----------------|------------|
| | Base case technology: | Measure 1 | | Measure 2 (II applicable) | | Measure 3 | (ii applicable |) |
| | Efficient technology: | | | | | | | |
| | Number of participants or units | | | | | | | |
| | delivered for reporting year: | | | | | | | |
| | Measure life (years): | | | | | | | |
| | | | | | | | | |
| | Number of Participants or units | | | | | | | |
| | delivered life to date | | | | | | | |
| В. | TRC Results: | | | Reporting Year | | Life-to-date | TRC Result | ts: |
| | ¹ TRC Benefits (\$): | | \$ | | \$ | | | - |
| | ² TRC Costs (\$): | | | | | | | |
| | Utilit | ty program cost (excluding incentives): | \$ | 1,500.00 | \$ | | 4,2 | 77.25 |
| | Incremen | ntal Measure Costs (Equipment Costs) | \$ | - | \$ | | | - |
| | | Total TRC costs: | \$ | 1,500.00 | \$ | | 4,2 | 77.25 |
| | Net TRC (in year CDN \$): | | -\$ | 1,500.00 | -\$ | | 4,2 | 77.25 |
| | Benefit to Cost Ratio (TRC Benefits/TR | C Costs): | \$ | - | \$ | | | - |
| C. | Results: (one or more category may ap | oply) | | | | Cumulati | ve Results: | |
| | | | | | | | | |
| | Conservation Programs: | C | | | | | | |
| | Demand Savings (KW). | Winter | | | | | | |
| | | vvinter | | | | Cumulative | Cumulative | • |
| | | lifecycle | | in year | | Lifecycle | Annual Sav | , /ings |
| | Energy saved (kWh): | | | | | | | |
| | Other resources saved : | | | | | | | |
| | Natural Gas (m3): | | | | | | | |
| | Other (specify): | | | | | | | |
| | Demand Management Programs: | | | | | | | |
| | Controlled load (kW) | | | | | | | |
| | Energy shifted On-peak to Mid-peak (kk | Nh): | | | | | | |
| | Energy shifted On-peak to Off-peak (kW | Vh): | | | | | | |
| | Energy shifted Mid-peak to Off-peak (kV | Wh): | | | | | | |
| | Demand Response Programs: | | | | | | | |
| | Dispatchable load (kW): | | | | | | | |
| | Peak hours dispatched in vear (hours): | | | | | | | |
| | · · · · · · · · · · · · · · · · · · · | | | | | | | |



Appendix B: CDM Memberships and Workshops (page 2)

| Amount of KVar installed (KVar | r): | | | | |
|--|---|----------|----------------|----|------------------------|
| Distribution system power facto | or at beginning of year (%): | | | | |
| Distribution system power facto | or at end of year (%): | | | | |
| Line Loss Reduction Program | ns: | | | | |
| Peak load savings (kW): | | | | | |
| | lifecycle | | in year | | |
| Energy savings (kWh): | | | | | |
| Distributed Generation and L | oad Displacement Programs: | | | | |
| Amount of DG installed (kW): | | | | | |
| Energy generated (kWh): | | | | | |
| Peak energy generated (kWh): | | | | | |
| Fuel type: | | | | | |
| Other Programs (specify): | | | | | |
| Metric (specify): | | | | | |
| Actual Program Costs: | | | Reporting Year | Cı | umulative Life to Date |
| Utility direct costs (\$): | Incremental capital: | \$ | - | \$ | - |
| | Incremental O&M: | \$ | 1,500.00 | \$ | 4,277.25 |
| | Incentive: | \$ | - | \$ | - |
| | Total: | \$ | 1,500.00 | \$ | 4,277.25 |
| | Incremental equital: | ¢ | _ | ¢ | |
| Litility indirect costs (\$): | | Ψ | | ¢ | - |
| Utility indirect costs (\$): | Incremental O&M: | \$ | - | 12 | |
| Utility indirect costs (\$): | Incremental O&M: Total: | \$ | - | \$ | _ |
| Utility indirect costs (\$): | Incremental Capital Incremental O&M: Total: | \$ \$ | - - | \$ | - |
| Utility indirect costs (\$): | Incremental O&M: Total: | \$ | - | \$ | - |
| Utility indirect costs (\$): Assumptions & Comments: | Incremental O&M: Incremental O&M: Total: | \$ | - | \$ | - |
| Utility indirect costs (\$): | Incremental O&M: Total: | \$ \$ | - | \$ | |
| Utility indirect costs (\$): Assumptions & Comments: | Incremental O&M: Incremental O&M: Total: | \$ | | \$ | |
| Utility indirect costs (\$): Assumptions & Comments: | Incremental O&M: Incremental O&M: Total: | \$ | · · | \$ | |
| Utility indirect costs (\$): Assumptions & Comments: | Incremental O&M: Total: | \$ | : | \$ | |
| Utility indirect costs (\$): Assumptions & Comments: | Incremental O&M: Incremental O&M: Total: | \$ | : | \$ | |



6.2.1.1.2. Enerconnect Coupon

Appendix B - Discussion of the Program

RES Education - Enerconnect Coupons

RESIDENTIAL - Education: Enerconnect Coupons

A. Name of the Program:

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

In 2005, GHESI participated in the ENERconnect Coupon initiative. This initiative was replaced in 2006 with the Ontario Power AuthorityÕs (OPAÕs) Every Kilowatt Counts spring and fall campaigns. During 2006, there were costs totalling \$17,875 invoiced for work that was completed in 2005. These costs were off-set by an accrual that had been completed totalling \$19,250. The net amount of -\$1,375 has been reported for 2006.

| | Measure(s): | Measure 1 | Ν | 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 | | | | | |
| В. | TRC Results: | | | Reporting Year | Life-to-date | TRC Results: |
| | TRC Benefits (\$): | | \$ | | \$ | 196.980.00 |
| : | TRC Costs (\$): | | | | | , |
| | Utilit | ty program cost (excluding incentives): | -\$ | 1,375.00 | \$ | 13,147.77 |
| | Incremen | ntal Measure Costs (Equipment Costs) | \$ | - | \$ | 21,352.00 |
| | | Total TRC costs: | -\$ | 1,375.00 | \$ | 34,499.77 |
| | Net TRC (in year CDN \$): | | \$ | 1,375.00 | \$ | 162,480.23 |
| | Benefit to Cost Ratio (TRC Benefits/TR | C Costs): | \$ | - | \$ | 5.71 |
| C | Results: (one or more category may ap | oply) | | | Cumulat | ive Results: |
| Ο. | | | | | | |
| 0. | | , | | | | |
| 0. | Conservation Programs: | | | | | |
| 0. | Conservation Programs: Demand savings (kW): | Summer | | | 2 | 2.18 |
| 0. | Conservation Programs: Demand savings (kW): | Summer Winter | | | 2 | 2.18 |
| 0. | Conservation Programs: Demand savings (kW): | Summer Winter lifecycle | | in year | 2 Cumulative Lifecycle | 2.18 Cumulative Annual Savings |
| 0. | Conservation Programs: Demand savings (kW): Energy saved (kWh): | Summer Winter lifecycle | | in year | 2 Cumulative Lifecycle 4,351,679 | 2.18 Cumulative Annual Savings 450,878 |
| 0. | Conservation Programs: Demand savings (kW): Energy saved (kWh): Other resources saved : | Summer Winter lifecycle | | in year | 2 Cumulative Lifecycle 4,351,679 | 2.18 Cumulative Annual Savings 450,878 |
| 0. | Conservation Programs: Demand savings (kW): Energy saved (kWh): Other resources saved : Natural Gas (m3): | Summer Winter lifecycle | | in year | 2 Cumulative Lifecycle 4,351,679 | 2.18 Cumulative Annual Savings 450,878 |
| 0. | Conservation Programs: Demand savings (kW): Energy saved (kWh): Other resources saved : Natural Gas (m3): Other (specify): | Summer Winter lifecycle | | in year | 2 Cumulative Lifecycle 4,351,679 | 2.18 Cumulative Annual Savings 450,878 |
| 0. | Conservation Programs: Demand savings (kW): Energy saved (kWh): Other resources saved : Natural Gas (m3): Other (specify): Demand Management Programs: | Summer Winter lifecycle | | in year | 2 Cumulative Lifecycle 4,351,679 | 2.18 Cumulative Annual Savings 450,878 |
| 0. | Conservation Programs: Demand savings (kW): Energy saved (kWh): Other resources saved : Natural Gas (m3): Other (specify): Demand Management Programs: Controlled load (kW) | Summer Winter lifecycle | | in year | 2 Cumulative Lifecycle 4,351,679 | 2.18 Cumulative Annual Savings 450,878 |
| 0. | Conservation Programs: Demand savings (kW): Energy saved (kWh): Other resources saved : Natural Gas (m3): Other (specify): Demand Management Programs: Controlled load (kW) Energy shifted On-peak to Mid-peak (kK | Summer Winter lifecycle Wh): | | in year | 2 Cumulative Lifecycle 4,351,679 | 2.18 Cumulative Annual Savings 450,878 |
| 0. | Conservation Programs: Demand savings (kW): Energy saved (kWh): Other resources saved : Natural Gas (m3): Other (specify): Demand Management Programs: Controlled load (kW) Energy shifted On-peak to Mid-peak (kW Energy shifted On-peak to Olf-peak (kW) | Summer Winter lifecycle Wh): Wh): | | in year | 2 Cumulative Lifecycle 4,351,679 | 2.18 Cumulative Annual Savings 450,878 |
| 0. | Conservation Programs: Demand savings (kW): Energy saved (kWh): Other resources saved : Natural Gas (m3): Other (specify): Demand Management Programs: Controlled load (kW) Energy shifted On-peak to Mid-peak (kW Energy shifted Mid-peak to Off-peak (kW | Summer Winter lifecycle Wh): Wh): | | in year | 2 Cumulative Lifecycle 4,351,679 | 2.18 Cumulative Annual Savings 450,878 |
| 0. | Conservation Programs: Demand savings (kW): Energy saved (kWh): Other resources saved : Natural Gas (m3): Other (specify): Demand Management Programs: Controlled load (kW) Energy shifted On-peak to Mid-peak (kW Energy shifted On-peak to Off-peak (kW Energy shifted Mid-peak to Off-peak (kW | Summer Winter lifecycle Wh): Wh): | | in year | 2 Cumulative Lifecycle 4,351,679 | 2.18 Cumulative Annual Savings 450,878 |
| 0. | Conservation Programs: Demand savings (kW): Energy saved (kWh): Other resources saved : Natural Gas (m3): Other (specify): Demand Management Programs: Controlled load (kW) Energy shifted On-peak to Mid-peak (kW Energy shifted On-peak to Off-peak (kW Energy shifted Mid-peak to Off-peak (kW Energy shifted Mid-peak to Off-peak (kW Energy shifted Mid-peak to Off-peak (kW | Summer Winter lifecycle Wh): Wh): | | in year | 2 Cumulative Lifecycle 4,351,679 | 2.18 Cumulative Annual Savings 450,878 |
| 0. | Conservation Programs: Demand savings (kW): Energy saved (kWh): Other resources saved : Natural Gas (m3): Other (specify): Demand Management Programs: Controlled load (kW) Energy shifted On-peak to Mid-peak (kW Energy shifted On-peak to Off-peak (kW Energy shifted Mid-peak to Off-peak (kW) Energy shifted Mid-peak to Off-peak (kW) Energy shifted Mid-peak to Off-peak (kW) Energy shifted Mid-peak to Off-peak (kW): | Summer Winter lifecycle Wh): Wh): Wh): | | in year | 2 Cumulative Lifecycle 4,351,679 | 2.18 Cumulative Annual Savings 450,878 |



Appendix B: Enerconnect Coupon (page 2)

| Amount of KVar insta | lled (KVar): | | | | | |
|--|---|--|------------------------------|--|--|--|
| Distribution system p | ower factor at beginnin | ng of year (%): | | | | |
| Distribution system p | ower factor at end of y | ear (%): | | | | |
| Line Loss Reductio | n Programs: | | | | | |
| Peak load savings (k | W): | | | | | |
| | | lifecycle | | in year | | |
| Energy savings (kWh |): | | | | | |
| Distributed Generat | ion and Load Displac | ement Programs: | | | | |
| Amount of DG install | ed (kW): | _ | | | | |
| Energy generated (1) | Nh): | | | | | |
| Energy generated (k | | | | | | |
| Peak energy general | ed (kWh): | | | | | |
| Peak energy generated (K Fuel type: | ed (kWh): | | | | | |
| Peak energy generated (K Peak energy generat Fuel type: Other Programs (sp | ed (kWh): ecify): | | | | | |
| Peak energy generated (k Peak energy generat Fuel type: Other Programs (sp Metric (specify): | ed (kWh): <mark>ecify):</mark> | | | | | |
| Peak energy generated (k) Peak energy generat Fuel type: Other Programs (sp Metric (specify): Actual Program Cos | ed (kWh): ecify): :ts: | | | Reporting Year | C | umulative Life to Date |
| Preak energy generated (k) Peak energy generat Fuel type: Other Programs (sp Metric (specify): Actual Program Cos Utility direct costs (\$) | ed (kWh): ecify): its: : Inc | remental capital: | \$ | Reporting Year | C | umulative Life to Date |
| Peak energy generate Fuel type: Other Programs (sp Metric (specify): Actual Program Cos Utility direct costs (\$) | ed (kWh): ecify): :: Inc. Inc | remental capital: remental O&M: | \$ | Reporting Year 1,375.00 | C \$ \$ | umulative Life to Date |
| Peak energy generate Fuel type: Other Programs (sp Metric (specify): Actual Program Cos Utility direct costs (\$) | ed (kWh): ecify): : Inc. Inc. | remental capital: remental O&M: entive: | \$ -\$ \$ | Reporting Year 1,375.00 | C \$ \$ \$ | umulative Life to Date 11.970 17.000 |
| Peak energy generate Fuel type: Other Programs (sp Metric (specify): Actual Program Cos Utility direct costs (\$) | ed (kWh): ecify): : : Inc Inc Tot | remental capital: remental O&M: entive: tal: | \$ -\$ \$ -\$ | Reporting Year 1,375.00 1,375.00 | C \$ \$ \$ \$ | umulative Life to Date 11.97(17.000 28.970 |
| Plack energy generate (k) Peak energy generate Fuel type: Other Programs (sp Metric (specify): Actual Program Cos Utility direct costs (\$) Utility indirect costs (\$) | ed (kWh): ecify): :ts: : Inc Inc Tot Et: | remental capital: remental O&M: entive: al: | \$ -\$ \$ -\$ | Reporting Year 1,375.00 1,375.00 | Ci \$ \$ \$ \$ \$ | umulative Life to Date 11.970 17.000 28.970 |
| Energy generate (k) Peak energy generat Fuel type: Other Programs (sp Metric (specify): Actual Program Cos Utility direct costs (\$) Utility indirect costs (\$) | ed (kWh): ecify): : : Inc Inc Inc Inc (); Incr (); Incr (); Incr (); (); (); (); (); (); (); (); | remental capital: remental O&M: entive: al: al: emental capital: | \$ -\$ -\$ \$ | Reporting Year 1,375.00 1,375.00 | C \$ \$ \$ \$ \$ \$ | umulative Life to Date 11.970 17.000 28.970 |
| Preak energy generate Fuel type: <u>Other Programs (sp</u> <u>Metric (specify):</u> <u>Actual Program Cos</u> Utility direct costs (\$) Utility indirect costs (. | ed (kWh): ecify): : Inc: Inc: b): Incr Incr Incr Tot | remental capital: remental O&M: entive: al: emental capital: emental O&M: | \$ -\$ -\$ \$ \$ | Reporting Year 1,375.00 1,375.00 | Ci \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ | umulative Life to Date 11.970 17.000 28.970 1.1777 |

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6.2.1.1.3. Spring Every Kilowatt Counts

Appendix B - Discussion of the Program

RES Education - Spring EKC

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A. Name of the Program: RESIDENTIAL - Education: Spring Every Kilowatt Counts
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Description of the program (including intent, design, delivery, partnerships and evaluation):

In the spring of 2006, the Ontario Power Authority (OPA) initiated a residential coupon program across Ontario with the assistance of local electricity distribution companies. The program was called Every Kilowatt Counts (EKC) and included coupons to be redeemed at local hardware and other retailers for compact fluorescent lights (CFLs), ceiling fans, timers and programmable thermostats. GHESI has included our results from the Spring EKC program even though there were no third tranche CDM expenditures since this program replaced the ENERconnect Coupon program that GHESI participated in during 2005 using CDM funding.

