STAFF REPORT
ACTION REQUIRED

# The Live Green Toronto Home Energy Efficiency Incentive Program

| | |
|---|---|
| **Date:** | May 11, 2009 |
| **To:** | Budget Committee |
| **From:** | Deputy City Manager, Richard Butts<br>Deputy City Manager and Chief Financial Officer, Cam Weldon |
| **Wards:** | All |
| **Reference Number:** | P:\2009\Cluster B\TEO\BC09007 |

## SUMMARY


In July 2007, City Council adopted the Climate Change, Clean Air and Sustainable Energy Action Plan, which included a direction to establish energy retrofit funding programs to provide financial support to owners of low-rise residential buildings. As part of the 2009 Capital Budget, City Council approved funding of $9 million over four years for this program.

At that time the proposed program was contemplated to be a revolving loan fund. In light of the changing economy and associated drop in interest rates, staff recognized that an alternative program design would be required because owners of low-rise residential buildings now have access to low interest loans and would not seek assistance from the City for similar loan rates. Therefore, this report recommends that the program be shifted from a revolving loan fund to a grants program in order to: address the availability of low interest loans; keep administrative costs to a minimum; and maximize participation by eligible residents.

By establishing an incentive program geared towards encouraging implementation of the more significant energy retrofit measures by homeowners, the City will be helping those homeowners leverage up to an additional $6,000 per home in Federal and Provincial financial resources and reducing the greenhouse gas emissions associated with heating and cooling their home by an estimated additional 0.5 tonnes.

## RECOMMENDATIONS

**Deputy City Manager Richard Butts and Deputy City Manager and Chief Financial Officer Cam Weldon recommend that:**

1. City Council establish a Home Energy Efficiency Incentive Program:

    a. whereby property owners of low rise residential properties in the City of Toronto will be eligible for a financial grant up to a maximum of $1,000 for a selected set of energy efficiency retrofits; and

    b. that will conclude by March 31, 2012.

2. The Director of the Toronto Environment Office be authorized to sign a Memorandum of Understanding, satisfactory to the City Solicitor, with appropriate officials of Natural Resources Canada to integrate delivery of the recommended Home Energy Efficiency Incentive Program with the ecoENERGY program delivered by Natural Resources Canada.

3. The Director of the Toronto Environment Office report to Council on the establishment and design of a Home Energy Efficiency Incentive Program for low-income homeowners once the Province of Ontario, utility companies and others have articulated what program(s) will be delivered for this group and that up to $2.0 million of the total $9.0 million be allocated for the low-income homeowners.

4. The Director of the Toronto Environment Office report to Council as part of the regular reporting on the progress of the Live Green Toronto initiatives on the outcomes of the program and any proposed changes deemed necessary to improve the performance of the Home Energy Efficiency Incentive Program.

5. The funds in the Home Energy Loan Reserve Fund be returned to the Strategic Infrastructure Partnership Reserve Fund, the Home Energy Loan Reserve Fund be closed (Attachment 2) and it be deleted from the Municipal Code Chapter 227, Reserves and Reserve Funds and the 2009 - 2013 Approved Capital Budget and Capital Plan for the Sustainable Energy Program be amended to remove the funds in the amount of $9.0 million.

6. City Council establish and amend Toronto Municipal Code Chapter 227, Reserves and Reserve Fund – by adding a discretionary reserve fund called the 'Home Energy Assistance Toronto Reserve Fund' - as set out in Attachment 1 within Schedule 7 – Corporate Discretionary Reserve Funds as part of the Climate Change Reserve Fund Group to be used to finance sustainable energy retrofit grants and associated administrative costs for single family and small commercial building sectors across the City.

7. City Council authorize the Deputy City Manager and Chief Financial Officer to transfer funds from the Strategic Infrastructure Partnership Reserve Fund to the Home Energy Assistance Toronto Reserve Fund up to a limit of $9.0 million, consistent with the approved 2009 Capital and Operating Budgets and subsequent budget approvals.

8. The 2009 Approved Operating Budget of the Toronto Environment Office be increased by $0.500 million for a net $0 increase, funded from Home Energy Assistance Toronto Reserve Fund for the Home Energy Efficiency Incentive Program.

9. The appropriate City officials be authorized and directed to take the necessary action to give effect thereto; and that leave be granted for the introduction of any necessary bills in Council.

