



DEVELOPMENT AND INFRASTRUCTURE DIVISION
Environment Section

TO: Chair and Members of the Community Development Committee
SUBJECT: Residential Energy Efficiency Program (REEP)

Report Number: DI-22-03 Report Date: November 26, 2003
Author(s): Lynn Robichaud Date to Committee: December 8, 2003
Telephone: 905-335-7600 Ext. 7931 Date to Council: December, 15, 2003
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APPROVALS: Department Head General Manager City Manager

To be completed by the Clerks Department

Committee Disposition & Comments table with 7 columns for status options

Council Disposition & Comments table with 7 columns for status options

1.0 RECOMMENDATION:

THAT Council support in principle funding for the Residential Energy Efficiency Project (REEP) in 2004 to be administered by the Elora Centre for Environmental Excellence in Burlington; and,

THAT the funding be subject to 2004 current budget approval and be in an amount not to exceed \$8,925, where \$2,550 will be used for marketing and \$6,375 will be used as a subsidy, reducing of the cost of a home audit from \$175 to \$150 per home for Burlington residents; and,

THAT the source of funding for REEP be considered by Council in the 2004 current budget within the D&I - Environment cost centre; and,

THAT, subject to funding approval, the Sr. Environmental Co-ordinator report back to Community Development Committee in the fourth quarter of 2004 with an update on the REEP program including any recommendations and implications regarding support for the REEP program in 2005.

## **2.0 PURPOSE:**

To raise awareness and obtain Council support in principle for the Residential Energy Efficiency Project (REEP) to be administered by the Elora Centre for Environmental Excellence, providing energy efficiency home audits for Burlington residents.

## **3.0 BACKGROUND:**

Burning fossil fuels increases the atmospheric amounts of greenhouse gases, such as carbon dioxide, methane and nitrous oxide. These gases, along with water vapour, contribute to creating a warming blanket around the earth commonly known as the greenhouse effect which influences a larger pattern of climate change. Burning fossil fuels also releases a number of air pollutants that lead to smog and other local air quality issues.

Included within the City's strategic plan, *Future Focus V*, are two goals under Environmental Leadership that provide direction related to improving the local environment and raising public awareness:

*2.1 The environmental quality of air, land and water in Burlington will be enhanced in keeping with the goals of the State of the Environment Report.*

*3.1 There is an increased environmental awareness among the Burlington community.*

The City has implemented a number of measures to reduce its negative impact on local air quality, which has the co-benefit of reducing greenhouse gas (GHG) emissions. Some of these measures include: piloting the use of bio-diesel fuel for off-road equipment, the use of low sulphur fuel for fleet vehicles, the purchase of 10 new fuel efficient buses for its transit system, the lease of two hybrid vehicles, the launch of a public anti-idling awareness campaign, the implementation of energy efficient LED traffic signals, adherence to smart growth principles to reduce sprawl, and the development of the Healthy Green Spaces Strategy for Public Lands.

In 2002, the City joined the Partners for Climate Protection (PCP) program (Report No D&I -03-02). The City has committed under the PCP program to reduce both corporate and community GHG emissions. Staff are currently working on an inventory of GHG emissions using 1994 as a base year, as recommended by the PCP program. The next step will be to confirm reduction targets and prepare a Community Action Plan. The PCP program recommends reduction targets of 20% for corporate emissions and 6% for community emissions, from 1994 levels. One approach to achieving the target of a 6% reduction (from 1994 levels) in community GHG emissions is to work with homeowners to improve the energy efficiency of their houses.

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The Elora Centre for Environmental Excellence (ECEE) is a not-for-profit environmental charity that “specializes in bringing innovative environmental solutions to communities across Ontario.” The Residential Energy Efficiency Project (REEP) was created by the ECEE to deliver the EnerGuide for Houses Program, an initiative of Natural Resources Canada. The first REEP was initiated in the Region of Waterloo in 1999 and ECEE now administers the program in several communities across south-central and south-western Ontario.

The ECEE has been providing REEP home audits to residents in Burlington and across Halton Region but residents have had to pay \$175 for the cost of the audit. Green Venture, a non-profit organization in Hamilton has also serviced the Burlington community with respect to home audits. However, there has been not been any significant effort to promote the program in this community.

A REEP audit helps homeowners identify ways to make their homes more comfortable and more energy efficient. A certified Energy Advisor uses the EnerGuide for Houses to determine where the house is losing energy. Each home is given an EnerGuide for Houses rating on a scale from 0 to 100. The average Canadian home has an initial rating of 62. The rating that could be expected if the recommended improvements are made is also provided to the homeowner (on average the second rating is 73).