| Measure 1 Measure 2 (if applicable) Measure 3 (if applicable) Base case technology: Incandescent Light Programmable Thermostats Ceiling Fans and Timers Number of participants or units 834 169 130 / 307 Measure life (years): 4 18 20 Number of Participants or units 834 169 437 B. TRC Results: 110 / 745.00 \$ 110 / 745.00 ' TRC Costs (\$): Utility program cost (excluding incentives): \$ 15,986.00 \$ 15,996 Measure Costs (\$): Utility program cost (excluding incentives): \$ 17,954.00 \$ 17,954.00 \$ Net TRC (in year CDN \$): \$ 76,805.00 \$ 76,805.00 \$ 76,805 Benefit to Cost Ratio (TRC Benefits/TRC Costs): \$ 3.26 \$ 3.26 \$ |
|---|
| Base case technology: Incandescent Light Efficient technology: 15W CFL Programmable Thermostats Ceiling Fans and Timers Number of participants or units 834 169 130 / 307 delivered for reporting year: 834 169 130 / 307 Measure life (years): 4 18 20 Number of Participants or units delivered life to date 834 169 437 B. TRC Results: 169 437 ¹ TRC Benefits (\$): \$ 110,745.00 \$ 110,745.00 ² TRC Costs (\$): Utility program cost (excluding incentives): \$ 15,986.00 \$ 15,996 Net TRC (in year CDN \$): Total TRC costs: \$ 33,940.00 \$ 33,940.00 \$ 33,940.00 \$ 33,940.00 \$ 33,940.00 \$ 33,940.00 \$ 33,940.00 \$ 33,940.00 \$ 33,940.00 \$ 33,940.00 \$ 33,940.00 \$ 33,940.00 \$ 33,940.00 \$ 33,940.00 \$ 33,940.00 \$ 33,940.00 \$ 33,940.00 \$ 33,940.00 |
| Efficient technology: 15W CFL Programmable Thermostats Ceiling Fans and Timers Number of participants or units 834 169 130 / 307 Measure life (years): 4 18 20 Number of Participants or units 834 169 130 / 307 Measure life (years): 4 18 20 Number of Participants or units 834 169 437 B. TRC Results: 169 437 ¹ TRC Benefits (\$): 110,745.00 \$ 110,745.00 110,745.00 ² TRC Costs (\$): Utility program cost (excluding incentives): \$ 15,986.00 \$ 15,986 Incremental Measure Costs (Equipment Costs) \$ 17,954.00 \$ 17,954.00 \$ 17,954.00 Net TRC (in year CDN \$): \$ 76,805.00 \$ 76,805.00 \$ 76,805.00 \$ 76,805.00 Benefit to Cost Ratio (TRC Benefits/TRC Costs): \$ 3.26 \$ \$ 10,00 \$ 10,00 |
| Number of participants or units delivered for reporting year: 834 169 130 / 307 Measure life (years): 4 18 20 Number of Participants or units delivered life to date 834 169 437 B. TRC Results: 1 TRC Benefits (\$): 2 TRC Costs (\$): Reporting Year Life-to-date TRC Results: \$ 110,745.00 110,745.00 Utility program cost (excluding incentives): Incremental Measure Costs (Equipment Costs) \$ 15,986.00 15,986.00 Net TRC (in year CDN \$): Total TRC costs: \$ 33,940.00 \$ 33,94 Benefit to Cost Ratio (TRC Benefits/TRC Costs): \$ 3.26 \$ |
| B. TRC Results: delivered life to date 834 169 130 / 307 B. TRC Results: TRC Benefits (\$): 4 18 20 ¹ TRC Results: 834 169 437 ¹ TRC Results: \$ 110,745.00 \$ 110,74 ² TRC Costs (\$): Utility program cost (excluding incentives): \$ 15,986.00 \$ 15,98 Incremental Measure Costs (Equipment Costs) \$ 17,954.00 \$ 17,954.00 \$ Net TRC (in year CDN \$): \$ 76,805.00 \$ 76,805.00 \$ 76,805 76,805 Benefit to Cost Ratio (TRC Benefits/TRC Costs): \$ 3.26 \$ \$ 1.01,05 \$ 1.01,05 \$ 1.01,05 \$ 1.01,05 \$ 1.01,05 \$ 1.01,05 \$ 1.01,05 \$ 1.01,05 \$ 1.01,05 \$ 1.01,05 \$ 1.01,05 \$ 1.01,05 \$ 1.01,05 \$ 1.01,05 \$ 1.01,05 \$ |
| Measure life (years): 4 18 20 Number of Participants or units delivered life to date 834 169 437 B. TRC Results: ' TRC Benefits (\$): ' TRC Costs (\$): Reporting Year \$ 110,745.00 Life-to-date TRC Result \$ 110,745.00 '' TRC Costs (\$): Utility program cost (excluding incentives): Incremental Measure Costs (Equipment Costs) Total TRC costs: * 33,940.00 15,986.00 Net TRC (in year CDN \$): \$ 76,805.00 76,805 Benefit to Cost Ratio (TRC Benefits/TRC Costs): \$ 3.26 |
| Number of Participants or units delivered life to date 834 169 437 B. TRC Results: 1 TRC Benefits (\$): 2 TRC Costs (\$): Utility program cost (excluding incentives): Incremental Measure Costs (Equipment Costs) Incremental Measure Costs (Equipment Costs) Net TRC (in year CDN \$): Benefit to Cost Ratio (TRC Benefits/TRC Costs): \$ 3.26 \$ |
| Number of Participants or units delivered life to date 834 169 437 B. TRC Results: 1 TRC Benefits (\$): 2 TRC Costs (\$): Utility program cost (excluding incentives): Incremental Measure Costs (Equipment Costs) Incremental Measure Costs (Equipment Costs) \$ 110,745.00 \$ 110,745.00 Vert TRC (in year CDN \$): Benefit to Cost Ratio (TRC Benefits/TRC Costs): \$ 32,940.00 \$ 33,94 TRC (in year CDN \$): \$ 32,6 \$ 32,6 |
| B. TRC Results: Reporting Year Life-to-date TRC Result ¹ TRC Benefits (\$): ¹ TRC Costs (\$): \$ 110,745.00 \$ 110,745.00 \$ 110,745.00 \$ 110,745.00 ² TRC Costs (\$): Utility program cost (excluding incentives): \$ 15,986.00 \$ 15,986 \$ 15,986 Incremental Measure Costs (Equipment Costs) \$ 17,954.00 \$ 17,954 \$ 17,954 Net TRC (in year CDN \$): \$ 76,805.00 \$ 76,805 \$ 76,805.00 \$ 76,805 Benefit to Cost Ratio (TRC Benefits/TRC Costs): \$ 3.26 \$ \$ 3.26 \$ |
| B. TRC Results: Reporting Year Life-to-date TRC Result 1 TRC Benefits (\$): \$ 110,745.00 \$ 110,7 2 TRC Costs (\$): Utility program cost (excluding incentives): \$ 15,986.00 \$ 15,98 Incremental Measure Costs (Equipment Costs) \$ 17,954.00 \$ 17,95 Net TRC (in year CDN \$): Total TRC costs: \$ 33,940.00 \$ 33,94 Benefit to Cost Ratio (TRC Benefits/TRC Costs): \$ 3.26 \$ 10,74 |
| 1 TRC Benefits (\$): \$ 110,745.00 \$ 110,745.00 \$ 2 TRC Costs (\$): Utility program cost (excluding incentives): \$ 15,986.00 \$ 15,986 Utility program cost (excluding incentives): \$ 17,954.00 \$ 17,954 Incremental Measure Costs (Equipment Costs) \$ 33,940.00 \$ 33,94 Net TRC (in year CDN \$): \$ 76,805.00 \$ 76,805 Benefit to Cost Ratio (TRC Benefits/TRC Costs): \$ 3.26 \$ |
| ² TRC Costs (\$): Utility program cost (excluding incentives): \$ 15,986.00 \$ 15,98 Incremental Measure Costs (Equipment Costs) \$ 17,954.00 \$ 17,95 Total TRC costs: \$ 33,940.00 \$ 33,94 Net TRC (in year CDN \$): Benefit to Cost Ratio (TRC Benefits/TRC Costs): \$ 3.26 \$ |
| Utility program cost (excluding incentives): \$ 15,986.00 \$ 15,98 Incremental Measure Costs (Equipment Costs) \$ 17,954.00 \$ 17,95 Total TRC costs: \$ 33,940.00 \$ 33,94 Net TRC (in year CDN \$): \$ 76,805.00 \$ 76,805 Benefit to Cost Ratio (TRC Benefits/TRC Costs): \$ 3.26 \$ |
| Incremental Measure Costs (Equipment Costs) 17,954.00 |
| Total TRC costs: \$ 33,940.00 \$ 33,94 Net TRC (in year CDN \$): \$ 76,805.00 \$ 76,805 Benefit to Cost Ratio (TRC Benefits/TRC Costs): \$ 3.26 \$ |
| Net TRC (in year CDN \$): \$ 76,805.00 \$ 76,80 Benefit to Cost Ratio (TRC Benefits/TRC Costs): \$ 3.26 \$ |
| Benefit to Cost Ratio (TRC Benefits/TRC Costs): \$ 3.26 \$ |
| |
| C. <u>Results:</u> (one or more category may apply) <u>Cumulative Results:</u> |
| |
| Demond agrigating (MV): |
| Demanu savings (xvv). Summer 5.21 5.21 |
| |
| lifecycle in vear Lifecycle Annual Sa |
| Energy saved (kWh): 2.246.763 178.135 2.246.763 178.13 |
| Other resources saved : |
| Natural Gas (m3): |
| Other (specify): |
| Demand Management Programs: |
| |
| Controlled load (KW) |
| Controlled load (kw) Energy shifted On-peak to Mid-peak (kWh): |
| Controlled load (kw) Energy shifted On-peak to Mid-peak (kWh): Energy shifted On-peak to Off-peak (kWh): Energy shifted On-peak to Off-peak (kWh): |
| 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): Energy shifted Mid-peak to Off-peak (kWh): |
| 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): Energy shifted Mid-peak to Off-peak (kWh): Energy shifted Mid-peak to Off-peak (kWh): Demand Response Programs: Energy shifted Mid-peak to Off-peak (kWh): |
| 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): |



Appendix B: Spring Every Kilowatt Counts (page 2)

| Distribution system power factor Distribution system power factor Line Loss Reduction Program Peak load savings (kW): | at beginning of year (%): at end of year (%): <u>s:</u> | | | |
|--|---|-----|--------------------|-------------------|
| Distribution system power factor Line Loss Reduction Program Peak load savings (kW): | at end of year (%): | | | |
| Line Loss Reduction Program Peak load savings (kW): | <u>s:</u> | | | |
| Peak load savings (kW): | | | | |
| | | | | |
| | lifecycle | | in year | |
| Energy savings (kWh): | | | | |
| Distributed Generation and Lo | ad Displacement Programs: | | | |
| Amount of DG installed (kW): | ······································ | | | |
| Energy generated (kWh): | | | | |
| Peak energy generated (kWh): | | | | |
| Fuel type: | | | | |
| Other Programs (specify): | | | | |
| Metric (specify): | | | | |
| Actual Program Costs: | | Bep | orting Year Cumula | tive Life to Date |
| Utility direct costs (\$): | Incremental capital: | \$ | - \$ | |
| | Incremental O&M: | \$ | - \$ | |
| | Incentive: | \$ | - \$ | |
| | Total: | \$ | - \$ | |
| | | ٠ | ٨ | |
| Utility indirect costs (\$): | incremental capital: | \$ | - \$ | |
| | Incremental O&M: | \$ | - \$ | |
| | Total: | Þ | - 5 | |
| | | | | |
| Assumptions & Comments: | | | | |
| | | | | |
| | | | | |



6.2.1.1.4. Fall Every Kilowatt Counts

Appendix B - Discussion of the Program

RES Education - Fall EKC

A. Name of the Program:

RESIDENTIAL - Education: Fall Every Kilowatt Counts

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

In the fall of 2006, the OPA continued the EKC program with another residential coupon offering across Ontario. The second coupon offering included coupons to be redeemed at local hardware and other retailers for compact fluorescent lights (CFLs), seasonal LED lights (SLEDs), programmable thermostats, baseboard programmable thermostats, dimmers and motion sensors for light switches. Like with the Spring EKC initiative, GHESI has included our results from the Fall EKC program even though there were no third tranche CDM expenditures since this program replaced the ENERconnect Coupon program that GHESI participated in during 2005 using CDM funding.

| | Measure(s): | Measure 1 | Ν | Measure 2 (if applicable) | | Measure 3 | (if applicable) |
|----|---|---|-------|-----------------------------|----|-------------------------|------------------------------|
| | Base case technology: | | | | | | |
| | Efficient technology: | 15W CFLs / SLEDs | pTher | mostats / Baseboard version | | Dimmers / N | lotion Sensors |
| | Number of participants or units delivered for reporting year: | 7,058 / 3,810 | | 602 / 51 | | 29 | l / 61 |
| | Measure life (years): | 4 / 30 | | 18 | | 10 | / 20 |
| | | | | | | | |
| | Number of Participants or units delivered life to date | 10868 | | 653 | | 3 | 52 |
| В. | TRC Results: | | | Reporting Year | | Life-to-date | TRC Results: |
| | ¹ TRC Benefits (\$): | | \$ | 483.564.00 | \$ | | 483.564.00 |
| : | ² TRC Costs (\$): | | | | | | |
| | Utili | ty program cost (excluding incentives): | \$ | 34,897.00 | \$ | | 34,897.00 |
| | Increme | ntal Measure Costs (Equipment Costs) | \$ | 45,237.00 | \$ | | 45,237.00 |
| | Not TDC (in year CDN (f)) | Total TRC costs: | \$ | 80,134.00 | \$ | | 80,134.00 |
| | Net TRC (III year CDN \$). | | \$ | 403,430.00 | φ | | 403,430.00 |
| | Benefit to Cost Ratio (TRC Benefits/TR | C Costs): | \$ | 6.03 | \$ | | 6.03 |
| C. | Results: (one or more category may ap | oply) | | | | <u>Cumulati</u> | ve Results: |
| | Conservation Programs: | | | | | | |
| | Demand savings (kW): | Summer | | 39.74 | | 39 | 9.74 |
| | | Winter | | 251.04 | | 25 | 1.04 |
| | | lifecycle | | in year | | Cumulative Lifecycle | Cumulative Annual Savings |
| | Energy saved (kWh): | 9,884,612 | | 1,009,589 | | 9,884,612 | 1,009,589 |
| | Other resources saved : | | | | | | |
| | Natural Gas (m3): | | | | | | |
| | Other (specify): | | | | | | |
| | | | | | | | |
| | Demand Management Programs: | | | | | | |
| | Demand Management Programs: Controlled load (kW) | | | | | | |
| | Demand Management Programs: Controlled load (kW) Energy shifted On-peak to Mid-peak (kl | Wh): | | | | | |
| | Demand Management Programs: Controlled load (kW) Energy shifted On-peak to Mid-peak (kl Energy shifted On-peak to Off-peak (kW | Wh): Vh): | | | | | |
| | Demand Management Programs: Controlled load (kW) Energy shifted On-peak to Mid-peak (kk Energy shifted On-peak to Off-peak (kk Energy shifted Mid-peak to Off-peak (kk | Wh): Vh): Wh): | | | | | |
| | Demand Management Programs: Controlled load (kW) Energy shifted On-peak to Mid-peak (k Energy shifted On-peak to Off-peak (kW Energy shifted Mid-peak to Off-peak (kW Demand Response Programs: | Wh): Vh): Wh): | | | | | |
| | Demand Management Programs: Controlled load (kW) Energy shifted On-peak to Mid-peak (k Energy shifted On-peak to Off-peak (kW Energy shifted Mid-peak to Off-peak (kW Demand Response Programs: Dispatchable load (kW): | Wh): Vh): Wh): | | | | | |



Appendix B: Fall Every Kilowatt Counts (page 2)

| Power Factor Correction P | rograms: | | | |
|-------------------------------|--------------------------------|--------|-----------------|--------------------|
| Amount of KVar installed (K | Var): | | | |
| Distribution system power fa | ctor at beginning of year (%): | | | |
| Distribution system power fa | ctor at end of year (%): | | | |
| Line Loss Reduction Prog | rams: | | | |
| Peak load savings (kW): | | | | |
| , our loud our lige (lift). | lifecycle | in | vear | |
| Enerav savinas (kWh): | | | | |
| Distributed Consection on | I and Displacement Brograms | | | |
| Amount of DG installed (kW | Load Displacement Programs: | | | |
| Energy deperated (kW/b): | | | | |
| Peak energy generated (kWII): | h). | | | |
| Fuel type: | | | | |
| | | | | |
| Other Programs (specify): | | | | |
| Metric (specify): | | | | |
| Actual Program Costs: | | Report | ing Year Cumula | ative Life to Date |
| Utility direct costs (\$): | Incremental capital: | \$ | - \$ | |
| | Incremental O&M: | \$ | - \$ | |
| | Incentive: | \$ | - \$ | |
| | Total: | \$ | - \$ | |
| | | | | |
| Utility indirect costs (\$): | Incremental capital: | \$ | - \$ | |
| | Incremental O&M: | \$ | - \$ | |
| | | \$ | - \$ | |
| | Total: | Ψ | Ψ | |
| | Total: | Ψ | Ψ | |
| Assumptions & Comment | Total: | Ψ | ų | |



6.2.1.1.5. Guelph Environmental Leadership

Appendix B - Discussion of the Program

RES Education - Guelph Environmental Leadership

A. Name of the Program: RESIDENTIAL - Education: Guelph Environmental Leadership

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

This initiative was a partnership with Guelph Environmental Leadership (GEL), a local public interest group. GEL produced a Guelph Environmental Leadership Calendar. GHESI sponsored two pages (February and August) of this 2007 calendar. These pages promote energy conservation through energy efficiency messaging, conservation tips, and a call to action for homeowners. GHESIÕs contribution of \$3,400 funded the printing of 200 calendars of the 5,000 that were printed and distributed.

| | 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 | 5,000 | | | | | | |
| В. | TRC Results: | | | Reporting Year | | Life-to-date | TRC Results: | - |
| | TRC Benefits (\$): | | \$ | | \$ | | - | |
| : | ² TRC Costs (\$): | | | | | | | |
| | Utilit | ty program cost (excluding incentives): | \$ | 3,400.00 | \$ | | 3,400.00 |) |
| | Incremen | ntal Measure Costs (Equipment Costs) | \$ | - | \$ | | - | |
| | | Total TRC costs: | \$ | 3,400.00 | \$ | | 3,400.00 |) |
| | Net TRC (in year CDN \$): | | -\$ | 3,400.00 | -\$ | | 3,400.00 |) |
| | Benefit to Cost Ratio (TRC Benefits/TR | C Costs): | \$ | - | \$ | | - | |
| C. | Results: (one or more category may ap | oply) | | | | Cumulati | ve Results: | |
| | | | | | | | | |
| | Conservation Programs: | 0 | | | | | | |
| | Demand Savings (KW). | Winter | | | | | | |
| | | Winter | | | | Cumulative | Cumulative | |
| | | lifecycle | | in year | | Lifecycle | Annual Savings | |
| | Energy saved (kWh): | | | | | | | |
| | Other resources saved : | | | | | | | |
| | Natural Gas (m3): | | | | | | | |
| | Other (specify): | | | | | | | |
| | Demand Management Programs: | | | | | | | |
| | Controlled load (kW) | | | | | | | |
| | Energy shifted On-peak to Mid-peak (k) | Nh): | | | | | | |
| | Energy shifted On-peak to Off-peak (kV | Vh): | | | | | | |
| | Energy shifted Mid-peak to Off-peak (k) | Wh): | | | | | | |
| | Demand Response Programs: | | | | | | | |
| | Dispatchable load (kW): | | | | | | | |
| | Peak hours dispatched in year (hours): | | | | | | | |
| | | | | | | | | |



Appendix B: Guelph Environmental Leadership (page 2)

| Amount of KVar installed (K | 'Var): | | | | |
|---|--|----------------------------------|--|--|---|
| Distribution system power fa | actor at beginning of year (%): | | | | |
| Distribution system power fa | actor at end of year (%): | | | | |
| Line Loss Reduction Prog | rams: | | | | |
| Peak load savings (kW): | | | | | |
| | lifecycle | | in year | | |
| Energy savings (kWh): | | | | | |
| Distributed Generation an | d Load Displacement Programs: | | | | |
| Amount of DG installed (kW | (): | | | | |
| Energy generated (kWh): | ,- | | | | |
| Peak energy generated (kW | /h): | | | | |
| Eucl type: | | | | | |
| ruei type. | | | | | |
| Other Programs (specify): | | | | | |
| Other Programs (specify): Metric (specify): | | | | | |
| Other Programs (specify): Metric (specify): | | | D | | |
| Other Programs (specify): Metric (specify): Actual Program Costs: | | | Reporting Year | | Cumulative Life to Date |
| Other Programs (specify): Metric (specify): Actual Program Costs: Utility direct costs (\$): | Incremental capital: | \$ | Reporting Year | \$ | Cumulative Life to Date |
| Other Programs (specify): Metric (specify): Actual Program Costs: Utility direct costs (\$): | Incremental capital: Incremental O&M: | \$ | Reporting Year 3,400.00 | \$ | Cumulative Life to Date |
| Other Programs (specify): Metric (specify): Actual Program Costs: Utility direct costs (\$): | Incremental capital: Incremental O&M: Increntive: | \$ \$ \$ | Reporting Year 3,400.00 | \$ \$ \$ | Cumulative Life to Date |
| Other Programs (specify): Metric (specify): Actual Program Costs: Utility direct costs (\$): | Incremental capital: Incremental O&M: Incentive: Total: | \$ \$ \$ \$ | Reporting Year 3,400.00 3,400.00 | \$ \$ \$ | Cumulative Life to Date 3,400.00 3,400.00 |
| Other Programs (specify): Metric (specify): Actual Program Costs: Utility direct costs (\$): | Incremental capital: Incremental O&M: Incentive: Total: Incremental capital: | \$ \$ \$ \$ | Reporting Year 3,400.00 3,400.00 | \$ \$ \$ | Cumulative Life to Date 3,400.00 3,400.00 |
| Other Programs (specify): Metric (specify): Actual Program Costs: Utility direct costs (\$): Utility indirect costs (\$): | Incremental capital: Incremental O&M: Incentive: Total: Incremental capital: Incremental O&M: | \$ \$ \$ \$ \$ | Reporting Year 3,400.00 3,400.00 | \$ \$ \$ \$ | Cumulative Life to Date 3.400.00 3,400.00 |
| Other Programs (specify): Metric (specify): Actual Program Costs: Utility direct costs (\$): Utility indirect costs (\$): | Incremental capital: Incremental O&M: Incentive: Total: Incremental capital: Incremental O&M: Total: | \$ \$ \$ \$ \$ \$ | Reporting Year 3,400.00 3,400.00 | \$ \$ \$ \$ \$ \$ \$ \$ \$ | Cumulative Life to Date 3.400.0 3,400.0 |

This program is for educational initiatives and there are no TRC benefits. These costs are included in Appendix A as GHESI expenditure for 2006.