### Financial Impact

Grant funding up to a maximum of $1,000 per household will be provided, up to a maximum of $9.0 million for the City-wide program.

A total of $9.0 million was approved for a Home Energy Loan Program Fund, as part of the Sustainable Energy Program's 2009-2013 5-Year Capital Plan, funded from the Strategic Infrastructure Partnership Reserve Fund. This was anticipated to be a revolving loan fund. The report recommends the transfer of this funding to the Toronto Environment Office, as part of its Live Green Toronto Energy Efficiency Incentive Program and that the funds be provided as grants, rather than as loans.

It is recommended that Toronto Environment Office's 2009 Approved Operating Budget be increased $0.500 million, funded from the Home Energy Assistance Toronto Reserve Fund, for a net $0 increase in 2009. Funding in the amount of $2.000 million in 2010, $3.000 million in 2011 and $3.500 million in 2012 will be included in the Toronto Environment Office's 2010, 2011 and 2012 operating budget submissions, funded from the Reserve. This is a four year program.

The Deputy City Manager and Chief Financial Officer has reviewed this report and agrees with the financial impact information.

## DECISION HISTORY

In July 2007, City Council unanimously adopted the Climate Change, Clean Air and Sustainable Energy Action Plan the "*Climate Change Action Plan*". Included in the Climate Change Action Plan was a direction to establish energy retrofit funding programs to provide support to owners of low-rise residential buildings for energy retrofits, in support of the Live Green Toronto program, subject to a report on program details.

In December 2008, City Council considered and adopted as part of the Capital Budget for Sustainable Energy Program $9 million in funding from the Strategic Infrastructure Reserve Fund to fund and established a revolving loan program for energy retrofits in the low-rise residential sector.

The purpose of this report is, as directed, to define a funding program to provide support for owners of low-rise residential buildings (primarily single family housing), the programs objectives, and the criteria for allocating these funds and how the funds will be administered.

The proposed objectives, criteria and selection processes have been developed with the support of staff from Facilities & Real Estate, the Toronto Environment Office, Financial Planning and Corporate Finance. The Toronto Atmospheric Fund was contracted to provide advice on program design and financial options.

## ISSUE BACKGROUND

There are approximately 400,000 low-rise residential buildings in Toronto, which accounts for 19% of electricity and 36% of natural gas consumption in Toronto. While this represents a large portion of the energy consumed in the city, on a per-building basis the amounts are quite small; consequently, the potential for house-by-house energy savings is also small. The challenge in designing energy efficiency incentive programs for this sector is to maximize potential savings, while keeping the overhead costs of working with a large number of properties at a manageable level.

Home energy retrofits usually occur following an energy audit of a given building. However, according to studies from Natural Resources Canada and the University of California at Berkeley[1], as well as initial data gathered by several U.S. municipalities and research by the Toronto Atmospheric Fund (TAF), residential property owners are reluctant to carry out the full list of retrofit measures recommended in their energy audits because of certain barriers. These barriers include:

- transaction costs;
- lack of information;
- uncertainty about energy savings;
- split incentive between current and future owners; and
- initial capital investment.

[1] *Enabling Investments in Energy Efficiency: A Study of Energy Efficiency Programs that Reduce First Cost Barriers in the Residential Sector*, prepared by the Merian Fuller Energy & Resources Group – University of California Berkeley, September, 2008.

With the implementation of the Live Green Toronto activities, programs by Toronto Hydro and many other initiatives action is being taken on the first three barriers. The proposed Home Energy Performance Program responds to the barriers of initial capital investment and transaction costs.

Currently, the federal government operates the ecoENERGY Retrofit – Homes program, whereby homeowners receive incentive payments for installing energy savings measures from a pre-approved list. The homeowner must undertake an energy audit to determine their home's current efficiency rating, and to generate a list of efficiency measures that could be employed to reduce energy consumption. The homeowner installs measures from that list; the auditors then return to verify that work has been done as claimed, and to determine the new efficiency rating of the home. Following the final audit, the federal government issues a cheque based on a pre-set fee for type of measures installed. The provincial government also provides incentives for the same pre-approved measures; in addition, it pays the owners for part of the cost of the audit.