A comprehensive report is completed for the homeowner that includes suggestions for how to reduce energy loss that will immediately help the homeowner save money, make their home more comfortable, and ultimately help the environment. Leakage problems are evaluated through a blower door test over the course of an hour. The report includes an estimate of how much energy is lost through the basement, windows, doors, main walls and ceiling, and the home's mechanical ventilation system (if installed) before and after carrying out all of the recommended upgrades. Other problems that can be identified include cold rooms, wet windows, and mould.

The average homeowner who completes the recommendations of the auditor can expect to:

- Reduce emissions of GHGs by 3 tonnes per home per year;
- Save approximately 26% on their home heating costs; and
- Invest \$2400 in their community for home renovations in the first year.

[\(http://www.thereep.ca/\)](http://www.thereep.ca/)

The University of Waterloo completed a survey of Waterloo residents who had completed a REEP audit on their home and found that 80% of homeowners acted on the auditor's recommendations. The average amount spent by those homeowners in the first year was \$2,400. If 255 homes are audited in Burlington in 2004, it is anticipated that 204 homes (80%) will take action, spending a total of \$489,600 in the first year.

In October 2003, the federal government launched a grant program to encourage homeowners, particularly those whose homes are older, to retrofit their homes to make them more energy efficient. Only homeowners who have had the EnerGuide for Houses evaluation and have followed up on recommendations and achieved a minimum energy performance improvement are eligible for a grant. (<http://oee.nrcan.gc.ca/houses->

maisons/english/homeowners/grant/question.cfm). In Peterborough, the federal government found during a pilot program of their EnerGuide for Houses grant that for every \$1 in incentive payments, participants spent \$3.50 on goods and services.

The amount of the grant depends on the difference between the EnerGuide for Houses energy efficiency rating assigned at the time of the initial inspection and the adjusted rating after the retrofits have been completed. The greater the improvement in the rating, the greater the grant the homeowner is eligible for. On average, a homeowner could expect to receive a grant of approximately \$620 (maximum amount available is \$3,400).

#### **4.0 DISCUSSION:**

REEP offers several advantages to the City of Burlington. More energy efficient homes mean fewer resources are used for heating and electricity and this can result in lower emissions of GHGs as well as fewer air pollutants that result in smog and acid rain.

The benefits extend beyond the emission reduction components. REEP is an informative community outreach tool. The City's active participation will facilitate education about the program as well as the climate change issue and allow residents to take advantage of federal grant money available for upgrades. Similarly, local home improvement businesses benefit through homeowners retaining their services to implement the advisor's recommendations. The ECEE estimates an investment of approximately \$4.5 million in the Region for home renovations over the first three years.

The ECEE has requested a total of \$8,925 per year from the City over a two year period based on a target of 255 homes per year. Of that amount, \$2,550 or \$10 per home would be directed towards a marketing program to promote REEP to the Burlington community. The remainder, \$6,375, would be directed to subsidize the cost of a home audit based on \$25 per home.

The true cost of a home audit is \$325. Natural Resources Canada currently provides a subsidy of \$150 per home, reducing the cost to \$175. An additional subsidy of \$25 per home by the City of Burlington would further reduce the cost to \$150 for residents.

There is currently one auditor that services Halton Region located in Ballinafad. A second auditor has received training but is lacking the necessary equipment. The cost of outfitting an auditor is \$6,000, which covers a blower door and a laptop computer. The ECEE has submitted an application to the TD Friends of the Environment to fund the purchase of the equipment required for two additional auditors to service the Region.

ECEE has also negotiated an agreement with the Green Venture organization in Hamilton, where they are now referring callers in Halton to the local REEP office. Green Venture will not be spending any money on promoting or administering the program. However, if ECEE uses Green Venture auditors to meet demand, homeowners will still pay the same price of \$150.

Under the REEP program, the auditors are not permitted to sell any products to the homeowners. They are committed to helping homeowners reduce their energy consumption, save money, keep their home more comfortable, and lessen their environmental impact.

ECEE staff are also meeting with Burlington Hydro to discuss options for supporting the program. Town of Oakville staff have advised that they are considering options to support the REEP program for local residents, including subsidizing the cost of an audit. ECEE will also be approaching the Towns of Milton and Halton Hills requesting that they provide a subsidy to reduce the cost of home audits for their residents. ECEE is looking to set up a region-wide project steering committee that would include staff representing municipal partners and be responsible for submitting an annual progress report to local councils.