6.2.1.1.6. Guelph Partnerships for Innovation

Appendix B - Discussion of the Program

RES Education - Guelph Partnership for Innovation RESIDENTIAL - Education: Guelph Partnership for Innovation

A. Name of the Program:

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

Guelph Partnerships for Innovation (GPI) is a consortium of life science stakeholders with the vision of making Guelph one of the top five life science centres in North America. A total of 445 CFLÖs, were distributed to create conservation awareness at Guelph Partnership for InnovationÕs annual golf tournament on September 26, 2006, and at GHESIÕs open house, on October 14th, 2006. The open house showcased solar energy and geothermal systems in GHESIÕs newly built energy efficient building. The costs for these CFLs were reported in 2005, so there were no CDM expenditures in 2006.

| | Measure(s): | | | | | |
|----|--|--|----|---------------------------|------------------------------------|--|
| | | Measure 1 | | Measure 2 (if applicable) | Measure 3 | (if applicable) |
| | Base case technology: | incandesent lights | | | | |
| | Efficient technology: | 15W CFLs | | | | |
| | Number of participants or units | | | | | |
| | delivered for reporting year: | 401 | | 2005 only educational | | |
| | Measure life (years): | 4 | | | | |
| | | | | | | |
| | Number of Participants or units | | | | | |
| | delivered life to date | 401 | | 126 | | |
| | 700 0 | | | B | | TRO 8 |
| в. | TRC Results: | | • | Reporting Year | Lite-to-date | e TRC Results: |
| | TRC Benefits (\$): | | \$ | 9,727.92 | \$ | 9,727.92 |
| | TRC Costs (\$): | | | | | |
| | Utili | ty program cost (excluding incentives): | \$ | - | \$ | 2,054.09 |
| | Increme | ntal Measure Costs (Equipment Costs) | \$ | 1,001.25 | \$ | 1,001.25 |
| | | Total TRC costs: | \$ | 1,001.25 | \$ | 3,055.34 |
| | Net TRC (in year CDN \$): | | \$ | 8,726.67 | \$ | 6,672.58 |
| | Benefit to Cost Ratio (TRC Benefits/TR | C Costs): | \$ | 9.72 | \$ | 3.18 |
| C | Results: (one or more category may an | (vlac | | | Cumulat | ive Results: |
| Ο. | | - (- · J / | | | | |
| 0. | | | | | | |
| 0. | Conservation Programs: | | | | | |
| 0. | Conservation Programs: Demand savings (kW): | Summer | | | | |
| 0. | Conservation Programs: Demand savings (kW): | Summer Winter | | | | |
| 0. | Conservation Programs: Demand savings (kW): | Summer Winter | | | Cumulative | Cumulative |
| 0. | Conservation Programs: Demand savings (kW): | Summer Winter lifecycle | | in year | Cumulative Lifecycle | Cumulative Annual Savings |
| 0. | Conservation Programs: Demand savings (kW): Energy saved (kWh): | Summer Winter lifecycle 166,688 | | <i>in year</i> 41,672 | Cumulative Lifecycle 166,688 | Cumulative Annual Savings 41,672 |
| 0. | Conservation Programs: Demand savings (kW): Energy saved (kWh): Other resources saved : | Summer Winter lifecycle 166,688 | | <i>in year</i> 41,672 | Cumulative Lifecycle 166,688 | Cumulative Annual Savings 41,672 |
| 0. | Conservation Programs: Demand savings (kW): Energy saved (kWh): Other resources saved : Natural Gas (m3): | Summer Winter lifecycle 166,688 | | <i>in year</i> 41,672 | Cumulative Lifecycle 166,688 | Cumulative Annual Savings 41,672 |
| 0. | Conservation Programs: Demand savings (kW): Energy saved (kWh): Other resources saved : Natural Gas (m3): Other (specify): | Summer Winter lifecycle 166,688 | | in year 41,672 | Cumulative Lifecycle 166,688 | Cumulative Annual Savings 41,672 |
| 0. | Conservation Programs: Demand savings (kW): Energy saved (kWh): Other resources saved : Natural Gas (m3): Other (specify): Demand Management Programs: | Summer Winter lifecycle 166,688 | | <i>in year</i> 41,672 | Cumulative Lifecycle 166,688 | Cumulative Annual Savings 41,672 |
| 0. | Conservation Programs: Demand savings (kW): Energy saved (kWh): Other resources saved : Natural Gas (m3): Other (specify): Demand Management Programs: Controlled load (kWt) | Summer Winter lifecycle 166,688 | | <i>in year</i> 41,672 | Cumulative Lifecycle 166,688 | Cumulative Annual Savings 41,672 |
| 0. | Conservation Programs: Demand savings (kW): Energy saved (kWh): Other resources saved : Natural Gas (m3): Other (specify): Demand Management Programs: Controlled load (kW) | Summer Winter lifecycle 166,688 | | <i>in year</i> 41,672 | Cumulative Lifecycle 166,688 | Cumulative Annual Savings 41,672 |
| 0. | Conservation Programs: Demand savings (kW): Energy saved (kWh): Other resources saved : Natural Gas (m3): Other (specify): Demand Management Programs: Controlled load (kW) Energy shifted On-peak to Mid-peak (ki | Summer Winter lifecycle 166,688 Wh): | | <i>in year</i> 41,672 | Cumulative Lifecycle 166,688 | Cumulative Annual Savings 41,672 |
| 0. | Conservation Programs: Demand savings (kW): Energy saved (kWh): Other resources saved : Natural Gas (m3): Other (specify): Demand Management Programs: Controlled load (kW) Energy shifted On-peak to Mid-peak (kt Energy shifted On-peak to Off-peak (kt | Summer Winter lifecycle 166,688 Wh): Vh): | | <i>in year</i> 41,672 | Cumulative Lifecycle 166,688 | Cumulative Annual Savings 41,672 |
| 0. | Conservation Programs: Demand savings (kW): Energy saved (kWh): Other resources saved : Natural Gas (m3): Other (specify): Demand Management Programs: Controlled load (kW) Energy shifted On-peak to Mid-peak (kW Energy shifted On-peak to Off-peak (kW | Summer Winter lifecycle 166,688 Wh): Wh): | | in year 41,672 | Cumulative Lifecycle 166,688 | Cumulative Annual Savings 41,672 |
| 0. | Conservation Programs: Demand savings (kW): Energy saved (kWh): Other resources saved : Natural Gas (m3): Other (specify): Demand Management Programs: Controlled load (kW) Energy shifted On-peak to Mid-peak (kW Energy shifted On-peak to Off-peak (kW Energy shifted Mid-peak to Off-peak (kW | Summer Winter lifecycle 166,688 Wh): Wh): | | in year 41,672 | Cumulative Lifecycle 166,688 | Cumulative Annual Savings 41,672 |
| 0. | Conservation Programs: Demand savings (kW): Energy saved (kWh): Other resources saved : Natural Gas (m3): Other (specify): Demand Management Programs: Controlled load (kW) Energy shifted On-peak to Mid-peak (kt Energy shifted Mid-peak to Off-peak (kt Energy shifted Mid-peak to Off-peak (kt Energy shifted Mid-peak to Off-peak (kt Demand Response Programs: Dispatchable load (kW): | Summer Winter lifecycle 166,688 Wh): Wh): | | in year 41,672 | Cumulative Lifecycle 166,688 | Cumulative Annual Savings 41,672 |
| 0. | Conservation Programs: Demand savings (kW): Energy saved (kWh): Other resources saved : Natural Gas (m3): Other (specify): Demand Management Programs: Controlled load (kW) Energy shifted On-peak to Mid-peak (kk Energy shifted On-peak to Off-peak (kk Energy shifted Mid-peak to Off-peak (kk Energy shifted Mid-peak to Off-peak (kk Energy shifted Mid-peak to Off-peak (kk) Energy shifted Mid-peak to Off-peak (kk) | Summer Winter lifecycle 166,688 Wh): Wh): Wh): | | <i>in year</i> 41,672 | Cumulative Lifecycle 166,688 | Cumulative Annual Savings 41,672 |



Appendix B: Guelph Partnerships for Innovation (page 2)

| boginning of yoar (%): | | | |
|--------------------------|--|--|--|
| beginning of year (70). | | | |
| end of year (%): | | | |
| | | | |
| | | | |
| lifecycle | in ye | ear | |
| | | | |
| I Displacement Programs: | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | Reportir | ng Year Cumul | ative Life to Date |
| Incremental capital: | \$ | - \$ | - |
| Incremental O&M: | \$ | - \$ | 2,054.09 |
| Incentive: | \$ | - \$ | - |
| Total: | \$ | - \$ | 2,054.09 |
| | ٠ | • | |
| incremental capital: | \$ ¢ | - \$ | - |
| Incremental O&M: | \$ | - \$ | - |
| l otal: | \$ | - \$ | - |
| | | | |
| | | | · |
| | Incremental capital: Incremental Capital: Incremental O&M: Incentive: Total: Incremental O&M: Incremental Capital: Incremental Capital: Incremental O&M: Total: | lifecycle in y l Displacement Programs: Incremental capital: Incremental O&M: Total: S Incremental O&M: S Incremental Capital: S Incremental Capital: S Increme | Ilfecycle in year IDisplacement Programs: IDisplacement Programs: Incremental capital: Incremental O&M: Incentive: Total: Incremental Capital: Incremental C |



6.2.1.1.7. Operation Power Down

Appendix B - Discussion of the Program

RES Education - Operation Power Down

RESIDENTIAL - Education: Operation Power Down

A. Name of the Program:

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

A black out day challenge was held on August 13, 2006 in response to a friendly challenge from the City of Woodstock. The challenge was founded to commemorate the black-out of August 2003 and also creates awareness around energy conservation. GHESIOS total energy reduction during Operation Power Down was 9,100 kWh and expenditures related to promotion and awareness of this event including radio advertisements.

| | Measure(s): | | | | | | |
|----|---|---|-----|---------------------------|----|--------------|-----------------|
| | Rass asso toobpology: | Measure 1 | | Measure 2 (If applicable) | | Measure 3 | (if applicable) |
| | Efficient technology: | | | | | | |
| | Number of participants or units | | | | | | |
| | delivered for reporting year: | | | | | | |
| | Measure life (years): | | | | | | |
| | | | | | | | |
| | Number of Participants or units | | | | | | |
| | delivered life to date | | | | | | |
| В. | TRC Results: | | | Reporting Year | | Life-to-date | TRC Results: |
| 1 | TRC Benefits (\$): | | \$ | - | \$ | | - |
| 2 | ² TRC Costs (\$): | | | | | | |
| | Utili | ty program cost (excluding incentives): | \$ | 7,106.83 | \$ | | 7,106.83 |
| | Incremei | ntal Measure Costs (Equipment Costs) | \$ | - | \$ | | - |
| | Not TDC (in year CDN #); | Total TRC costs: | \$ | 7,106.83 | \$ | | 7,106.83 |
| | Net THC (III year CDN \$). | | -\$ | 7,106.83 | -Þ | | 7,100.03 |
| | Benefit to Cost Ratio (TRC Benefits/TR | C Costs): | \$ | - | \$ | | - |
| C. | Results: (one or more category may ap | oply) | | | | Cumulati | ve Results: |
| | Conservation Programs: | | | | | | |
| | Demand savings (kW): | Summer | | | | | |
| | | Winter | | | | | |
| | | | | | | Cumulative | Cumulative |
| | | lifecycle | | in year | | Lifecycle | Annual Savings |
| | Energy saved (kWh): | | | | | | |
| | Natural Cas (m2) | | | | | | |
| | Other (specify): | | | | | | |
| | Cirici (Speerly). | | | | | | |
| | Demand Management Programs: | | | | | | |
| | Controlled load (kW) | | | | | | |
| | Energy shifted On-peak to Mid-peak (KI | ///n): ///->: | | | | | |
| | Energy shifted Mid-peak to Off-peak (k) | vn). M/b): | | | | | |
| | Linergy Shinted Wild-peak to Oli-peak (Ki | ···//. | | | | | |
| | Demand Response Programs: | | | | | | |
| | Dispatchable load (kW): | | | | | | |
| | Peak hours dispatched in year (hours): | | | | | | |



Appendix B: Operation Power Down (page 2)

| Amount of KV/ar installed (KV/a | pgrams: | | | | |
|--|--|---|---|--|---|
| Distribution system power fact | tor at beginning of year $(\%)$: | | | | |
| Distribution system power fact | tor at end of year (%): | | | | |
| Line Lane Deduction Decare | | | | | |
| Line Loss Reduction Progra | ims: | | | | |
| Peak load savings (kw). | lifequale | | in yoor | | |
| Energy savings (kWh): | mecycie | | iii yeai | | |
| Distributed Generation and | Load Displacement Programs: | | | | |
| Amount of DG installed (kW): | | | | | |
| Energy generated (kWh): | | | | | |
| Peak energy generated (kWh) |): | | | | |
| E I I | | | | | |
| ruei type: | | | | | |
| Other Programs (specify): | | | | | |
| Other Programs (specify): Metric (specify): | | | | | |
| Other Programs (specify): Metric (specify): Actual Program Costs: | | R | eporting Year | Cu | mulative Life to Date |
| Other Programs (specify): Metric (specify): Actual Program Costs: Utility direct costs (\$): | Incremental capital: | <u>R</u> (\$ | eporting Year | Cu \$ | mulative Life to Date |
| Other Programs (specify): Metric (specify): Actual Program Costs: Utility direct costs (\$): | Incremental capital: Incremental O&M: | <u>R</u> t \$ \$ | eporting Year - 7,106.83 | Cu \$ \$ | mulative Life to Date - 7.106.8 |
| Other Programs (specify): Metric (specify): Actual Program Costs: Utility direct costs (\$): | Incremental capital: Incremental O&M: Incentive: | <u>Ri</u> \$ \$ \$ | eporting Year - 7,106.83 - | Cu \$ \$ \$ | mulative Life to Date - 7.106.8 |
| Other Programs (specify): Metric (specify): Actual Program Costs: Utility direct costs (\$): | Incremental capital: Incremental O&M: Incentive: Total: | <u>Ra</u> \$ \$ \$ \$ | eporting Year 7,106.83 - 7,106.83 | Cu \$ \$ \$ \$ | mulative Life to Date - 7,106.8 - 7,106.8 |
| Other Programs (specify): Metric (specify): Actual Program Costs: Utility direct costs (\$): | Incremental capital: Incremental O&M: Incentive: Total: Incremental capital: | <u>Ri</u> \$ \$ \$ \$ | eporting Year 7,106.83 - 7,106.83 - | Cu \$ \$ \$ \$ | mulative Life to Date - 7.106.8 - 7.106.8 |
| Other Programs (specify): Metric (specify): Actual Program Costs: Utility direct costs (\$): | Incremental capital: Incremental O&M: Incentive: Total: Incremental capital: Incremental O&M: | <u>Fr</u> \$ \$ \$ \$ \$ | eporting Year 7,106.83 - 7,106.83 - - | Cu \$ \$ \$ \$ \$ \$ \$ | mulative Life to Date - 7.106.8 - 7.106.8 - - |
| Other Programs (specify): Metric (specify): Actual Program Costs: Utility direct costs (\$): | Incremental capital: Incremental O&M: Incentive: Total: Incremental capital: Incremental O&M: Total: | <u>Fr</u> \$ \$ \$ \$ \$ \$ \$ \$ | eporting Year - 7,106.83 - 7,106.83 - - - - | Cu \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ | mulative Life to Date - 7,106.4 - 7,106.4 - - - - |
| Other Programs (specify): Metric (specify): Actual Program Costs: Utility direct costs (\$): | Incremental capital: Incremental O&M: Incentive: Total: Incremental capital: Incremental O&M: Total: | <u>Rr</u> \$ \$ \$ \$ \$ \$ \$ | eporting Year 7,106.83 - 7,106.83 - - - | Cu \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ | mulative Life to Date - 7.106.8 - 7.106.6 - - - - |



6.2.1.1.8. Community Energy Plan

Appendix B - Discussion of the Program

RES Education - Community Energy Plan

RESIDENTIAL - Education: Community Energy Plan

A. Name of the Program:

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

GHESI participated in educational activities relating to GuelphÖs Community Energy Plan. A Consortium of City of Guelph, Guelph Hydro, the Guelph Chamber of Commerce and School Boards is developing an official Community Energy Plan, to enable the advancement of sustained programs in the community. The plan is intended to identify the need for changes to city by-law codes. Local builders and developers are on board with the plan. There is a possibility that it may lead to larger scale projects such as district energy projects. In 2006, one of 5 Community workshops being planned was held. There was also a public forum and presentation to City Council as well as meetings with other community leaders.