Data from the federal government indicate that, while there are a growing number of homeowners participating in the ecoENERGY program, many are not carrying out the full list of retrofit measures recommended in their audits, in particular items which bring about more significant long term energy savings and associated reduced greenhouse gas emissions. This lack of conversion represents a missed opportunity for energy savings. The City's program should take advantage of this opportunity, and encourage homeowners to maximize their energy savings by installing more of the recommended cost-and energy-effective measures.

## COMMENTS

To develop the proposed incentive Home Energy Performance Program, the staff working group undertook consultations with Natural Resources Canada, industry practitioners, agencies involved in assisting low income homeowners, and reviewed the practices of other municipalities and utility companies. There are three core types of financial assistance programs that the City could offer to homeowners:

- a direct financial grant;
- an indirect financial grant where the City pays the interest on a loan taken by the property owner from a private lender thereby providing them with access to a zero interest loan; and
- provision of a low interest or zero interest loan provided directly by the City.

The Toronto Atmospheric Fund was contracted to research options and has recommended that the City can reach the largest number of homeowners with a direct financial grant of a maximum of $1,000 per property. With the $9 million in funds available, it is estimated that between 8,500 to 12,000 homeowners will receive funding creating a large pool of data, which can be used to demonstrate the financial and environmental benefits of undertaking the more significant home energy efficiency retrofits.

In part this conclusion is based on the availability of low interest loans arising from the economic recession, which would result in homeowners turning to financial institutions for loans rather then drawing from a revolving loan fund operated by the City at a similar interest rate.

Other options explored by the Toronto Atmospheric Fund and Staff concluded that the reach into the community will be smaller with other options and would come with significant administrative costs to the City. With the direct financial grant option, staff from Natural Resources Canada have indicated that if the City partners with the ecoENERGY program there would be no charges to the City. However, the City will incur some minor internal administrative costs associated with preparing cheques once the homeowners have completed their eligible energy efficiency commitments.

Based on those consultations and research it is recommended that the City establish a program where it provides a financial grant towards the installation of energy efficiency retrofits that generate the desired actions that bring the house closer to reducing its associated greenhouse gas emissions by the long term target of a 80% reduction in greenhouse gases.

**Program Design**

1) Objective

To encourage, through financial incentives up to a maximum of $1,000, owners of low rise residential properties, who have completed the ecoENERGY home audit to undertake the more substantive energy efficiency retrofits that will reduce the energy use and associated greenhouse gas emissions.

2) Size of Financial Incentives

The maximum one-time grant available per property is $1,000. To receive the City grant the property owner must complete a suite of pre-approved energy efficiency measures recommended to the household as part of the required ecoENERGY home energy audit. Table One below summarizes the initial measures that will be eligible for funding by the City and the amount of funding available for each measure. Additional measures may be added or measures dropped as the program is implemented and ongoing monitoring identifies necessary changes required to achieve the stated goal of the program.

| Table One: Home Energy Efficiency Actions Eligible for a City Grant | | |
|---|---|---|
| **Energy Efficiency Measure** | **Recommended City Incentive** | **Combined Federal & Provincial Incentive** |
| **Ceiling Insulation** | **Max $200** | **Max $1500** |
| • 100% of attic area: | | |
| - starting from R-12 to R-25 and improving to R-50 | $100 | $750 |
| - starting from below R-12 and improving to R-50 | $200 | $1500 |
| • 100% of flat roof / cathedral ceiling: | | |
| - starting from uninsulated and improving to R-10 | $125 | $1000 |
| - starting from below R-12 and improving to R-28 | $200 | $1500 |
| **Exterior Wall Insulation** | **Max $500** | **Max $3750** |
| • 60% of exterior wall area: | | |
| - adding between R-3.8 - R-9 in additional insulation | $175 | $1350 |
| - adding more than R-9 in additional insulation | $300 | $2250 |
| • 80% of exterior wall area: | | |
| - adding between R-3.8 - R-9 in additional insulation | $225 | $1800 |
| - adding more than R-9 in additional insulation | $375 | $3000 |
| • 100% of exterior wall area: | | |
| - adding between R-3.8 - R-9 in additional insulation | $300 | $2250 |
| - adding more than R-9 in additional insulation | $500 | $3750 |
| **Foundation Insulation** | **Max $300** | **Max $2500** |
| • 60% of exterior basement wall area: | | |
| - adding between R-10 - R-23 in additional insulation | $100 | $750 |
| - adding more than R-23 in additional insulation | $200 | $1500 |
| • 80% of exterior basement wall area: | | |
| - adding between R-10 - R-23 in additional insulation | $125 | $1000 |
| - adding more than R-23 in additional insulation | $250 | $2000 |
| • 100% of exterior basement wall area: | | |
| - adding between R-10 - R-23 in additional insulation | $150 | $1250 |
| - adding more than R-23 in additional insulation | $300 | $2500 |
| • 100% of crawl space exterior wall area: | | |
| - adding between R-10 - R-23 in additional insulation | $125 | $1000 |
| - adding more than R-23 in additional insulation | $250 | $2000 |
| Additional Federal and Provincial ecoEnergy Incentives | | **Max $2250*** |
| Provincial Energy Audit Rebate | | **Max $150** |
| Federal Income tax incentive | | **Max $1350**** |
| **Total** | **Max $1000** | **Max $11,500** |