Although the ECEE auditor is already booking appointments well into the new year, subsidizing a portion of the cost will address one of the potential barriers to other homeowners participating in the program. This has been the experience in the Region of Waterloo and the City of Guelph. In Waterloo, the cost of the audit is \$75 per home and is subsidized by the Region, lower tier municipalities, and hydro utilities. Between 2002 and 2003, ECEE completed audits in 765 homes in Waterloo Region and 150 in the City of Guelph. During the same time period, 85 homes were audited in Halton Region.

Based on a similar participation rate in Waterloo and Guelph, ECEE is forecasting that 620 homes could be audited across Halton Region in 2004 with municipal support. Waterloo Region and City of Guelph staff have provided positive feedback on their experience with ECEE and the REEP program.

#### **5.0 FINANCIAL MATTERS:**

The proposed partial subsidy to the ECEE for REEP in the amount of \$8,925 has been included in the proposed 2004 current budget under the Environmental Management Section. A payment schedule where half the amount (\$4,500) is paid up front and the remainder paid (\$4,425) half way through the first year to the ECEE is suggested. Staff do not anticipate any additional cost to the corporation beyond minimal staff time to provide in-kind communications support for the REEP program.

#### **6.0 ENVIRONMENTAL MATTERS:**

The support of the REEP program will assist the City in meeting its commitment under the Partners for Climate Protection Program to reduce community GHG emissions.

#### **7.0 COMMUNICATION MATTERS:**

Staff will work with Corporate Communications to provide in-kind support to the ECEE to promote the REEP program to Burlington residents through such media as the Environmental Corner in the *Burlington Post*, the City's website, City Talk, and other vehicles identified as appropriate.

**8.0 CONCLUSION:**

Reducing GHG emissions on a corporate basis is easier to track as the city has direct control of its operations. Reducing and tracking GHG emissions on a community basis is much more challenging. REEP has the potential to be a substantial part of the PCP program to reduce GHG emissions. It provides a way for the community to participate by saving energy and money, and provides the ability to track GHG emission reductions, enabling staff to report back to the Federation of Canadian Municipalities on our success. A progress report on the PCP program will be forthcoming to Council in 2004 to provide details on the GHG emissions inventory and development of a Local Action Plan.

Supporting the REEP program provides us with an opportunity to work with the community to reduce GHG emissions and meet our commitment to enhance our local environment and raise public awareness under the Strategic Plan, *Future Focus V*.

Therefore, it is recommended that:

- 1) That Council support in principle funding for the Residential Energy Efficiency Project (REEP) in 2004 to be administered by the Elora Centre for Environmental Excellence in Burlington; and,
- 2) That the funding be subject to 2004 current budget approval and be in an amount not to exceed \$8,925, where \$2,550 will be used for marketing and \$6,375 will be used as a subsidy, reducing of the cost of a home audit from \$175 to \$150 per home for Burlington residents; and,
- 3) That the source of funding for REEP be considered by Council in the 2004 current budget within the D&I - Environment cost centre; and,
- 4) That, subject to funding approval, the Sr. Environmental Co-ordinator report back to Community Development Committee in the fourth quarter of 2004 with an update on the REEP program including any recommendations and implications regarding support for the REEP program in 2005.

Respectfully submitted,

Lynn Robichaud  
Sr. Environmental Co-ordinator

**Appendices:**

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**Staff / Others Consulted:**

Name	Telephone
Environmental Management Team	
Air Quality Initiatives Team	
Management Committee	
Helen Walihura	x7841
Burlington Sustainable Development Committee	
Peter Willmott, Halton Region	905-825-6000 x7817
Beckie Jas, Halton Region	905-825-6000 x7867
Narelle Martin, Town of Oakville	905-845-6601
James Ettiene, City of Guelph	519-837-5604 x2223
Ryan Kennedy, Region of Waterloo Public Health	519-883-2008 x5181
Jennifer Smith, Burlington Hydro	905-332-1851

**Notifications:**

Name	Mailing or E-mail Address
Jason Thorne	<a href="mailto:jthorne@ecee.on.ca">jthorne@ecee.on.ca</a>
Beckie Jas	<a href="mailto:jasb@region.halton.on.ca">jasb@region.halton.on.ca</a>
Peter Willmott	<a href="mailto:willmottp@region.halton.on.ca">willmottp@region.halton.on.ca</a>
Jennifer Smith	<a href="mailto:jsmith@burlingtonhydro.com">jsmith@burlingtonhydro.com</a>
Burlington Sustainable Development Committee	

**Special Instructions:**

Regular Agenda
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