| | 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 | | | | | | |
| В. | TRC Results: | | | Reporting Year | | Life-to-date | TRC Results: |
| | ¹ TRC Benefits (\$): | | \$ | - | \$ | | - |
| : | ² TRC Costs (\$): | | | | | | |
| | Utili | ty program cost (excluding incentives): | \$ | 33,182.97 | \$ | | 33,182.97 |
| | Incremei | ntal Measure Costs (Equipment Costs) | \$ | - | \$ | | - |
| | | Total TRC costs: | \$ | 33,182.97 | \$ | | 33,182.97 |
| | Net THC (III year CDN \$). | | -⊅ | 33,182.97 | -Þ | | 33,162.97 |
| | Benefit to Cost Ratio (TRC Benefits/TR | C Costs): | \$ | - | \$ | | - |
| C. | Results: (one or more category may ap | pply) | | | | Cumulati | ve Results: |
| | | | | | | | |
| | Conservation Programs: | | | | | | |
| | Conservation Programs: Demand savings (kW): | Summer | | | | | |
| | <u>Conservation Programs:</u> Demand savings (kW): | Summer Winter | | | | | |
| | Conservation Programs: Demand savings (kW): | Summer Winter | | | | Cumulative | Cumulative |
| | Conservation Programs: Demand savings (kW): | Summer Winter lifecycle | | in year | | Cumulative Lifecycle | Cumulative Annual Savings |
| | Conservation Programs: Demand savings (kW): Energy saved (kWh): Other resources saved : | Summer Winter lifecycle | | in year | | Cumulative Lifecycle | Cumulative Annual Savings |
| | Conservation Programs: Demand savings (kW): Energy saved (kWh): Other resources saved : Natural Gas (m3): | Summer Winter lifecycle | | in year | | Cumulative Lifecycle | Cumulative Annual Savings |
| | Conservation Programs: Demand savings (kW): Energy saved (kWh): Other resources saved : Natural Gas (m3): Other (specify): | Summer Winter lifecycle | | in year | | Cumulative Lifecycle | Cumulative Annual Savings |
| | Conservation Programs: Demand savings (kW): Energy saved (kWh): Other resources saved : Natural Gas (m3): Other (specify): | Summer Winter lifecycle | | in year | | Cumulative Lifecycle | Cumulative Annual Savings |
| | Conservation Programs: Demand savings (kW): Energy saved (kWh): Other resources saved : Natural Gas (m3): Other (specify): Demand Management Programs: Controlled load (kW) | Summer Winter lifecycle | | in year | | Cumulative Lifecycle | Cumulative Annual Savings |
| | Conservation Programs: Demand savings (kW): Energy saved (kWh): Other resources saved : Natural Gas (m3): Other (specify): Demand Management Programs: Controlled load (kW) Energy shifted On-peak to Mid-peak (kl | Summer Winter lifecycle | | in year | | Cumulative Lifecycle | Cumulative Annual Savings |
| | Conservation Programs: Demand savings (kW): Energy saved (kWh): Other resources saved : Natural Gas (m3): Other (specify): Demand Management Programs: Controlled load (kW) Energy shifted On-peak to Mid-peak (kW Energy shifted On-peak to Mid-peak (kW | Summer Winter lifecycle Mh): Vh): | | in year | | Cumulative Lifecycle | Cumulative Annual Savings |
| | Conservation Programs: Demand savings (kW): Energy saved (kWh): Other resources saved : Natural Gas (m3): Other (specify): Demand Management Programs: Controlled load (kW) Energy shifted On-peak to Mid-peak (kW Energy shifted On-peak to Off-peak (kW Energy shifted Mid-peak to Off-peak (kW | Summer Winter lifecycle Wh): Wh): | | in year | | Cumulative Lifecycle | Cumulative Annual Savings |
| | Conservation Programs: Demand savings (kW): Energy saved (kWh): Other resources saved : Natural Gas (m3): Other (specify): Demand Management Programs: Controlled load (kW) Energy shifted On-peak to Mid-peak (kW Energy shifted On-peak to Off-peak (kW Energy shifted Mid-peak to Off-peak (kW | Summer Winter lifecycle Wh): Wh): Wh): | | in year | | Cumulative Lifecycle | Cumulative Annual Savings |
| | Conservation Programs: Demand savings (kW): Energy saved (kWh): Other resources saved : Natural Gas (m3): Other (specify): Demand Management Programs: Controlled load (kW) Energy shifted On-peak to Mid-peak (kW Energy shifted On-peak to Off-peak (kW Energy shifted On-peak to Off-peak (kW Energy shifted Mid-peak to Off-peak (kW Energy shifted Mid-peak to Off-peak (kW | Summer Winter lifecycle Wh): Wh): | | in year | | Cumulative Lifecycle | Cumulative Annual Savings |
| | Conservation Programs: Demand savings (kW): Energy saved (kWh): Other resources saved : Natural Gas (m3): Other (specify): Demand Management Programs: Controlled load (kW) Energy shifted On-peak to Mid-peak (kW Energy shifted On-peak to Off-peak (kW Energy shifted Mid-peak to Off-peak (kW) Energy shifted Mid-peak to Off-peak (kW) Energy shifted Mid-peak to Off-peak (kW) Energy shifted Mid-peak to Off-peak (kW) | Summer Winter lifecycle Wh): Wh): | | in year | | Cumulative Lifecycle | Cumulative Annual Savings |



Appendix B: Community Energy Plan (page 2)

| Amount of KVar install | led (KVar): | | | | |
|--|--|---|---|---|---|
| Distribution system po | wer factor at beginning of year (%): | | | | |
| Distribution system po | wei lacioi ai enu oi year (%). | | | | |
| Line Loss Reduction | Programs: | | | | |
| Peak load savings (kN | V): | | | | |
| | lifecycle | | in year | | |
| Energy savings (kWh) | : | | | | |
| Distributed Generation | on and Load Displacement Programs: | | | | |
| Amount of DG installed | d (kW): | | | | |
| Energy generated (kW | (h): | | | | |
| Peak energy generate | d (kWh): | | | | |
| | | | | | |
| Fuel type: | | | | | |
| Fuel type: Other Programs (spe | cify): | | | | |
| Fuel type: <u>Other Programs (spe</u> <i>Metric (specify):</i> | cify): | | | | |
| Fuel type: Other Programs (spe Metric (specify): Actual Program Cost | <u>cify):</u> | Re | porting Year | Cur | nulative Life to Date |
| Fuel type: <u>Other Programs (spe</u> Metric (specify): <u>Actual Program Cost</u> Utility direct costs (\$): | cify): <u> S:</u> Incremental capital: | <u>Re</u> \$ | porting Year | Cur \$ | nulative Life to Date |
| Fuel type: <u>Other Programs (spe</u> Metric (specify): <u>Actual Program Cost</u> Utility direct costs (\$): | cify): <u>S:</u> Incremental capital: Incremental O&M: | <u>Re</u> \$ \$ | porting Year - 33,182.97 | Cur \$ \$ | nulative Life to Date - 33.182.97 |
| Fuel type: <u>Other Programs (spe</u> Metric (specify): <u>Actual Program Cost</u> Utility direct costs (\$): | cify): <u>S:</u> Incremental capital: Incremental O&M: Incentive: | <u>Re</u> \$ \$ \$ | porting Year - 33,182.97 - | Cur \$ \$ \$ | nulative Life to Date - 33.182.97 |
| Fuel type: <u>Other Programs (spe</u> Metric (specify): <u>Actual Program Cost</u> Utility direct costs (\$): | cify): S: Incremental capital: Incremental O&M: Incentive: Total: | <u>Re</u> \$ \$ \$ \$ | porting Year - 33,182.97 - 33,182.97 | Cur \$ \$ \$ \$ | nulative Life to Date 33.182.97 33.182.97 33.182.97 |
| Fuel type: Other Programs (spe Metric (specify): Actual Program Cost Utility direct costs (\$): | cify): S: Incremental capital: Incremental O&M: Incentive: Total: | <u>Re</u> \$ \$ \$ \$ | porting Year 33,182.97 - 33,182.97 33,182.97 | Cur \$ \$ \$ \$ | nulative Life to Date 33.182.97 33.182.97 |
| Fuel type: Other Programs (spe Metric (specify): Actual Program Cost Utility direct costs (\$): Utility indirect costs (\$) | cify): S: Incremental capital: Incernital O&M: Incentive: Total: C: Incremental capital: | Re \$ \$ \$ \$ | porting Year - 33,182.97 - 33,182.97 - - | Cur \$ \$ \$ \$ \$ | nulative Life to Date 33.182.97 33.182.97 |
| Fuel type: Other Programs (spe Metric (specify): Actual Program Cost Utility direct costs (\$): Utility indirect costs (\$) | cify): S: Incremental capital: Incremental O&M: Incentive: Total: Incremental capital: Incremental capital: Incremental O&M: Incremental O&M: | Re \$ \$ \$ \$ \$ \$ | porting Year 33,182.97 - 33,182.97 - - | Cur \$ \$ \$ \$ \$ \$ | nulative Life to Date 33.182.97 33.182.97 - - - - |
| Fuel type: <u>Other Programs (spe</u> Metric (specify): <u>Actual Program Cost</u> Utility direct costs (\$): Utility indirect costs (\$) | cify): S: Incremental capital: Incentive: Total: Incremental capital: Incremental capital: Incremental O&M: Total: | <u>Re</u> \$ \$ \$ \$ \$ \$ \$ \$ | porting Year 33,182.97 - 33,182.97 - - - - - - | Cur \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ | nulative Life to Date 33,182.9 33,182.9 - - - - |
| Fuel type: <u>Other Programs (spe</u> Metric (specify): <u>Actual Program Cost</u> Utility direct costs (\$): Utility indirect costs (\$) | cify): S: Incremental capital: Incentive: Total: Incremental capital: Incremental O&M: Total: | <u>Re</u> \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ | porting Year 33,182.97 - 33,182.97 - - - - | Cur \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ | nulative Life to Date |



6.2.1.1.9. Energy Wheels

Appendix B - Discussion of the Program

RES Education - Energy Wheels

A. Name of the Program:

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

RESIDENTIAL - Education: Energy Wheels

Energy Wheels are educational materials provided to customers through various initiatives in the GHESI portfolio. A total of 5,000 energy wheels were purchased and paid for in 2005. Most of the energy wheels were distributed in 2005 and the remaining energy wheels were distributed in 2006. There were 453 energy wheels handed out to interested Grade 8 students at Career Pathways on October 26, 2006. Career Pathways is a one-day career exposition held by various employers in the Guelph area. Also, GHESI held an open house on October 14th, 2006, which showcased solar energy and geothermal systems in GHESIÖs newly built energy efficient building. A total of 350 Energy Wheels were distributed at the open house event at GHESIÖs offices.

| | measure(s). | Measure 1 | | Measure 2 (if applicable) | | Measure 3 | (if applicable) |
|----|--|---|-----|---------------------------|-----|-------------------------|------------------------------|
| | Base case technology: | meddare 1 | | | | Meddule e | |
| | Efficient technology: | | | | | | |
| | Number of participants or units delivered for reporting year: | | | | | | |
| | Measure life (years): | | | | | | |
| | | | | | | | |
| | Number of Participants or units delivered life to date | | | | | | |
| B | TBC Besults: | | | Reporting Year | | Life-to-date | TRC Results: |
| 2. | ¹ TRC Benefits (\$): | | \$ | | \$ | | - |
| | ² TRC Costs (\$): | | | | Ť | | |
| | Utilit | y program cost (excluding incentives): | -\$ | 109.74 | \$ | | 5 292 99 |
| | Incremer | ntal Measure Costs (Equipment Costs) | \$ | - | \$ | | - |
| | | Total TRC costs: | -\$ | 109.74 | \$ | | 5,292.99 |
| | Net TRC (in year CDN \$): | | \$ | 109.74 | -\$ | | 5,292.99 |
| | Benefit to Cost Ratio (TRC Benefits/TR | C Costs): | \$ | - | \$ | | - |
| C. | Results: (one or more category may ap | ply) | | | | <u>Cumulati</u> | ve Results: |
| | | | | | | | |
| | Or a constitute Data success | | | | | | |
| | Conservation Programs: | 0 | | | | | |
| | Conservation Programs: Demand savings (kW): | Summer | | | | | |
| | Conservation Programs: Demand savings (kW): | Summer Winter | | | | Cumulative | Cumulative |
| | Conservation Programs: Demand savings (kW): | Summer Winter lifecycle | | in year | (| Cumulative Lifecycle | Cumulative Annual Savings |
| | Conservation Programs: Demand savings (kW): Energy saved (kWh): | Summer Winter lifecycle | | in year | (| Cumulative Lifecycle | Cumulative Annual Savings |
| | Conservation Programs: Demand savings (kW): Energy saved (kWh): Other resources saved : | Summer Winter lifecycle | | in year | (| Cumulative Lifecycle | Cumulative Annual Savings |
| | Conservation Programs: Demand savings (kW): Energy saved (kWh): Other resources saved : Natural Gas (m3): | Summer Winter lifecycle | | in year | | Cumulative Lifecycle | Cumulative Annual Savings |
| | Conservation Programs: Demand savings (kW): Energy saved (kWh): Other resources saved : Natural Gas (m3): Other (specify): | Summer Winter lifecycle | | in year | | Cumulative Lifecycle | Cumulative Annual Savings |
| | Conservation Programs: Demand savings (kW): Energy saved (kWh): Other resources saved : Natural Gas (m3): Other (specify): Demand Management Programs: | Summer Winter lifecycle | | in year | | Cumulative Lifecycle | Cumulative Annual Savings |
| | Conservation Programs: Demand savings (kW): Energy saved (kWh): Other resources saved : Natural Gas (m3): Other (specify): Demand Management Programs: Controlled load (kW) | Summer Winter lifecycle | | in year | | Cumulative Lifecycle | Cumulative Annual Savings |
| | Conservation Programs: Demand savings (kW): Energy saved (kWh): Other resources saved : Natural Gas (m3): Other (specify): Demand Management Programs: Controlled load (kW) Energy shifted On-peak to Mid-peak (kW | Summer Winter lifecycle Wh): | | in year | | Cumulative Lifecycle | Cumulative Annual Savings |
| | Conservation Programs: Demand savings (kW): Energy saved (kWh): Other resources saved : Natural Gas (m3): Other (specify): Demand Management Programs: Controlled load (kW) Energy shifted On-peak to Mid-peak (kW Energy shifted On-peak to Olf-peak (kW | Summer Winter lifecycle Wh): Vh): | | in year | | Cumulative Lifecycle | Cumulative Annual Savings |
| | Conservation Programs: Demand savings (kW): Energy saved (kWh): Other resources saved : Natural Gas (m3): Other (specify): Demand Management Programs: Controlled load (kW) Energy shifted On-peak to Mid-peak (kW Energy shifted Mid-peak to Off-peak (kW | Summer Winter lifecycle Wh): Vh): | | in year | | Cumulative Lifecycle | Cumulative Annual Savings |
| | Conservation Programs: Demand savings (kW): Energy saved (kWh): Other resources saved : Natural Gas (m3): Other (specify): Demand Management Programs: Controlled load (kW) Energy shifted On-peak to Mid-peak (kW Energy shifted On-peak to Off-peak (kW Energy shifted Mid-peak to Off-peak (kW | Summer Winter lifecycle Mh): Wh): | | in year | | Cumulative Lifecycle | Cumulative Annual Savings |
| | Conservation Programs: Demand savings (kW): Energy saved (kWh): Other resources saved : Natural Gas (m3): Other (specify): Demand Management Programs: Controlled load (kW) Energy shifted On-peak to Mid-peak (kW Energy shifted On-peak to Off-peak (kW Energy shifted Mid-peak to Off-peak (kW Energy shifted Mid-peak to Off-peak (kW Energy shifted Mid-peak to Off-peak (kW | Summer Winter lifecycle Wh): Vh): Wh): | | in year | | Cumulative Lifecycle | Cumulative Annual Savings |
| | Conservation Programs: Demand savings (kW): Energy saved (kWh): Other resources saved : Natural Gas (m3): Other (specify): Demand Management Programs: Controlled load (kW) Energy shifted On-peak to Mid-peak (kW Energy shifted On-peak to Off-peak (kW Energy shifted Mid-peak to Off-peak (kW) Energy shifted Mid-peak to Off-peak (kW) Energy shifted Mid-peak to Off-peak (kW) Energy shifted Mid-peak to Off-peak (kW) | Summer Winter lifecycle Wh): Wh): Wh): | | in year | | Cumulative Lifecycle | Cumulative Annual Savings |



Appendix B: Energy Wheels (page 2)

| 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): | | | | | |
| Actual Program Costs: | | | Reporting Year | Cumulat | ive Life to Date |
| I Itility direct costs (\$): | Incremental capital: | \$ | - | \$ | - |
| | Incremental O&M: | -\$ | 109.74 | \$ | 5 292 9 |
| | Incentive: | \$ | - | \$ | - |
| | Total: | -\$ | 109.74 | \$ | 5,292.9 |
| | | | | | |
| Utility indirect costs (\$): | Incremental capital: | \$ | - | \$ | - |
| | Incremental O&M: | \$ | - | \$ | 1,177.2 |
| | Total: | \$ | - | \$ | 1,177.2 |
| | | | | | |
| | | | | | |
| Assumptions & Comments: | | | | | |



6.2.1.2. Low Income Programs

6.2.1.2.1. Seasonal Baskets

Appendix B - Discussion of the Program

RES Low Income - Seasonal Hampers

A. Name of the Program: RESIDENTIAL - Low Income: Seasonal Hampers

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

GHESI donated CFLs to be included in the Salvation ArmyÖs Christmas Hamper program to provide relief to low-income families during the winter holidays. GHESIÖs contributions to the Seasonal Baskets consisted of one 13 Watt CFL and the brochure NEducational Tips on How to Conserve EnergyÓ. GHESI donated a total of 1,000 CFLs for this annual program. The costs of the CFLÖs were reported in the 2005 annual report.

| | Measure(s): | | | | | | |
|----|--|---|----|---------------------------|----|--------------|-----------------|
| | | Measure 1 | | Measure 2 (if applicable) | | Measure 3 | (if applicable) |
| | Base case technology: | Incandesent light | | | | | |
| | Efficient technology: | 15W CFL | | | | | |
| | Number of participants or units delivered for reporting year: | 1000 | | | | | |
| | Measure life (years): | 4 | | | | | |
| | u , | | | | | | |
| | Number of Participants or units | | | | | | |
| | delivered life to date | 4,433 | | | | | |
| _ | TROPUS | | | D | | | 700 D |
| в. | IRC Results: | | • | Reporting Year | • | Lite-to-date | IRC Results: |
| | IRC Benefits (\$): | | \$ | 21,860.48 | \$ | | 100,493.35 |
| | ² TRC Costs (\$): | | | | | | |
| | Utili | ty program cost (excluding incentives): | \$ | - | \$ | | 6,359.96 |
| | Incremei | ntal Measure Costs (Equipment Costs) | \$ | 2,250.00 | \$ | | 2,250.00 |
| | | Total TRC costs: | \$ | 2,250.00 | \$ | | 8,609.96 |
| | Net TRC (in year CDN \$): | | \$ | 19,610.48 | \$ | | 91,883.39 |
| | Benefit to Cost Ratio (TRC Benefits/TR | C Costs): | \$ | 9.72 | \$ | | 11.67 |
| C. | Results: (one or more category may apply) | | | | | Cumulat | ive Results: |
| | | | | | | | |
| | Conservation Programs: | | | | | | |
| | Demand savings (kW): | Summer | | | | | |
| | | Winter | | | | | |
| | | | | | | Cumulative | Cumulative |
| | | lifecycle | | in year | | Lifecycle | Annual Savings |
| | Energy saved (kWh): | 374,580 | | 93,645 | | 1,722,184 | 430,546 |
| | Other resources saved : | | | | | | |
| | Natural Gas (m3): | | | | | | |
| | Other (specify): | | | | | | |
| | Demand Management Programs: | | | | | | |
| | Controlled load (kW) | | | | | | |
| | Energy shifted On pask to Mid pask (k) | A (b): | | | | | |
| | Energy shifted On-peak to Mid-peak (k) | ////): ///-): | | | | | |
| | Energy shifted On-peak to Off-peak (kv | vn): | | | | | |
| | Energy snifted Mid-peak to Off-peak (K | wn): | | | | | |
| | Demand Response Programs: | | | | | | |
| | Dispatchable load (kW): | | | | | | |
| | Peak hours dispatched in vear (hours): | | | | | | |