* *Maximum grant from the Federal ecoEnergy program = $5000. totalling $10,000 when match by Province.*

** *$150 for every $1000 spent on renovations, up to $10,000 with the first $1,000 of renovations exempt.*

The total financial incentive available to the homeowner from the ecoENERGY program and the City financial incentive does not exceed 70% of the estimated cost for implementing the energy efficiency measure.

These measures were selected because they are typically measures that are not being undertaken by homeowners and they provide significant greenhouse gas emission reductions. It is estimated that if the homeowner implements a suite of measures that makes them eligible for the maximum $1,000 grant from the City, they will by utilizing that money to leverage an additional, on average $6,000 per home, in Federal and Provincial financial assistance and will reduce the greenhouse gas emissions associated with heating and cooling their house by approximately 0.5 tonnes a year.

3) Application

The following property owners will be eligible for the City's Home Energy Efficiency Incentive Program:

- must be the owner of a low-rise residential property in the City of Toronto (e.g. single detached, semi-detached, townhouses, and stacked townhouses);
- must have completed all the requirements to receive a grant through the ecoENERGY program delivered by Natural Resources Canada (NRCan); and
- must have completed eligible measures as outlined in Table One of this report.

To keep program administration costs to a minimum and make it easier for the grant applicants, it is recommended that the City establish a partnership with NRCan whereby NRCan receives grant applications and provides the grants. This will entail developing an agreement between the City and NRCan and it is recommended that the Director of the Toronto Environment Office in consultation with the City Solicitor be authorized to develop that agreement.

See http://www.servicecanada.gc.ca/eng/goc/ecoenergy.shtml for more information on the ecoENERGY program.

4) Fraud Prevention

By partnering with the ecoENERGY program the City will be taking advantage of a well established program with a number of checks and balances in place to ensure funds are being utilized for the desired energy efficiency retrofits. All companies and organizations which conduct the home energy audits are certified by the ecoENERGY program and are subject to random audits and inspections. The ecoENERGY program also conducts random inspections of homes that have received funding.

5) Outreach

With the establishment of Live Green Toronto, the City already has a well established vehicle for promoting and informing residents of this new program. City Staff will also develop materials that ensure agencies and companies engaged in providing home energy audits are aware of the program and able to inform residents of the financial incentives available to them.

6) Evaluation

The Director, Toronto Environment Office as part of the regular reporting on the Live Green Toronto initiative will provide City Council with regular annual reports identifying the outcomes, issues of concern and recommendations on changing any aspects of this program.

**Low income homeowners**

There are approximately 70,000 low-income households who own low rise (single, semi and row houses) dwellings. However, there are few energy retrofit programs designed to assist them. For example, the federal EcoENERGY for Homes program, discussed above, provides incentive payments for verified energy efficiency measures following their installation. However, according to staff of the City's Affordable Housing Office, many low-income homeowners are unable to afford the "up front" capital outlay required to carry out the retrofits, which can run to thousands of dollars, regardless of how large the program incentives are. Loan programs are also difficult for low-income homeowners to access, as they typically lack the ability to service loans.

The federal government funds the Residential Rehabilitation Assistance Program (RRAP), which is administered by the City's Affordable Housing Office. RRAP provides forgivable loans to homeowners who meet the criteria of an income test to finance basic life safety repairs to their houses. However, energy efficiency-related measures, such as insulation and draft proofing, are not eligible under RRAP.

The provincial government has indicated that the issue of energy poverty is a priority element of the Green Energy Act. The Ontario Energy Board recently released a report outlining how it intends to address energy poverty issues, which will include a central role for the utilities. The City should approach the Ministry of Energy and Infrastructure, Toronto Hydro and Enbridge to discuss the development of a coordinated program for this sector.

It is proposed that $2.0 million, which is proportional to the number of low-income households in Toronto, be set aside from the $9.0 million residential retrofit program for a separate low income energy retrofit program. Once the Province of Ontario has defined a program to address the issue of energy poverty, the Director of the Toronto Environment Office will report to Council on whether the City should partner with the Province to provide an additional financial incentive to low income homeowners or develop its own stand alone program.

## CONTACTS

Lawson Oates, Director Toronto Environment Office
Tel: 416-392-9744, Email: loates@toronto.ca

Jim Kamstra, A/Director Business and Strategic Innovations, Facilities & Real Estate
Tel: 416-392-8954, Email: jkamstra@toronto.ca

Judy Broughton, Manager Financial Planning
Tel: 416-392-8393, Email: jbrought@toronto.ca

| | |
|---|---|
| Richard Butts<br>Deputy City Manager, Cluster B | Cam Weldon<br>Deputy City Manager and<br>Chief Financial Officer |

## ATTACHMENTS

Attachment One: Home Energy Assistance Toronto Fund
Attachment Two: Home Energy Loan Program Fund

**Attachment 1**
**Home Energy Assistance Toronto Fund**

1. Location within the Consolidated Reserves/Reserve Funds Schedule.

   This account will be included in Schedule # 7 – Corporate Discretionary Reserve Funds as part of the Climate Change Reserve Fund Group.

2. Statement of Purpose

   This account will be used to provide grants and associated administrative costs for sustainable energy retrofits in the low-rise residential building sector across the City to a maximum $1,000 per household based on the verified installation of a suite of pre-approved energy efficiency measures recommended to the household.

3. Service Area or Beneficiary Program

   The Toronto Environment Office shall have primary responsibility for the account.

4. Initial Contribution (2009)

   $500,000 from the Strategic Infrastructure Partnership Reserve Fund

5. Contribution Policy
   The expected cash flow for original contributions into the Account is as follows:

| Year | Home Energy Assistance Toronto Fund |
|---|---:|
| 2009 | $500,000 |
| 2010 | 2,000,000 |
| 2011 | 3,000,000 |
| 2012 | 3,500,000 |
| Total | $9,000,000 |

   These original contributions, as per the above table, will be transferred from the Strategic Infrastructure Partnership Reserve Fund

6. Withdrawal Policy:

   Funds may be withdrawn as identified through the Toronto Environment Office Operating Budget.

7. Review Cycle

   The account will be reviewed at program end slated for March 31, 2012.

**Attachment 2**
**Home Energy Loan Program Fund**

1. Location within the Consolidated Reserves/Reserve Funds Schedule

   This account will be included in Schedule # 7 – Corporate Discretionary Reserve Funds as part of the Climate Change Reserve Fund Group.

2. Statement of Purpose

   This account will be used to finance sustainable energy retrofits in single family and small commercial building sectors across the City. The city will provide a lower interest rate on loans to homeowners than can be obtained from a financial institution.

3. Service Area or Beneficiary Program

   The Chief Corporate Officer shall have primary responsibility for the account.

4. Initial Contribution (2009)

   $500,000 from the Strategic Infrastructure Partnership Reserve Fund

5. Contribution Policy

   The expected cash flow for original contributions into the Account is as follows with the repayments from the loans being deposited back into the Account:

| Year | Home Energy Program Fund |
|---|---:|
| 2009 | $500,000 |
| 2010 | 2,000,000 |
| 2011 | 3,000,000 |
| 2012 | 3,500,000 |
| Total | $9,000,000 |

   These original contributions, as per the above table, will be transferred from the Strategic Infrastructure Partnership Reserve Fund

6. Withdrawal Policy:

   Funds may be withdrawn through the Sustainable Energy Plan Capital Budget.

7. Review Cycle

   The account will remain open until further review by Council.