Appendix B: Seasonal Baskets (page 2)

| Amount of KVar installed (K | (Var): | | | |
|---|--|---|---|--|
| Distribution system power fa | actor at beginning of year (%): | | | |
| Distribution system power fa | actor at end of year (%): | | | |
| Line Loss Reduction Proc | arams: | | | |
| Peak load savings (kW): | | | | |
| | lifecycle | in year | | |
| Energy savings (kWh): | | | | |
| Distributed Generation an | d Load Displacement Programs: | | | |
| Amount of DG installed (kW | /): | | | |
| Energy generated (kWh): | | | | |
| Peak energy generated (kW | Vh): | | | |
| Fuel type: | | | | |
| | | | | |
| Other Programs (specify): | | | | |
| Other Programs (specify): Metric (specify): | <u>.</u> | | | |
| Other Programs (specify): Metric (specify): Actual Program Costs: | | Reporting Yea | <u>r</u> Cumula | tive Life to Date |
| Other Programs (specify): Metric (specify): Actual Program Costs: Utility direct costs (\$): | Incremental capital: | <u>Reporting Yea</u> \$ | r Cumula - \$ | tive Life to Date |
| Other Programs (specify): Metric (specify): Actual Program Costs: Utility direct costs (\$): | Incremental capital: Incremental O&M: | <u>Reporting Yea</u> \$ \$ | <u>r</u> Cumula - \$ - \$ | tive Life to Date - 6.179.40 |
| Other Programs (specify): Metric (specify): Actual Program Costs: Utility direct costs (\$): | Incremental capital: Incremental O&M: Incentive: | <u>Reporting Yea</u> \$ \$ \$ | <u>r</u> Cumula - \$ - \$ - \$ | tive Life to Date - 6.179.40 3.140.14 |
| Other Programs (specify): Metric (specify): Actual Program Costs: Utility direct costs (\$): | Incremental capital: Incremental O&M: Incentive: Total: | Reporting Yea \$ \$ \$ \$ | <u>r</u> Cumula - \$ - \$ - \$ - \$ - \$ | tive Life to Date 6.179.40 3.140.14 9.319.54 |
| Other Programs (specify): Metric (specify): Actual Program Costs: Utility direct costs (\$): | Incremental capital: Incremental O&M: Incentive: Total: | Reporting Yea \$ \$ \$ \$ | <u>r</u> Cumula - \$ - \$ - \$ - \$ | tive Life to Date 6.179.40 3.140.14 9.319.54 |
| Other Programs (specify): Metric (specify): Actual Program Costs: Utility direct costs (\$): | Incremental capital: Incremental O&M: Incentive: Total: Incremental capital: | <u>Reporting Yea</u> \$ \$ \$ \$ | <u>r</u> Cumula - \$ - \$ - \$ - \$ | tive Life to Date 6.179.40 3.140.14 9.319.54 |
| Other Programs (specify): Metric (specify): Actual Program Costs: Utility direct costs (\$): Utility indirect costs (\$): | Incremental capital: Incremental O&M: Incentive: Total: Incremental capital: Incremental O&M: | <u>Reporting Yea</u> \$ \$ \$ \$ \$ \$ | <u>r</u> Cumula - S - S - S - S - S - S - S | tive Life to Date 6,179.40 3,140.14 9,319.54 - 180.56 |
| Other Programs (specify): Metric (specify): Actual Program Costs: Utility direct costs (\$): Utility indirect costs (\$): | Incremental capital: Incremental O&M: Incentive: Total: Incremental capital: Incremental O&M: Total: | Reporting Yea \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ | <u>r</u> Cumula - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ | tive Life to Date 6.179.40 3.140.14 9.319.54 - 180.56 180.56 |
| Other Programs (specify): Metric (specify): Actual Program Costs: Utility direct costs (\$): Utility indirect costs (\$): | Incremental capital: Incremental O&M: Incentive: Total: Incremental capital: Incremental O&M: Total: | Reporting Yea \$ \$ \$ \$ \$ \$ \$ \$ \$ | r Cumula - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ | tive Life to Date - 6.179. 3.140. 9.319. - - 180.3 180.3 |



6.2.1.2.2. Washer Dryer Replacement

Appendix B - Discussion of the Program

RES Low Income - Washer Dryer Replacement

A. Name of the Program: RESIDENTIAL - Low Income Washer Dryer Replacement

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

The laundry facilities were upgraded to efficient units at Willow Place, an 83-unit residence in Guelph for people with disabilities. In addition to upgrading to efficient equipment, the new machines are also more accessible for many of the residents since the units are all front-loading machines. This program was delivered in partnership with the City of Guelph who is interested in generating water savings. GHESI provided an incentive for the replacement of 6 washers and 6 dryers at Willow Place as a pilot program to generate energy savings. As part of the promotion for this program a laundry party was held with the residents of Willow Place. Information on how to save energy was presented. CTV attended and put the coverage on the 6 oÔclock news. A draw was held for 15 prizes of laundry baskets containing Tide for cold water washing, LED seasonal lights, and a CFL. This program also involved providing each unit in this low-income facility for people with disabilities with a CFL and an energy wheel. In addition, low flow showerheads were provided to the 21 units with roll-in showers that had not previously received low flow showerheads.

| | Measure(s): | | | | | |
|----|--|---|----|---------------------------|-------------|-------------------|
| | Rass asso technology | Measure 1 | N | leasure 2 (if applicable) | Measure 3 | 3 (if applicable) |
| | Base case technology: | Front Loading Washers | | Druoro | |)o/Chowarbaada |
| | Ellicient lecinology. | Front Loading Washers | | Dryers | GFLS/ SLEI | Js/Snowerneads |
| | delivered for reporting year: | 6 | | 6 | 00 | /15/15 |
| | Measure life (vears) | 14 | | 18 | 90 | 80/2012 |
| | | | | | | 5072012 |
| | Number of Participants or units | | | | | |
| | delivered life to date | 6 | | 6 | | 128 |
| B | TBC Besults: | | | Reporting Year | Life-to-dat | e TRC Results: |
| 5. | ¹ TBC Benefits (\$): | | \$ | 8 628 66 | \$ | 8 628 66 |
| ; | 2 TBC Costs (\$): | | Ψ | 0,020.00 | Ψ | 0,020.00 |
| | Uti | lity program cost (excluding incentives): | \$ | 136.20 | \$ | 136.20 |
| | Increme | ental Measure Costs (Equipment Costs) | \$ | 1,964.50 | \$ | 1,964.50 |
| | | Total TRC costs: | \$ | 2,100.70 | \$ | 2,100.70 |
| | Net TRC (in year CDN \$): | | \$ | 6,527.96 | \$ | 6,527.96 |
| | Benefit to Cost Ratio (TRC Benefits/Th | RC Costs): | \$ | 4.11 | \$ | 4.11 |
| C. | Results: (one or more category may a | pply) | | | Cumula | tive Results: |
| | 0 | | | | | |
| | Conservation Programs: | 0 | | 0.0045 | 0 | C04E |
| | Demand Savings (KW). | Winter | | 0.0345 | U | .0345 |
| | | Winter | | | Cumulative | Cumulative |
| | | lifecycle | | in vear | Lifecycle | Annual Savings |
| | Energy saved (kWh): | 178,290 | | 19,893 | 178,290 | 19,893 |
| | Other resources saved : | | | | | |
| | Natural Gas (m3) | : | | | | |
| | Other (specify) | : | | | | |
| | Demand Management Programs: | | | | | |
| | Controlled load (kW) | | | | | |
| | Energy shifted On-peak to Mid-peak (| (Wh): | | | | |
| | Energy shifted On-peak to Off-peak (k | Wh): | | | | |
| | Energy shifted Mid-peak to Off-peak (k | (Wh): | | | | |
| | Demand Response Brograms | | | | | |
| | Dispatchable load (kW): | | | | | |
| | | | | | | |
| | Peak hours dispatched in year (hours) | | | | | |



Appendix B: Washer Dryer Replacement (page 2)

| Amount of KVar installed (KV | /ar): | | | | |
|---|--|----------------------------------|-------------------------------------|--|---|
| Distribution system power fac | ctor at beginning of year (%): | | | | |
| Distribution system power fac | ctor at end of year (%): | | | | |
| Line Loss Reduction Progr | ams: | | | | |
| 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 | h): | | | | |
| Fuel type: | | | | | |
| Other Programs (specify): | | | | | |
| Metric (specify): | | | | | |
| Actual Program Costs: | | B | eporting Year | Cumulat | tive Life to Date |
| Actual Program Costs: | | | | | |
| <u>Actual Program Costs:</u> Utility direct costs (\$): | Incremental capital: | \$ | - | \$ | - |
| Actual Program Costs: Utility direct costs (\$): | Incremental capital: Incremental O&M: | \$ \$ | - 3,973.80 | \$ \$ | - 3.973.8 |
| Actual Program Costs: Utility direct costs (\$): | Incremental capital: Incremental O&M: Incentive: | \$ \$ \$ | - 3,973.80 - | \$ \$ \$ | 3.973.8 |
| Actual Program Costs: Utility direct costs (\$): | Incremental capital: Incremental O&M: Incentive: Total: | \$ \$ \$ | - 3,973.80 - 3,973.80 | \$ \$ \$ \$ | 3.973.8 3,973.8 |
| Actual Program Costs: Utility direct costs (\$): | Incremental capital: Incremental O&M: Incentive: Total: Incremental capital: | \$ \$ \$ | - 3,973.80 - 3,973.80 | \$ \$ \$ \$ | 3.973.8 - 3,973.8 |
| Actual Program Costs: Utility direct costs (\$): Utility indirect costs (\$): | Incremental capital: Incremental O&M: Incentive: Total: Incremental capital: Incremental O&M: | \$ \$ \$ \$ | 3,973.80 3,973.80 | \$ \$ \$ \$ | 3.973.8 - 3,973.8 |
| Actual Program Costs: Utility direct costs (\$): Utility indirect costs (\$): | Incremental capital: Incremental O&M: Incentive: Total: Incremental capital: Incremental O&M: Total: | \$ \$ \$ \$ \$ \$ | 3,973.80 3,973.80 - - - | \$ \$ \$ \$ \$ \$ | 3.973.8 |
| Actual Program Costs: Utility direct costs (\$): Utility indirect costs (\$): | Incremental capital: Incremental O&M: Incentive: Total: Incremental capital: Incremental O&M: Total: | \$ \$ \$ \$ \$ \$ | 3,973.80 3,973.80 - - - | \$ \$ \$ \$ \$ \$ \$ | 3.973.8 3.973.8 - |
| Actual Program Costs: Utility direct costs (\$): Utility indirect costs (\$): | Incremental capital: Incremental O&M: Incentive: Total: Incremental capital: Incremental O&M: Total: | \$ \$ \$ \$ \$ \$ | 3,973.80 3,973.80 - | \$ \$ \$ \$ \$ \$ | 3.973.8 3,973.8 - - |
| Actual Program Costs: Utility direct costs (\$): Utility indirect costs (\$): Assumptions & Comments | Incremental capital: Incremental O&M: Incentive: Total: Incremental capital: Incremental O&M: Total: | \$ \$ \$ \$ \$ | 3,973.80 3,973.80 | \$ \$ \$ \$ \$ | 3.973.8 3.973.8 - |
| Actual Program Costs: Utility direct costs (\$): Utility indirect costs (\$): Assumptions & Comments | Incremental capital: Incremental O&M: Incentive: Total: Incremental capital: Incremental O&M: Total: | \$ \$ \$ \$ \$ | 3,973.80 3,973.80 - - | \$ \$ \$ \$ \$ \$ \$ \$ \$ | - 3.973.8 - 3,973.8 - - - |
| Actual Program Costs: Utility direct costs (\$): Utility indirect costs (\$): Assumptions & Comments | Incremental capital: Incremental O&M: Incentive: Total: Incremental capital: Incremental O&M: Total: | \$ \$ \$ \$ \$ \$ | 3,973.80 3,973.80 - - - | \$ \$ \$ \$ \$ \$ \$ | - 3.973. - 3,973. - - - |



6.2.1.2.3. Light Up a Life

Appendix B - Discussion of the Program

RES Low Income - Light Up A Life

A. Name of the Program:

RESIDENTIAL - Low Income Light Up A Life

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

Rotary Club volunteers encouraged Canadian Tire patrons to donate CFLs or money to buy CFLs for low-income residents. GHESI agreed to match the donated CFLs. The Light Up a Life initiative was a partnership with the Rotary Club and resulted in the delivery of 437 CFLOs to low income customers in Guelph. The CFL costs were included in 2005. In addition, GHESI purchased a discounted stock of 168 CFLs and committed to use them in the 2007 Light up a Life initiative. The CDM expenditures shown of \$363 are the costs for these discounted CFLs to be used in 2007.

| | Measure(s): | | | | | | |
|----|---|---|----|---------------------------|--------------|--------------|-----------|
| | | Measure 1 | | Measure 2 (if applicable) | Measure 3 | (if applicat | ole) |
| | Base case technology: | incandescent lights | | | | | |
| | Efficient technology: | 15W CFLs | | | | | |
| | Number of participants or units | | | | | | |
| | delivered for reporting year: | 437 | | | | | |
| | Measure life (years): | 4 | | | | | |
| | | | | | | | |
| | Number of Participants or units | | | | | | |
| | delivered life to date | 437 | | | | | |
| В. | TRC Results: | | | Reporting Year | Life-to-date | TRC Res | ults: |
| | ¹ TRC Benefits (\$): | | \$ | 9,553.03 | \$ | ç | ,553.03 |
| | ² TRC Costs (\$): | | | , | | | , |
| | Utih | ty program cost (excluding incentives): | | | \$ | | - |
| | Increme | ntal Measure Costs (Equipment Costs) | \$ | 983.25 | \$ | | 983.25 |
| | | Total TRC costs: | \$ | 983.25 | \$ | | 983.25 |
| | Net TRC (in year CDN \$): | | \$ | 8,569.78 | \$ | 8 | 8,569.78 |
| | Benefit to Cost Ratio (TRC Benefits/TR | C Costs): | \$ | 9.72 | \$ | | 9.72 |
| C. | Results: (one or more category may apply) | | | | Cumulat | ive Result | <u>s:</u> |
| | Conservation Programs: | | | | | | |
| | Demand savings (kW): | Summer | | 0 | | 0 | |
| | 0 () | Winter | | | | - | |
| | | | | | Cumulative | Cumulati | ve |
| | | lifecycle | | in year | Lifecycle | Annual S | Savings |
| | Energy saved (kWh): | 163,692 | | 40,923 | 163,692 | 40, | 923 |
| | Other resources saved : | | | | | | |
| | Natural Gas (m3): | | | | | | |
| | Other (specify): | | | | | | |
| | Demand Management Programs: | | | | | | |
| | Controlled load (kW) | | | | | | |
| | Energy shifted On-peak to Mid-peak (k | Wh): | | | | | |
| | Energy shifted On-peak to Off-peak (k) | Wh). | | | | | |
| | Energy shifted Mid-peak to Off-peak (k | Wh): | | | | | |
| | Demand Response Programs: | | | | | | |
| | Dispatchable load (kW): | | | | | | |
| | | | | | | | |
| | Poak poure dispatence in voar (poure). | | | | | | |



Appendix B: Light Up a Life (page 2)

| Amount of KVar installed (| KVar): | | | | |
|--|--|----------------------------|---------------------------------|----------------------------------|----------------------------|
| Distribution system power | factor at beginning of year (%): | | | | |
| Distribution system power | factor at end of year (%): | | | | |
| Line Loss Reduction Pro | grams: | | | | |
| Peak load savings (kW): | | | | | |
| • • • | lifecycle | | in year | | |
| Energy savings (kWh): | | | | | |
| Distributed Generation a | nd Load Displacement Programs: | | | | |
| Amount of DG installed (k | N): | | | | |
| Energy generated (kWh): | | | | | |
| Peak energy generated (k | Wh): | | | | |
| Fuel type: | | | | | |
| Other Programs (specify |): | | | | |
| Metric (specify): | <u>L</u> | | | | |
| methe (speeny). | | | | | |
| Actual Program Costs: | | Rep | orting Year | Cumulative Life to Date | |
| | Incremental capital: | \$ | - | \$ | - |
| Utility direct costs (\$): | | | 362.88 | \$ | 362.88 |
| Utility direct costs (\$): | Incremental O&M: | \$ | 002.00 | Ψ | |
| Utility direct costs (\$): | Incremental O&M: Incentive: | \$ \$ | - | \$ | - |
| Utility direct costs (\$): | Incremental O&M: Incentive: Total: | \$ \$ \$ | - 362.88 | \$ \$ | - 362.88 |
| Utility direct costs (\$): | Incremental O&M: Incentive: Total: | \$ \$ \$ | 362.88 | \$ \$ | - 362.88 |
| Utility direct costs (\$): Utility indirect costs (\$): | Incremental O&M: Incentive: Total: Incremental capital: | \$ \$ \$ \$ | 362.88 | \$ \$ \$ | - 362.88 - |
| Utility direct costs (\$): Utility indirect costs (\$): | Incremental O&M: Incentive: Total: Incremental capital: Incremental O&M: | \$ \$ \$ \$ | 362.88 | \$ \$ \$ | - 362.88 - |
| Utility direct costs (\$): Utility indirect costs (\$): | Incremental O&M: Incentive: Total: Incremental capital: Incremental O&M: Total: | \$ \$ \$ \$ \$ | - 362.88 - - - - | \$ \$ \$ \$ \$ | - 362.88 - - - |
| Utility direct costs (\$): Utility indirect costs (\$): | Incremental O&M: Incentive: Total: Incremental capital: Incremental O&M: Total: | \$ \$ \$ \$ \$ | | \$ \$ \$ \$ \$ \$ | - 362.88 - - - |
| Utility direct costs (\$): Utility indirect costs (\$): | Incremental O&M: Incentive: Total: Incremental capital: Incremental O&M: Total: | \$ \$ \$ \$ \$ | - 362.88 - - - | \$ \$ \$ \$ | - 362.88 - - - |



6.2.1.3. City Leadership Program

6.2.1.3.1. Community Energy Plan

Appendix B - Discussion of the Program RES City Leadership - Community Energy Plan

RESIDENTIAL - City Leadership: Community Energy Plan A. Name of the Program:

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

a Consortium of City of Guelph, GHESI, the Guelph Chamber of Commerce and School Boards is developing an official Community Energy Plan, to enable the advancement of sustained programs in the community. The plan is intended to identify the need for changes to city by-law codes. Local builders and developers are on board with the plan. There is a possibility that it may lead to larger scale projects such as district energy projects. GHESI agreed to pay for 50% of the cost of developing the Community Energy Plan with the City of Guelph paying the other 50%. A consultant was hired to complete the document at a total cost of \$50,000 with GHESIOs share being \$25,000.

| | Measure(s): | | _ | | | | |
|----|--|---|-----|----------------------------|-----|-------------------------|------------------------------|
| | | Measure 1 | | Vleasure 2 (if applicable) | | Measure 3 | (if applicable) |
| | Base case technology: | | | | | | |
| | Number of participante or units | | | | | | |
| | delivered for reporting year: | | | | | | |
| | Measure life (years): | | | | | | |
| | Number of Participants or units | | | | | | |
| | delivered life to date | | | | | | |
| В. | TRC Results: | | | Reporting Year | | Life-to-date | TRC Results: |
| | TRC Benefits (\$): | | \$ | - | \$ | | - |
| : | ² TRC Costs (\$): | | | | | | |
| | Util | lity program cost (excluding incentives): | \$ | 25,000.00 | \$ | | 25,000.00 |
| | Increme | ental Measure Costs (Equipment Costs) | \$ | - | \$ | | - |
| | | Total TRC costs: | \$ | 25,000.00 | \$ | | 25,000.00 |
| | Net TRC (in year CDN \$): | | -\$ | 25,000.00 | -\$ | | 25,000.00 |
| | Benefit to Cost Ratio (TRC Benefits/TF | RC Costs): | \$ | - | \$ | | - |
| C. | Results: (one or more category may a | pply) | | | | Cumulati | ve Results: |
| | Conservation Programs: | | | | | | |
| | Demand savings (kW): | Summer | | | | | |
| | | Winter | | | | | |
| | | lifecycle | | in year | | Cumulative Lifecycle | Cumulative Annual Savings |
| | Energy saved (kWh): | | | | | | |
| | Other resources saved : | | | | | | |
| | Natural Gas (m3) | : | | | | | |
| | Other (specify) | : | | | | | |
| | Demand Management Programs: | | | | | | |
| | Controlled load (kW) | | | | | | |
| | Energy shifted On-peak to Mid-peak (k | :Wh): | | | | | |
| | Energy shifted On-peak to Off-peak (k) | Wh): | | | | | |
| | Energy shifted Mid-peak to Off-peak (k | :Wh): | | | | | |
| | Demand Response Programs: | | | | | | |
| | Dispatchable load (kW): | | | | | | |
| | Dispatoriable load (INV). | | | | | | |



Appendix B: Community Energy Plan (page 2)

| mount of KVar installed (KVar): | | | | | |
|--------------------------------------|------------------------|----|---------------|---------|-------------------|
| istribution system power factor at l | beginning of year (%): | | | | |
| istribution system power factor at e | end of year (%): | | | | |
| ne Loss Reduction Programs: | | | | | |
| eak load savings (kW): | | | | | |
| | lifecycle | | in year | | |
| nergy savings (kWh): | | | | | |
| istributed Generation and Load | Displacement Programs: | | | | |
| mount of DG installed (kW): | | | | | |
| nergy generated (kWh): | | | | | |
| eak energy generated (kWh): | | | | | |
| uel type: | | | | | |
| ther Programs (specify): | | | | | |
| etric (specify): | | | | | |
| ctual Program Costs: | | Re | eporting Year | Cumula | tive Life to Date |
| tility direct costs (\$): | Incremental capital: | \$ | - | \$ | - |
| | Incremental O&M: | \$ | 25,000.00 | \$ | 25,000.0 |
| | Incentive: | \$ | - | \$ | - |
| | Total: | \$ | 25,000.00 | \$ | 25,000. |
| tility indirect costs (\$): | Incremental capital: | \$ | _ | ¢ | |
| | Incremental O&M: | \$ | - | Ψ \$ | _ |
| | Total: | \$ | - | \$ | - |
| | | | | | |
| ssumptions & Comments: | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |



6.2.1.4. Load Control

Appendix B - Discussion of the Program RES Load Control

| Α. | Name of the Program: | RESIDENTIAL - Load Control | | | | | |
|----|--|---|--------------|---|-------|-----------------|-----------------|
| | Description of the program (including | g intent, design, delivery, partner | ship | s and evaluation): | | | |
| | During 2005, GHESI reported costs of \$ 2005 Annual CDM Report. The \$1,265 i | 1,775 in the Load Control program. dentified was removed from the CD | A re M e> | porting error of \$1,265 was iden (penditures in 2006. | tifie | d following the | e completion of |
| | 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 | | | | | | |
| В. | TRC Results: | | | Reporting Year | | Life-to-date | TRC Results: |
| 1 | TRC Benefits (\$): | | \$ | - | \$ | | - |
| 2 | TRC Costs (\$): | | | | | | |
| | Utilit | y program cost (excluding incentives): | -\$ | 1,265.42 | \$ | | 509.58 |
| | Incremental Measure Costs (Equipment Costs) | | \$ | - | \$ | | - |
| | | Total TRC costs: | -\$ | 1,265.42 | \$ | | 509.58 |
| | Net TRC (in year CDN \$): | | \$ | 1,265.42 | -\$ | | 509.58 |
| | Benefit to Cost Ratio (TRC Benefits/TR | C Costs): | \$ | - | \$ | | - |
| C. | Results: (one or more category may ap | ply) | | | | Cumulati | ve Results: |
| | Conservation Programs: | | | | | | |
| | Domand savings (kW): | Summor | | | | | |
| | Demand Savings (KVV). | Winter | | | | | |
| | | winter | | | | Cumulativo | Cumulativo |
| | | lifecycle | | in vear | | Lifecvcle | Annual Savings |
| | Energy saved (kWh): | modyolo | | in your | | | , and a second |
| | Other resources saved : | | | | | | |
| | Natural Gas (m3): | | | | | | |
| | Other (specify): | | | | | | |
| | Cuter (Speeny). | | | | | | |
| | Demand Management Programs: | | | | | | |
| | Controlled load (kW) | | | | | | |
| | Energy shifted On-peak to Mid-peak (k) | Vh): | | | | | |
| | Energy shifted On-peak to Off-peak (kV | /h): | | | | | |
| | Energy shifted Mid-peak to Off-peak (k) | Vh): | | | | | |
| | Demand Besponse Programs: | | | | | | |
| | Dispatchable load (kW): | | | | | | |
| | Peak hours dispatched in year (hours): | | | | | | |
| | | | | | | | |



Appendix B: Load Control (page 2)

| Distribution system power factor | at beginning of year (%): | | | | |
|----------------------------------|---------------------------|---------|----------------|-----------|----------------|
| Distribution system power factor | at end of year (%): | | | | |
| Line Loss Reduction Programs | 5: | | | | |
| Peak load savings (kW): | _ | | | | |
| - () | lifecycle | | in year | | |
| Energy savings (kWh): | | | | | |
| Distributed Generation and Lo | ad Displacement Programs: | | | | |
| Amount of DG installed (kW): | <u></u> | | | | |
| Energy generated (kWh): | | | | | |
| Peak energy generated (kWh): | | | | | |
| Fuel type: | | | | | |
| Other Programs (specify): | | | | | |
| Metric (specify): | | | | | |
| | | | B | | |
| Actual Program Costs: | | ٠ | Reporting Year | Cumulativ | e Life to Date |
| Utility direct costs (\$): | Incremental capital: | \$ | - | \$ | - |
| | Incremental O&M: | -⊅ ¢ | 1,265.42 | Þ | 509.5 |
| | Incentive: | \$ | - | \$ | - |
| | l otal: | -\$ | 1,265.42 | \$ | 509.5 |
| Utilitv indirect costs (\$): | Incremental capital: | \$ | - | \$ | - |
| | Incremental O&M: | \$ | - | \$ | - |
| | Total: | \$ | - | \$ | - |
| | | | | | |
| Accumptions & Commenter | | | | | |
| Assumptions & Comments: | | | | | |



6.2.1.5. Builder Partnership

6.2.1.5.1. Residential Geothermal

Appendix B - Discussion of the Program

RES Builder Partnership - Residential Geothermal

A. Name of the Program: RESIDENTIAL - Builder Partnership: Residential Geothermal

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

Selectpower held two information sessions to encourage residential customers to install geothermal systems for their homes. The geothermal systems replace air conditioning, heating and water heater loads with high efficiency geothermal energy that uses very minimal electricity in comparison. GHESI provided an incentive of \$1,500 to the first three customers who agreed to install a geothermal system by March 31, 2006. One customer agreed to convert their electric air conditioning system, gas furnace and gas water heater to a geothermal system and the \$1,500 CDM expenditure was reported in 2006.

| | Measure(s): | | | | | | |
|----|--|--|-----|----------------------------|-----|--------------|-----------------|
| | | Measure 1 | | Measure 2 (if applicable) | | Measure 3 | (if applicable) |
| | Base case technology: | Electric A/C | | Gas Heating | | Gas Wa | ater Heater |
| | Efficient technology: | High Eff. Geothermal A/C | Hi | gh Eff. Geothermal Heating | | High Eff. \ | Nater Heater |
| | Number of participants or units | | | | | | |
| | delivered for reporting year: | 1 | | 1 | | | 1 |
| | Measure life (years): | 20 | | 20 | | | 20 |
| | | | | | | | |
| | Number of Participants or units | | | | | | |
| | delivered life to date | 1 | | 1 | | | 1 |
| B | TBC Besults: | | | Reporting Year | | Life-to-date | TRC Results: |
| 2. | ¹ TBC Benefits (\$): | | \$ | 13 429 00 | \$ | | 13 429 00 |
| | ² TBC Costs (\$): | | Ψ | 10,120100 | Ψ | | 10,120100 |
| | Ut. | ility program cost (excluding incentives): | \$ | - | \$ | | - |
| | Increm | ental Measure Costs (Equipment Costs) | \$ | 24 000 00 | \$ | | 24 000 00 |
| | | Total TBC costs | \$ | 24 000 00 | \$ | | 24 000 00 |
| | Net TRC (in year CDN \$): | | -\$ | 10,571.00 | -\$ | | 10,571.00 |
| | Benefit to Cost Ratio (TRC Benefits/Ti | RC Costs): | \$ | 0.56 | \$ | | 0.56 |
| | Besults: (one or more estadory may a | | | | | Cumulati | ivo Poculte: |
| 0. | nesults. (the of more category may a | (pp)y) | | | | Cumulat | ive nesults. |
| | Conservation Programs: | | | | | | |
| | Demand savings (kW): | Summer | | | | | |
| | | Winter | | | | | |
| | | | | | | Cumulative | Cumulative |
| | | lifecycle | | in year | | Lifecycle | Annual Savings |
| | Energy saved (kWh): | -102,460 | | -5,123 | | -102,460 | -5,123 |
| | 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 (k | Wh): | | | | | |
| | Energy shifted Mid-peak to Off-peak (| kWh): | | | | | |
| | Demand Response Programs: | | | | | | |
| | Dispatchable load (kW): | | | | | | |
| | | | | | | | |



Appendix B: Residential Geothermal (page 2)

| | Power Factor Correction Programs: | | | | |
|----|---|----------------------|----------------|----|-------------------------|
| | Amount of KVar installed (KVar): | | | | |
| | Distribution system power factor at begin | nning 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 Disp | placement Programs: | | | |
| | Amount of DG installed (kW): | | | | |
| | Energy generated (kWh): | | | | |
| | Peak energy generated (kWh): | | | | |
| | Fuel type: | | | | |
| | Other Programs (specify): | | | | |
| | Metric (specify): | | | | |
| | | | | | |
| D. | Actual Program Costs: | | Reporting Year | | Cumulative Life to Date |
| | Utility direct costs (\$): | Incremental capital: | \$ - | \$ | - |
| | | Incremental O&M: | \$ 1,500.00 | \$ | 1,500.00 |
| | | Incentive: | \$ - | \$ | - |
| | | Total: | \$ 1,500.00 | \$ | 1,500.00 |
| | | | | | |
| | Utility indirect costs (\$): | Incremental capital: | \$ - | \$ | - |
| | | Incremental O&M: | \$ - | \$ | - |
| | | Total: | \$ - | \$ | - |
| | | | | - | |

E. Assumptions & Comments:



6.2.2. Commercial Programs

6.2.2.1. Technology, Research and Demonstration Programs

6.2.2.1.1. Solar Hot Water

Appendix B - Discussion of the Program

COMMERCIAL - Technology, Research & Demonstration: Solar Water Heater

A. Name of the Program: COMMERCIAL - Technology, Research & Demonstration: Solar Vacuum Tube Water Heater

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

This project uses a solar vacuum tube system for the domestic hot water requirements of the new office building of GHESI. The costs for this initiative were reported in 2005, however, there was a small cost that was reported in 2006 totaling \$245.

| | Measure(s): | Management | | wa O (if analizable) | Ma.a | (#! |
|----|---|--|---------|-----------------------|---|---|
| | Paga agas tashnalagu: | Measure 1 | ivieasi | ure 2 (ir applicable) | Measure 3 | (if applicable) |
| | Efficient technology: | | | | | |
| | Number of participants or units | | | | | |
| | delivered for reporting year: | | | | | |
| | Measure life (years): | | | | | |
| | | | | | | |
| | Number of Participants or units delivered life to date | 1 | | | | |
| В. | TRC Results: | | R | eporting Year | Life-to-date | e TRC Results: |
| | ¹ TRC Benefits (\$): | | \$ | - | \$ | 4,549.11 |
| | ² TRC Costs (\$): | | | | | |
| | Utilit | ty program cost (excluding incentives): | \$ | 244.92 | \$ | 3,526.92 |
| | Incremen | ntal Measure Costs (Equipment Costs) | \$ | - | \$ | 26,000.00 |
| | | Total TRC costs: | \$ | 244.92 | \$ | 29,526.92 |
| | Net TRC (in year CDN \$): | | -\$ | 244.92 | -\$ | 24,977.81 |
| | Benefit to Cost Ratio (TRC Benefits/TR | C Costs): | \$ | - | \$ | 0.15 |
| | | | | | | |
| C. | Results: (one or more category may ap | oply) | | | <u>Cumulat</u> | ive Results: |
| C. | Results: (one or more category may ap | ply) | | | <u>Cumulat</u> | ive Results: |
| C. | Results: (one or more category may ap | ply) | | | <u>Cumulat</u> | ive Results: |
| C. | Results: (one or more category may ap Conservation Programs: Demand savings (kW): | ply) Summer Winter | | | Cumulat | 1.65 |
| C. | Results: (one or more category may ap Conservation Programs: Demand savings (kW): | ply) Summer Winter | | | Cumulative | 1.65 Cumulative |
| C. | Results: (one or more category may ap Conservation Programs: Demand savings (kW): | ply) Summer Winter lifecycle | | in year | Cumulat Cumulative Lifecycle | 1.65 1.65 Cumulative Annual Savings |
| C. | Results: (one or more category may ap Conservation Programs: Demand savings (kW): Energy saved (kWh): | ply) Summer Winter lifecycle | | in year | Cumulat Cumulative Lifecycle 96,287 | 1.65 1.65 Cumulative Annual Savings 4,814 |
| C. | Results: (one or more category may ap <u>Conservation Programs:</u> Demand savings (kW): Energy saved (kWh): Other resources saved : | ply) Summer Winter lifecycle | | in year | Cumulative Cumulative Lifecycle 96,287 | 1.65 1.65 Cumulative Annual Savings 4,814 |
| C. | Results: (one or more category may ap <u>Conservation Programs:</u> Demand savings (kW): Energy saved (kWh): Other resources saved : Natural Gas (m3): | ply) Summer Winter lifecycle | | in year | Cumulative Cumulative Lifecycle 96,287 | 1.65 1.65 Cumulative Annual Savings 4,814 |
| C. | Results: (one or more category may ap <u>Conservation Programs:</u> Demand savings (kW): Energy saved (kWh): Other resources saved : Natural Gas (m3): Other (specify): | ply) Summer Winter lifecycle | | in year | Cumulative Cumulative Lifecycle 96,287 | 1.65 1.65 Cumulative Annual Savings 4,814 |
| C. | Results: (one or more category may ap Conservation Programs: Demand savings (kW): Energy saved (kWh): Other resources saved : Natural Gas (m3): Other (specify): Demand Management Programs: | ply) Summer Winter lifecycle | | in year | Cumulat Cumulative Lifecycle 96,287 | 1.65 1.65 Cumulative Annual Savings 4,814 |
| C. | Results: (one or more category may ap Conservation Programs: Demand savings (kW): Energy saved (kWh): Other resources saved : Natural Gas (m3): Other (specify): Demand Management Programs: Controlled load (kW) | pty) Summer Winter lifecycle | | in year | Cumulat Cumulative Lifecycle 96,287 | 1.65 1.65 Cumulative Annual Savings 4,814 |
| C. | Results: (one or more category may ap Conservation Programs: Demand savings (kW): Energy saved (kWh): Other resources saved : Natural Gas (m3): Other (specify): Demand Management Programs: Controlled load (kW) Energy shifted On-peak to Mid-peak (kK) | ιρίy) Summer Winter lifecycle | | in year | Cumulative Lifecycle 96,287 | ive Results: 1.65 Cumulative Annual Savings 4,814 |
| C. | Results: (one or more category may ap Conservation Programs: Demand savings (kW): Energy saved (kWh): Other resources saved : Natural Gas (m3): Other (specify): Demand Management Programs: Controlled load (kW) Energy shifted On-peak to Mid-peak (kW Energy shifted On-peak to Off-peak (kW) | ply) Summer Winter lifecycle Mh): Wh): | | in year | Cumulative Lifecycle 96,287 | ive Results: 1.65 Cumulative Annual Savings 4,814 |
| C. | Results: (one or more category may ap Conservation Programs: Demand savings (kW): Energy saved (kWh): Other resources saved : Natural Gas (m3): Other (specify): Demand Management Programs: Controlled load (kW) Energy shifted On-peak to Mid-peak (kW Energy shifted On-peak to Off-peak (kW | pjy) Summer Winter lifecycle Mh): Vh): Vh): | | in year | Cumulative Lifecycle 96,287 | ive Results: 1.65 Cumulative Annual Savings 4,814 |
| C. | Results: (one or more category may ap Conservation Programs: Demand savings (kW): Energy saved (kWh): Other resources saved : Natural Gas (m3): Other (specify): Demand Management Programs: Controlled load (kW) Energy shifted On-peak to Mid-peak (kW Energy shifted On-peak to Off-peak (kW Energy shifted Mid-peak to Off-peak (kW Energy shifted Mid-peak to Off-peak (kW | ιρίy) Summer Winter lifecycle Mh): Vh): Wh): | | in year | Cumulative Lifecycle 96,287 | I.65 1.65 Cumulative Annual Savings 4,814 |
| C. | Results: (one or more category may ap Conservation Programs: Demand savings (kW): Demand savings (kW): Energy saved (kWh): Other resources saved : Natural Gas (m3): Other resources saved : Natural Gas (m3): Other (specify): Demand Management Programs: Controlled load (kW) Energy shifted On-peak to Mid-peak (kW) Energy shifted Mid-peak to Off-peak (kW) Demand Response Programs: Dispatchable load (kW): | ply) Summer Winter lifecycle Mh): Vh): Nh): | | in year | Cumulative Cumulative Lifecycle 96,287 | 1.65 1.65 Cumulative Annual Savings 4,814 |



Appendix B: Solar Hot Water (page 2)

| 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 beg Distribution system power factor at end | inning of year (%): of year (%): | | | | |
| Line Loss Reduction Programs: Peak load savings (kW): | lifecycle | i | n year | | |
| Energy savings (kWh): | | | | | |
| Distributed Generation and Load Dis Amount of DG installed (kW): Energy generated (kWh): Peak energy generated (kWh): Fuel type: Other Programs (specify): Metric (specify): | <u>placement Programs:</u> | | | | |
| Actual Program Costs: | | Repo | orting Year | | Cumulative Life to Date |
| Utility direct costs (\$): | Incremental capital: | \$ | - | \$ | - |
| | Incremental O&M: | \$ | 244.92 | \$ | 3,526.92 |
| | Incentive: | \$ | - | \$ | - |
| | Total: | \$ | 244.92 | \$ | 3,526.92 |
| Utility indirect costs (\$): | Incremental capital: Incremental O&M: Total: | \$ \$ \$ | - - - | \$ \$ \$ | 26.000.00 - 26,000.00 |
| Assumptions & Comments: | | | | | |



6.2.2.2. Distributed Energy

6.2.2.2.1. Seniors Complex

Appendix B - Discussion of the Program

COMMERCIAL - Distributed Energy - Seniors Complex

A. Name of the Program: COMMERCIAL - Distributed Energy Seniors Complex

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

As mentioned in the 2005 Annual CDM Report, the NUkrainian Health Care Centre Solar ProjectÓ in Etobicoke is a leading edge new technology project designed to overcome the barriers to development and deployment for use of solar cooling at a Long-term Care Home. GHESI participated in this project before the OEB TRC Guide was released. The location of the Long-term Care Home is outside the supply area of GHESI. According to the attribution guideline of the TRC Guide, GHESI could not claim the TRC benefits relating to Shared Service Mechanism and Lost Revenue Adjustments from this project. The \$5,000 refund mentioned in the 2005 Annual CDM Report GHESI was received in 2006.

| | | Management. | | | | M | (% |
|----------------------------------|---------------------------|---|-----|----------------------------|----|--------------|-----------------|
| Basa casa tachr | ology: | Measure I | r | vieasure 2 (ir applicable) | | ivieasure 3 | (if applicable) |
| Efficient technolo | nav. | | | | | | |
| Number of partic | inants or units | | | | | | |
| delivered for rep | orting year: | | | | | | |
| Measure life (yea | ars): | | | | | | |
| | | | | | | | |
| Number of Partic | cipants or units | | | | | | |
| delivered life to a | late | | | | | | |
| B TBC Besults: | | | | Reporting Year | | Life-to-date | TBC Results: |
| ¹ TRC Benefits (\$ |): | | | <u>neperting rear</u> | \$ | Life to date | - |
| ² TRC Costs (\$): | | | | | Ψ | | |
| | Utili | ty program cost (excluding incentives): | -\$ | 5,000.00 | \$ | | - |
| | Incremen | ntal Measure Costs (Equipment Costs) | | | \$ | | - |
| | | Total TRC costs: | -\$ | 5,000.00 | \$ | | - |
| Net TRC (in year | r CDN \$): | | \$ | 5,000.00 | \$ | | - |
| Benefit to Cost F | Ratio (TRC Benefits/TR | C Costs): | | | | | |
| C. <u>Results:</u> (one or | more category may ap | ply) | | | | Cumulati | ve Results: |
| Conservation P | rograms: | | | | | | |
| Demand savings | s (kW): | Summer | | | | | |
| J | | Winter | | | | | |
| | | | | | (| Cumulative | Cumulative |
| | | lifecycle | | in year | | Lifecycle | Annual Savings |
| Energy saved (k | Wh): | | | | | | |
| Other resources | saved : | | | | | | |
| | Natural Gas (m3): | | | | | | |
| | Other (specify): | | | | | | |
| Demand Manag | ement Programs: | | | | | | |
| Controlled load (| (kW) | | | | | | |
| Energy shifted C | n-peak to Mid-peak (kl | Nh): | | | | | |
| Energy shifted C | n-peak to Off-peak (kV | Vh): | | | | | |
| Energy shifted 1 | lid-peak to Off-peak (kl | Nh): | | | | | |
| Energy sninted iv | | | | | | | |
| Demand Respo | nse Programs: | | | | | | |
| Demand Respo Dispatchable loa | nse Programs: ad (kW): | | | | | | |



Appendix B: Seniors Complex (page 2)

| Power Factor Correction Programs: Amount of KVar installed (KVar): | | | | | |
|--|-------------------------------------|-----------|----------------|----------|-------------------------|
| Distribution system power factor at beg Distribution system power factor at end | inning of year (%): of year (%): | | | | |
| Line Loss Reduction Programs: Peak load savings (kW): | | | | | |
| Energy savings (kW/h): | lifecycle | | in year | | |
| Distributed Generation and Load Dis Amount of DG installed (kW): Energy generated (kWh): Peak energy generated (kWh): Fuel type: | placement Programs: | | | | |
| <u>Other Programs (specify):</u> Metric (specify): | | | | | |
| Actual Program Costs: | | | Reporting Year | | Cumulative Life to Date |
| Utility direct costs (\$): | Incremental capital: | \$ | - | \$ | - |
| | Incremental O&M: | -\$ | 5,000.00 | \$ | - |
| | Incentive: Total: | \$ -\$ | - 5,000.00 | \$ \$ | - |
| Utility indirect costs (\$): | Incremental capital: | \$ | - | \$ | - |
| | Incremental O&M: | \$ | - | \$ | |
| | Total: | \$ | - | \$ | - |
| Assumptions & Comments: | | | | | |
| <u>Accumptione à commente.</u> | | | | | |
| | | | | | |
| | | | | | |



6.2.2.2.2. GHESI Generator

Appendix B - Discussion of the Program COMMERCIAL - Distributed Energy - GHESI Generator

A. Name of the Program: COMMERCIAL - Distributed Energy GHESI Generator

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

During 2006, GHESI completed the installation of a 500 kW natural gas fired stand-by generator at our administration & service centre. This generator is primarily used to provide emergency back-up power, but will also be able to contribute to provincial load reduction efforts by offsetting GHESI building load during those periods where system demand is high. CDM expenditures for the GHESI generator totaled \$230,596 in 2006.

| | Measure(s): | | | | |
|----|---|--|---------------------------|-------------------------|------------------------------|
| | | Measure 1 | Measure 2 (if applicable) | Measure 3 | (if applicable) |
| | Base case technology: | | | | |
| | Efficient technology: | | | | |
| | Number of participants or units | 1 | | | |
| | Measure life (vears) | 25 | | | |
| | measure me (years). | 20 | | | |
| | Number of Participants or units | | | | |
| | delivered life to date | 1 | | | |
| В. | TRC Results: | | Reporting Year | Life-to-date | TRC Results: |
| | ¹ TRC Benefits (\$): | | \$ 1,688,713.00 | \$ | 1,688,713.00 |
| | ² TRC Costs (\$): | | | | |
| | Util | ity program cost (excluding incentives): | \$ 316,281.00 | \$ | 316,281.00 |
| | Increme | ntal Measure Costs (Equipment Costs) | \$ 596,709.00 | \$ | 596,709.00 |
| | | Total TRC costs: | \$ 912,990.00 | \$ | 912,990.00 |
| | Net TRC (in year CDN \$): | | \$ 775,723.00 | \$ | 775,723.00 |
| | Benefit to Cost Ratio (TRC Benefits/TR | RC Costs): | \$ 1.85 | \$ | 1.85 |
| C. | Results: (one or more category may ap | oply) | | <u>Cumulati</u> | ve Results: |
| | Conservation Programs: | | | | |
| | Demand savings (kW): | Summer | 490 | 4 | 190 |
| | Demana carrige (itt) | Winter | 490 | 4 | 190 |
| | | lifecycle | in year | Cumulative Lifecycle | Cumulative Annual Savings |
| | Energy saved (kWh): | 0 | 0 | 0 | 0 |
| | Other resources saved : | | | | |
| | Natural Gas (m3): | | | | |
| | Other (specify): | | | | |
| | Demand Management Programs: | | | | |
| | Controlled load (kW) | | | | |
| | Energy shifted On-peak to Mid-peak (k | Wh): | | | |
| | Energy shifted On-peak to Off-peak (k) | Wh): | | | |
| | Energy shifted Mid-peak to Off-peak (k | Wh): | | | |
| | Demand Response Programs: | | | | |
| | | | | | |
| | Dispatchable load (kW): | | | | |
| | Dispatchable load (kW): Peak hours dispatched in year (hours): | | | | |



Appendix B: GHESI Generator (page 2)

| Amount of KVar installed (KVar |): | | | | |
|---------------------------------|--|----|----------------|----------|-------------------------|
| Distribution system power facto | r at beginning of year (%): | | | | |
| Distribution system power facto | r at end of year (%): | | | | |
| Line Loss Reduction Program | ns: | | | | |
| Peak load savings (kW): | | | | | |
| | lifecycle | | in year | | |
| Energy savings (kWh): | | | | | |
| Distributed Generation and L | oad Displacement Programs: | | | | |
| Amount of DG installed (kW): | ······································ | | | | |
| Energy generated (kWh): | | | | | |
| Peak energy generated (kWh): | | | | | |
| Fuel type: | | | | | |
| Other Programs (specify): | | | | | |
| Metric (specify): | | | | | |
| | | | | | |
| Actual Program Costs: | | | Reporting Year | | Cumulative Life to Date |
| Utility direct costs (\$): | Incremental capital: | \$ | 230,596.09 | \$ | 230,596.0 |
| | Incremental O&M: | \$ | - | \$ | - |
| | Incentive: | \$ | - | \$ | - |
| | Total: | \$ | 230,596.09 | \$ | 230,596.0 |
| Litility indicast sector (f) | | ¢ | | ^ | |
| Utility indirect costs (\$): | incremental capital: | \$ | - | \$ | - |
| | Incremental O&M: | \$ | - | \$ | - |
| | Total: | \$ | - | \$ | - |
| | | | | | |
| Assumptions & Comments: | | | | | |
| | | | | | |
| | | | | | |



6.3. Appendix C: GHESI Program and Portfolio Totals

Appendix C - GHESI Program and Portfolio Totals

Report Year:

2006

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.

| | | | | | | | | | | | Re | eport Year Gross |
|--|----|-----------------|-----|---------------|------|------------------|--------------|-------------------|-----------------|-------------------|-----|-------------------|
| | | | | | | | Benefit/Cost | Report Year Total | Lifecycle (kWh) | Total Peak Demand | | C&DM |
| | TR | C Benefits (PV) | Т | RC Costs (PV) | \$ I | Net TRC Benefits | Ratio | kWh Saved | Savings | (kW) Saved | E | Expenditures (\$) |
| C&DM Workshops and Memberships | \$ | - | \$ | 1,500 | -\$ | 1,500 | 0.00 | 0 | 0 | 0 | \$ | 1,500 |
| Education - Enerconnect Coupons | \$ | - | -\$ | 1,375 | \$ | 1,375 | 0.00 | 0 | 0 | 0 | -\$ | 1,375 |
| Education - Spring EKC | \$ | 110,745 | \$ | 33,940 | \$ | 76,805 | 3.26 | 178,135 | 2,246,763 | 9 | \$ | - |
| Education - Fall EKC | \$ | 483,564 | \$ | 80,134 | \$ | 403,430 | 6.03 | 1,009,589 | 9,884,612 | 40 | \$ | - |
| Education - Guelph Environmental Leac | \$ | - | \$ | 3,400 | -\$ | 3,400 | 0.00 | 0 | 0 | 0 | \$ | 3,400 |
| Education - Guelph Partnership for Inno | \$ | 9,728 | \$ | 1,001 | \$ | 8,727 | 9.72 | 41,672 | 166,688 | 0 | \$ | - |
| Education - Operation Power Down | \$ | - | \$ | 7,107 | -\$ | 7,107 | 0.00 | 0 | 0 | 0 | \$ | 7,107 |
| Education - Community Energy Plan | \$ | - | \$ | 33,183 | -\$ | 33,183 | 0.00 | 0 | 0 | 0 | \$ | 33,183 |
| Education - Energy Wheels | \$ | - | -\$ | 110 | \$ | 110 | 0.00 | 0 | 0 | 0 | -\$ | 110 |
| Low Income - Seasonal Hampers | \$ | 21,860 | \$ | 2,250 | \$ | 19,610 | 9.72 | 93,645 | 374,580 | 0 | \$ | - |
| Low Income - Washer Dryer Replaceme | \$ | 8,629 | \$ | 2,101 | \$ | 6,528 | 4.11 | 19,893 | 178,290 | 1 | \$ | 3,974 |
| Low Income - Light Up A Life | \$ | 9,553 | \$ | 983 | \$ | 8,570 | 9.72 | 40,923 | 163,692 | 0 | \$ | 363 |
| City Leadership - Community Energy Pl. | \$ | - | \$ | 25,000 | -\$ | 25,000 | 0.00 | 0 | 0 | 0 | \$ | 25,000 |
| Load Control | \$ | - | -\$ | 1,265 | \$ | 1,265 | 0.00 | 0 | 0 | 0 | -\$ | 1,265 |
| Builder Partnership - Res. Geothermal | \$ | 13,429 | \$ | 24,000 | -\$ | 10,571 | 0.56 | -5,123 | -102,460 | 0 | \$ | 1,500 |
| *Totals App. B - Residential | \$ | 657,508 | \$ | 211,849 | \$ | 445,659 | 3.10 | 1,378,734 | 12,912,165 | 50 | \$ | 73,309 |
| Residential Indirect Costs not attributable to any specific program | - | | \$ | 33 | | | | | | | | |
| Total Residential TRC Costs | | | \$ | 211,882 | | | | | | | | |
| **Totals TRC - Residential | \$ | 657,508 | \$ | 211,882 | \$ | 445,626 | 3.10 | | | | | |



Appendix C: GHESI Program and Portfolio Totals

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.

| | | | | | | | D | D | | TILD | Re | eport Year Gross |
|---|-----|---------------|-----|---------------|------|------------------|-------|-----------|----------------------------|------------|-----|------------------|
| | TRC | Benefits (PV) | TF | RC Costs (PV) | \$ N | Net TRC Benefits | Ratio | kWh Saved | Lifecycle (KWh) Savings | (kW) Saved | Е | xpenditures (\$) |
| Technology - Solar | \$ | - | \$ | 245 | -\$ | 245 | 0.00 | 0 | C | 0 | \$ | 245 |
| Distributed Energy - Seniors Home | \$ | - | -\$ | 5,000 | \$ | 5,000 | 0.00 | 0 | C | 0 | -\$ | 5,000 |
| Distributed Energy - Generator | \$ | 1,688,713 | \$ | 912,990 | \$ | 775,723 | 1.85 | 0 | C | 490 | \$ | 230,596 |
| Name of Program D | \$ | - | \$ | - | \$ | - | 0.00 | 0 | C | 0 | \$ | - |
| Name of Program E | \$ | - | \$ | - | \$ | - | 0.00 | 0 | C | 0 | \$ | - |
| Name of Program F | \$ | - | \$ | - | \$ | - | 0.00 | 0 | C | 0 | \$ | - |
| Name of Program G | | | | | \$ | - | 0.00 | | | | | |
| Name of Program H | | | | | \$ | - | 0.00 | | | | | |
| Name of Program I | | | | | \$ | - | 0.00 | | | | | |
| Name of Program J | | | | | \$ | - | 0.00 | | | | | |
| *Totals App. B - Commercial | \$ | 1,688,713 | \$ | 908,235 | \$ | 780,478 | 1.86 | 0 | 0 | 490 | \$ | 225,841 |
| Commercial Indirect Costs not attributable to any specific program | | → | | | | | | | | | | |
| Total TRC Costs | | | \$ | 908,235 | | | | | | | | |
| **Totals TRC - Commercial | \$ | 1,688,713 | \$ | 908,235 | \$ | 780,478 | 1.86 | | | | | |

LDC's CDM PORTFOLIO TOTALS

| | TRC | Benefits (PV) | TRC Costs (PV) | \$ | Net TRC Benefits | Benefit/Cost Ratio | Report Year Total kWh Saved | Lifecycle (kWh) Savings | Total Peak Demand (kW) Saved | Report Year Gross C&DM Expenditures (\$) | 3 |
|--|-----|---------------|------------------------------|-----------|------------------|-----------------------|--------------------------------|----------------------------|---------------------------------|--|---|
| *TOTALS FOR ALL APPENDIX B | \$ | 2,346,221 | \$ 1,120,11 | 7 \$ | 1,226,104 | 2.09 | 1,378,734 | 12,912,165 | 540 | \$ 322,281 | |
| Any <u>other</u> Indirect Costs not attributable to any specific program | | → | \$ 23,13 | | | | | | | | |
| TOTAL ALL LDC COSTS **LDC' PORTFOLIO TRC | \$ | 2,346,221 | \$ 1,143,248 \$ 1,143,248 | 3 3 \$ | 1,202,973 | 2.05 | | | | | |

* 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.



6.4. Appendix D: GEL Calendar Pages







HEATING AND COOLING ACCOUNT FOR 60% OF YOUR HOME ENERGY COSTS³ CONSERVATION IS A FLIP OF THE SWITCH

PHOTO: "HERITAGE", KATHY MAGGS - ELORA CENTRE FOR ENVIRONMENTAL EXCELLENCE



| | SUNDAY | MONDAY | | TUESDAY | WEDNESDAY | THURSDAY | FRIDAY | SATURDAY |
|----|--|--|-------------------------------|---|--|-------------------------------------|---|--|
| | Check Energuide Rating Hot Water Heater Air Conditioner Refrigerator | Washing Machine Clothes Dryer Dishwasher | | | | 1 | 2 Groundhag Day World Weetands Day | 3 |
| ţ | | 5 | 6 | | 7 | 8 | 9 | 10 |
| 1 | | 12 | 13 Ash Wedn | esday | 14 Valentine 's Day | 15 National Flag of Canada Day | 16 | 17 |
| 8 | | 19 | 20 | | 21 | 22 | 23 | 24 |
| 25 | | 26 | 27 | | 28 Property tax installments due | The Every consum | Klowatt Counts booklet encourages Onta ption through money saving coupons rede www.everykilowattcount | rio residents to reduce electricity emable at most large retailers. s.ca |
| | home | energy ^{US 2007} | | Growing C - Toronto I Master G - Guelph F | Up Organic: Health or Hyp February 17th ardeners Day in the Garde February 25th | pe? en Conference | Compact fluorescent light less electricity than regula Have you converted the o home yet? www.gelinfo.ca/surve | bulbs use about 75% r light bulbs.4 Id light bulbs in your y |
| | Smart Met The meters wi homes and b Ontario by | ers are coming! Il be installed in a businesses across the end of 2010. | ll | Certified e for Enviro provide de consumpt NON For Detai | nergy advisors at Elora Ce nomental Excellence (ECE stalled plans to reduce hom ion. Is Visit: .cee.on.ca | entre Æ) ne energy | CHICON CHARACTER Shut down home electroni otherwise they drain electroni Use cold water when wasi 80-90% of the energy norm | cs at a "power bar" ricity even when turned off. hing laundry. You'll save mally required. ⁵ |
| g |) | | | | | GU | ELPH ENVIRONMENTAL LEADER | SHIP |
| LE | | uelph Hydro is undertal | king a Si ters allo | mart Metering pil | ot program with over 200 onitor their daily energy | 0 meters being use and reduce or | (| Guelph Hydro |





WIND POWER CAN SUPPLY ABOUT 20% OF ENERGY NEEDS IN CANADA18

IMAGINE THE CLEANER POSSIBILITIES

PHOTO: "TURBINE", CHRISTOPHER KILLAM



6.5. Appendix E: Operation Power Down Press Release

PRESS RELEASE

Guelph, ON

Date: Monday, September 18, 2006 Time: 9:30 a.m.

Guelph conserves enough energy to power 455 homes during 12-hour Operation Power Down initiative

Together, people who live and work in Guelph conserved enough energy on August 13 to power 455 homes for a 12-hour period.

The City of Guelph's success in Operation Power Down, while not the largest among Ontario municipalities, resulted in a respectable reduction in energy consumption of 0.3%. The friendly challenge was originally issued by the City of Woodstock.

"That represents a reduction of 9,100 kWh, which is roughly the equivalent of supplying about 455 homes," said Art Stokman, president of Guelph Hydro Electric Systems Inc, which worked with the City of Guelph to promote the contest.

Won this year by the City of Windsor which achieved a 4% reduction in energy use, the Operation Power Down Challenge, also called the Inter-City Blackout Challenge, was created by the City of Woodstock to commemorate the massive power outages that took place in August 2003 and incapacitated most of Ontario and Quebec for a period of several days.

"Even though the City did not win the challenge, we demonstrated that saving energy on quite a large scale can be done if everyone commits to it," said Mayor Kate Quarrie. "I am sure that if we enter again, which we will, we will do even better."

Mr. Stokman praised the efforts of local citizens who participated. "We had a wide number of great ideas and projects that were conceived by individual citizens, and we can build on this creativity as we continue to promote conservation and energy demand management in every way possible."

In its release of thanks to the cities that took part, the City of Woodstock noted that a total of 2,000,000 kWh of energy use had been avoided during the competition, or the equivalent of enough energy to power 100,000 homes. The contest was monitored by the IESO (Independent Electricity Service Operator) and placed the cities of Waterloo and Sarnia right behind Windsor with 3% energy reduction.



6.6. Appendix F: Washer Dryer Replacement Press Release



Release: On receipt

For more information contact: Nicole Mailloux, Guelph Hydro Electric Systems 519.837.4721 Martin Lavictoire, City of Guelph 519.822.1260 x 2633 Joan Koob, Willow Place 519.837.0800

WITH THIS PARTNERSHIP "IT'S ALL IN THE WASH!"

The City of Guelph and Guelph Hydro Electric Systems (GHESI) are teaming up with Guelph Services for Persons with Disabilities (GSPD) in a partnership designed to see if front end loading washing machines can save significant amounts of water and electricity when used by residents.

Six of the machines, which are particularly accessible for persons with disabilities, have been located in the laundry room at the residential building administered by GSPD. The machines are designed to be highly energy efficient.

The first official use of the machines will be at a "Laundry Party" held at GSPD's main building at 238 Willow Road, Guelph on Thursday, January 19 at 1 pm.

As part of the project, Guelph Hydro has sent a survey to all residents in the 83-unit building to check on the number and size of their laundry washes each week. The surveys will help the partners to gauge the savings generated by the new machines, which have been hooked up to special meters.

The partners have also been measuring energy use before the new machines were installed, for comparison purposes.

"We anticipate that the water and energy savings generated by the new machines will be quite significant," said Nicole Mailloux, vice president of human resources for GHESI, who also heads up the utility's conservation and demand management program.

Martin Lavictoire, conservation and efficiency technician with the City of Guelph said that the project, if successful, could lead to similar partnerships in the future.

"Both the City and Guelph Hydro are absolutely committed to finding creative ways to encourage the community to conserve energy and water at every opportunity, and we commend GSPD for taking this significant step in conservation," he said.

Joan Koob, property manager for GSPD said that a draw would be held at the laundry party to encourage residents to complete and return the survey. Fifteen gifts with an energy saving theme will be available as prizes.

At the Laundry Party, there will be sample washes, and also a demonstration of the new "smart card" that will replace the traditional use of cash in the machines. Residents at GSPD are being encouraged to use the cards with the new equipment.



6.7. Appendix G: Light Up a Life Press Release and Article





Guelph Hydro Electric Systems Inc. and the Salvation Army Light up Some Lives

May 5, 2006 – Guelph, ON – Guelph Hydro Electric Systems Inc. is excited to be partnering with the Salvation Army of Guelph in its efforts to Light up a Life, through the donation of 437 compact fluorescent light bulbs to match the 437 compact fluorescents already donated by individual Guelphites on March 25th, 2006 at the two Canadian Tire stores in Guelph. Volunteers of the Trillium Rotary Club collected the compact fluorescents and the Salvation Army is distributing the bulbs to several Neighbourhood Groups in Guelph. All 874 bulbs being distributed will help families in need conserve electricity and reduce their hydro costs.

"This program encourages customers in need to use compact fluorescent bulbs to conserve energy and reduce utility costs," said Nicole Mailloux, Vice-president at Guelph Hydro Electric Systems Inc. "I encourage all Guelphites to switch one bulb to one compact fluorescent. If we all did that, together we could save about 1.9 MegaWatts of power." Energy conservation and demand management is required in Ontario to ensure that demand does not exceed supply, particularly during summer months. Last summer, both Ontario and Guelph reached record breaking summer peaks in demand.

"The Salvation Army is committed to assisting families in need, through a variety of initiatives, which help to promote better quality of life," said Beverleigh Broughton, Community and Family Services Director of the Guelph Salvation Army. "We appreciate the support of Guelph Hydro Electric Systems Inc. for our Light Up a Life initiative. Corporate involvement in our programs helps to bring these opportunities to more families, creating a better community for us all."

Guelph Hydro Inc. is structured as a holding company, with a family of companies consisting of Guelph Hydro Electric Systems Inc. and two non-regulated entities - Selectpower and Ecotricity Guelph Inc. Creating a culture of conservation in our society, both provincially and locally, requires our ongoing focus and attention.

The Salvation Army has been part of the Guelph community for over 120 years. Community and Family Services (C &FS) is part of The Salvation Army Guelph Citadel (church), which provides a variety of social programs and services to the local community. By assisting people who may be in need due to difficult circumstances, The Salvation Army C & FS provides emergency food, clothing, transportation and agency referral services. Other services include a Shelter Aid Assistance program, Work Boots for those seeking employment as well as a school breakfast program.

-30-

For more information, or to request an interview, please contact:Nicole MaillouxBeverleigh BroughtonVice-presidentCommunity and Family Services DirectorGuelph Hydro Electric Systems Inc.Salvation Army Guelph519-837-4721519-836-9360



August 2006 Salvation Army magazine called "Salvationist"

Letting Our Little Light Shine



Mailloux from Guelph Hydro presents a case of "matched" bulbs to Lt-Col Lloyd Hetherington, CFS case worker, and Beverleigh Broughton, CFS Director

Nicole

by Beverleigh Broughton Community and Family Services Director, Guelph, Ontario

arlier this year, the Army's community and family services tried a new venture to assist low-income families with the high costs of hydro. The project, named Light Up a Life, was a joint effort between The Salvation Army, Guelph Hydro, Guelph Trillium Rotary Club and Canadian Tire.

On March 25, Rotary volunteers collected 427 compact fluorescent light bulbs from shoppers at local Canadian Tire locations, a donation that was matched by Guelph Hydro. Since that time, the Army has been distributing these bulbs to those in need. Families must provide a current copy of their hydro bill for verification.

The goal in implementing this project was to help people understand the importance of energy conservation and help them lower their monthly costs by using energy-efficient bulbs. It was the first time anything like this had been done in the area and the Army is hoping to make it an annual event.



6.8. Appendix H: May 12, 2006 Tribune Article – Residential Geothermal



Savings come from ground up

By PAIGE HILTON Guelph Tribune

S tephen and Jane Rodd have never had air conditioning in their house of 15 years. But now they'll have something a lot more cutting

edge. This summer, a geothermal heating and cooling sys-tem is being installed behind their home on a quiet stretch of Metcalfe Street.

Rodd attended a seminar about geothermal technology in the winter and decided to have it installed.

Guelph Hydro Electric Systems Inc. (GHESI) was offering to pay \$1,500 of the cost to get a system installed for the first three buyers who decided by March 31. The incentive was to promote energy conservation, said GHESI vice-president Nicole Mailloux. Rodd was the only taker.

He was presented with the cheque at his home April 28. Getting the system means they won't have to rely on gar to heat their

rely on gas to heat their home or their water.

Stacey Hare, marketing manager for Selectpower, the company installing the system, said geothermal technology uses the energy stored in the ground.

"If you dig about six feet into the ground, the temper-ature is the same all year round," Hare said. "It's from 10 to 15 C."

Pines are buried in the ground and filled with fluid. The fluid captures the ground temperature and carries it into the house. That way, the ground tempera-ture cools the house off in the summer and heats it in the winter.

Hare said the Rodds will

IC's Hair

Affordable & Professional Total Family Hair Care MAY * Men's Cut only \$10.00

be using about 60 per cent less energy than they are with a traditional gas system.

Rodd said he isn't getting the system installed purely for financial savings, but also to be kinder to the environment.

It will cost him a little more than \$24,000 to have the system installed, but he said it's worth it.

"We will do without natural gas completely," he said. "We might be using a bit more electricity, but we're already powering 20 per cent of our electricity from wind power, so we might buy some more of that."

Wind power has been available from the Guelph Hydro Generation Company for about two years

Rodd said he has been interested in energy systems and use for a long time, especially ground energy. He is also the chair of Guelph Environmental Leadership, a coalition of community groups wanting to preserve the environment and and improve human health.

His home will be the fifth in Guelph to use geothermal technology. Hare said there are some

homes in Guelph that have used the technology for 30 or 40 years. So why aren't more homes equipped? "It goes back to the com-

mon way things are done," she said. "But it is becoming more popular. People wonder how we'll fit the system into their yard, but we've even put them in under driveways." In Rodd's case, the system

will fit into his back yard, "despite all the landscaping," he said. "But the grass can all be

put back."

Jesign



Want to WC







6.9. Appendix I: Residential Geothermal TRC Details

| Residential Geothermal | | | | | | | | | | | | | |
|---------------------------|---------|------------------|------------|-----------|----|---------|----------|---|-------------|--------|---|---------|-------------|
| 20 year life | | 7.000/ | | | | | | | | | | | |
| Discount Rate | | 7.63% | 1.1.4/1 | | | | | | | | | | |
| Electricity Saving | | -5,123 | kvvn | \$ 0.130 | pe | erkvvn | | | | | | | |
| Natural Gas Saving | | 1,524 | CCT | \$1.19 | pe | er cct | | | | | | _ | |
| | | Veer | | | | Total | | | | | | | |
| | | rear | | | | Annual | | | | | | | |
| | | | | Eporau | | Savings | | | | | | | |
| | | | Annual | Efficient | | | | honual | Annual | | Annual | | Total |
| | | Hours/Period | Energy | Energy | | (kwh) | E | ectricity | Natural Gas | Na | atural Gas | El | ectricity & |
| | | nearc, renou | Usage | Usage | | () | S | avings | Reduction | | Savings | Ga | as Benefit |
| Year # | | | KVV1/yr | kWh/yr | | | | , in the second s | (CCI) | | , in the second s | | |
| | 1 | 2006 | 4,899 | 10,022 | - | 5,123 | -\$ | 666 | 1,524 | \$ | 1,814 | \$ | 1,148 |
| | 2 | 2007 | 4,899 | 10,022 | - | 5,123 | -\$ | 679 | 1,524 | \$ | 1,850 | \$ | 1,171 |
| | 3 | 2008 | 4,899 | 10,022 | - | 5,123 | -\$ | 693 | 1,524 | \$ | 1,887 | \$ | 1,194 |
| | 4 | 2009 | 4,899 | 10,022 | - | 5,123 | -\$ | 707 | 1,524 | \$ | 1,925 | \$ | 1,218 |
| | 5 | 2010 | 4,899 | 10,022 | - | 5,123 | -\$ | 721 | 1,524 | \$ | 1,963 | \$ | 1,242 |
| | 6 | 2011 | 4,899 | 10,022 | - | 5,123 | -\$ | 735 | 1,524 | \$ | 2,002 | \$ | 1,267 |
| | 7 | 2012 | 4,899 | 10,022 | - | 5,123 | -\$ | 750 | 1,524 | \$ | 2,042 | \$ | 1,292 |
| | 8 | 2013 | 4,899 | 10,022 | - | 5,123 | -\$ | 765 | 1,524 | \$ | 2,083 | \$ | 1,318 |
| | 9 | 2014 | 4,899 | 10,022 | - | 5,123 | -\$ | 780 | 1,524 | \$ | 2,125 | \$ | 1,345 |
| | 10 | 2015 | 4,899 | 10,022 | - | 5,123 | -\$ | 796 | 1,524 | \$ | 2,167 | \$ | 1,371 |
| | 11 | 2016 | 4,899 | 10,022 | - | 5,123 | -\$ | 812 | 1,524 | \$ | 2,211 | \$ | 1,399 |
| | 12 | 2017 | 4,899 | 10,022 | - | 5,123 | -\$ | 828 | 1,524 | \$ | 2,255 | \$ | 1,427 |
| | 13 | 2018 | 4,899 | 10,022 | - | 5,123 | -\$ | 845 | 1,524 | \$ | 2,300 | \$ | 1,455 |
| | 14 | 2019 | 4,899 | 10,022 | - | 5,123 | -\$ | 862 | 1,524 | \$ | 2,346 | \$ | 1,485 |
| | 15 | 2020 | 4,899 | 10,022 | - | 5,123 | -\$ | 879 | 1,524 | \$ | 2,393 | \$ | 1,514 |
| | 16 | 2021 | 4,899 | 10,022 | - | 5,123 | -\$ | 896 | 1,524 | \$ | 2,441 | \$ | 1,544 |
| | 1/ | 2022 | 4,899 | 10,022 | - | 5,123 | -\$ | 914 | 1,524 | \$ | 2,490 | \$ | 1,5/5 |
| | 18 | 2023 | 4,899 | 10,022 | - | 5,123 | -\$ | 933 | 1,524 | \$ | 2,539 | \$ | 1,607 |
| | 19 | 2024 | 4,899 | 10,022 | - | 5,123 | -\$ | 951 | 1,524 | ¢ | 2,590 | \$ ¢ | 1,639 |
| Not Procent Value | 20 | 2025 | 4,899 | 10,022 | - | 102 460 | -⊅ ¢- | 970 | 1,524 | ф Ф | 2,042 | φ | 012 |
| Net Flesent value | | | | | - | 102,400 | -φ | 1,195 | 30,460 | φ | 21,222 | | φ13,429 |
| TRC Results: | | | | | | | | | | | | | |
| TRC Benefits (\$): | | | \$13,429 | | | | | | | | | | |
| TRC Costs (\$): | | | | | | | | | | | | | |
| Utility program co | st (les | s incentives): | \$0 | | | | | | | | | | |
| | Pa | articipant cost: | \$24,000 | | | | | | | | | | |
| | Tota | al TRC costs: | \$24,000 | | | | | | | | | | |
| Net TRC (in 2006 CDN \$): | | | -\$ 10,571 | | | | | | | | | | |
| | | | | | | | | | | | | | |

Benefit to Cost Ratio (TRC Benefits/TRC Costs) 0.56



6.10. Appendix J: GHESI Generator TRC Details

| Interest Rate | 7.63% | | | | | | | | | | | | |
|--|---------|---------|---------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|---------|
| DR Capacity kW | 490 | | | | | | | | | | | | |
| | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | |
| Capital | 567,309 | | | | | | | | | | | | |
| Admin Expenses (at \$5/kW/month) | 29,400 | 29,988 | 30,588 | 31,200 | 31,824 | 32,460 | 33,109 | 33,771 | 34,447 | 35,136 | 35,838 | 36,555 | |
| Total Cost | 596,709 | 29,988 | 30,588 | 31,200 1.01 | 31,824 1.01 | 32,460 1.01 | 33,109 1.01 | 33,771 1.01 | 34,447 1.01 | 35,136 1.01 | 35,838 1.01 | 36,555 1.01 | |
| Avoided DR Generation Capacity cost \$/kW/year | - | - | 145 | 147 | 149 | 150 | 152 | 154 | 156 | 158 | 160 | 162 | |
| Avoided DR Generation Capacity for 490kW | - | - | 70,972 | 71,881 | 72,791 | 73,702 | 74,613 | 75,582 | 76,554 | 77,527 | 78,501 | 79,541 | |
| Revenue from IESO Market | - | 46,920 | 47,858 | 48,816 | 49,792 | 50,788 | 51,803 | 52,840 | 53,896 | 54,974 | 56,074 | 57,195 | |
| OPA DR payment | | 33,599 | 34,271 | 34,956 | 35,655 | 36,368 | 37,096 | 37,837 | 38,594 | 39,366 | 40,153 | 40,956 | |
| Total Benefit | - | 80,519 | 153,101 | 155,653 | 158,238 | 160,858 | 163,512 | 166,259 | 169,045 | 171,867 | 174,728 | 177,692 | |
| | | | | | | | | | | | | | |
| | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 |
| Admin Expenses (at \$5/kW/month) | 37,286 | 38,032 | 38,793 | 39,569 | 40,360 | 41,167 | 41,990 | 42,830 | 43,687 | 44,561 | 45,452 | 46,361 | 47,288 |
| | | | | | | | | | | | | | |
| Total Cost | 37,286 | 38,032 | 38,793 | 39,569 | 40,360 | 41,167 | 41,990 | 42,830 | 43,687 | 44,561 | 45,452 | 46,361 | 47,288 |
| | 1.01 | 1.01 | 1.01 | 1.01 | 1.01 | 1.01 | 1.01 | 1.01 | 1.01 | 1.01 | 1.01 | 1.01 | 1.01 |
| Avoided DR Generation Capacity cost \$/kW/year | 164 | 167 | 169 | 171 | 173 | 175 | 178 | 180 | 181.88 | 183.70 | 185.54 | 187.40 | 189.27 |
| Avoided DR Generation Capacity for 490kW | 80,516 | 81,629 | 82,676 | 83,725 | 84,848 | 85,976 | 87,107 | 88,241 | 89,124 | 90,015 | 90,915 | 91,824 | 92,742 |
| Revenue from IESO Market | 58,339 | 59,506 | 60,696 | 61,910 | 63,148 | 64,411 | 65,699 | 67,013 | 68,354 | 69,721 | 71,115 | 72,537 | 73,988 |
| OPA DR payment | 41,776 | 42,611 | 43,463 | 44,333 | 45,219 | 46,124 | 47,046 | 47,987 | 48,947 | 49,926 | 50,924 | 51,943 | 52,982 |
| Total Benefit | 180,631 | 183,746 | 186,835 | 189,967 | 193,216 | 196,511 | 199,853 | 203,241 | 206,424 | 209,661 | 212,954 | 216,304 | 219,712 |

| | 490 kW DR | | | | | | | |
|--------------|-----------|-------------|-----------|--|--|--|--|--|
| | Cost | Benefit | B/C ratio | | | | | |
| NPV 10 years | \$744,149 | \$880,984 | 1.18 | | | | | |
| NPV 15 years | \$816,034 | \$1,229,430 | 1.51 | | | | | |
| NPV 20 year | \$870,984 | \$1,491,809 | 1.71 | | | | | |
| NPV 25 year | \$912,990 | \$1,688,713 | 1.85 | | | | | |

Notes: Revenue from IESO Market OPA DR payment

\$46,000 per year net profit calculated by GHESI \$67,224 is the average revenue from OPA based on 1 MW DR capacity