

## Strategy 1: Create a Deep Energy Retrofit Program for Existing Homes



The recommended approach for Strategy 1 includes:

**Description:** The residential retrofit program is a voluntary program for those homeowners who are looking to increase the value of their property (or rental value), improve their home comfort, and decrease their energy costs. The retrofit program is designed to offer a standardized set of home retrofit packages to address the most common high energy uses in the home (i.e. space heating, insulation, appliances, water heating, windows, etc.). Other options beyond the core package could include: reroofing, solar PV/thermal, ground source heat pumps, etc. Standardizing the retrofit package means there is no need to conduct energy audits, but rather participants are eligible if they meet set criteria relating to retrofits already completed on their home. The packages are complete and address all aspects of energy use in the home, unlike the small-scale upgrades offered by traditional rebate programs. The energy cost reduction in the first year would typically be at least as high as the annual payment to fund the retrofit.

### Did You Know?

A deep energy efficiency retrofit is a complete whole-building package that includes elements such as high efficiency windows, supplementary insulation, lighting upgrades, weather-stripping, programmable controls, energy efficient appliances, etc.

- **Target Participation Level:** The program would aim to have 80 per cent of all homes (single detached, semi-detached and MURB) participate by 2041. The program would be designed to allow for a gradual ramp up for delivery, starting with about 325 homes per year with a goal to increase to 2,500 retrofits per year for a total of 51,750 retrofits per year completed by 2041. The detailed program design would require flexibility to begin the program with fewer participating homes to ramp up to full scale.
- **Energy and GHG Emission Reduction Potential:** The deep energy retrofit program aims to improve energy efficiency by 30-50 per cent depending on the age and size of the home. This would result in 3.2 PJ or 29 per cent energy reduction and 145,000 Tonnes or 30 per cent GHG emission reductions in the community by 2041.
- **Program Design:** The program is designed to use standardized retrofit packages that are quality controlled and offered at standardized prices.

A program administrator is responsible for promoting the program, screening applicants, training contractors, assigning contractors from a prequalified list, ensuring quality control, fostering positive relationships with homeowners and participants, and managing the funding and financing. The program boosts local employment opportunities by teaming with local contractors and material suppliers. Wherever possible the existing energy efficiency programs

from EnWin and Union Gas would be blended into the deep retrofit package and package pricing.

Contractors deliver the service and provide competitive pricing since they have a steady stream of work. New local jobs are created to complete the retrofits, manage services, and administer the program. There is a need for qualified, trained contractors to deliver the program in Windsor. This would create new skillsets, employment and expertise in the community that are transferable to similar programs across Ontario, Canada and internationally. There is an emphasis on buying local products and materials where possible.

Private investors provide investment for some initial start-up costs and capital for financing retrofits.

- **Funding Mechanism:** Recently, the province has made changes to the *Municipal Act, 2001* that allow municipalities to use local improvement charges (LIC) through Infrastructure Ontario's Loan Program to fund renewable energy and energy improvements on public or private properties.

The program is designed to use the Local Improvement Charges (LIC) mechanism to leverage funds for implementation. Participation is voluntary and is cost neutral or cost positive from inception. Should a homeowner wish to participate, they enter into an agreement with the City to apply the LIC as a specific charge to their property tax bill. The LIC charge would be removed once the cost of the retrofit is recovered. The LIC is linked to the property itself, not the individual property owner. Unlike a home equity loan which is tied to the borrower and the borrower's credit rating, the LIC is related to the property and the pooled property tax collection risk of the City. The LIC model should establish a self-financing solution and therefore there is no ongoing cost to the City. Therefore, if the home is sold, the LIC continues with the new home owner until the full value is recovered, reducing the risk to the City.<sup>39</sup> Obviously, the energy efficiency value will be greater from retrofitting older less efficient properties and the marketing will emphasize this. However, the market uptake will ultimately be decided by consumers.

- **Potential Delivery Agent:** It is recommended that a new entity be created to serve as the program administrator and lead the detailed design, business plan development and ultimately administer the residential retrofit program. The program delivery organization could take a number of legal forms: (1) The entity could be a wholly owned City department or municipal corporation; (2) It could equally be an extension of the non-regulated activities of EnWin; (3) it could be a public/private partnership; or (4) the same entity could lead the design, delivery and administration of both the residential and commercial retrofit program.<sup>40</sup>

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<sup>39</sup> LIC Primer: Using Local Improvement Charges to Finance Residential Energy Upgrades, Sonja Persram, Sustainable Alternatives Consulting Inc. for CHEERIO, 2013.

<sup>40</sup> Please note this is a suggested option given EnWin's current role. The final delivery agent will be defined as part of the development of a business plan for implementation.

- **Timing:** The goal is to start the retrofit program in 2018.
- **Benefits:**
  - **Homeowners:** Increased property or rental value, improved home comfort, reduced energy costs, and a favourable funding mechanism with more predictability and lower costs than a home equity loan.
  - **Delivery agent:** Low management costs, leadership role, and creation of a template or model applicable in other communities.
  - **Contractors:** Predictable high-volume retrofit project flow and significantly improved margins. Contractor overheads often exceed 35 per cent, however by creating volume and standardized packages, overhead will drop and net margins will increase.
  - **Windsor community:** High quality employment, community economic development, improved neighbourhoods, reputation, and housing and building affordability.
  - **Investors:** Acceptable returns and low risk investment.
  - **Property Market:** Availability of Energy Performance Labels when a property is sold or rented creates market transparency on energy efficiency in the local property market.

#### Did You Know? Other Communities Well on Their Way

The **Collaboration on Home Energy Efficiency Retrofits in Ontario (CHEERIO)** program has implemented a pilot project to assess the effectiveness of LIC financing as a tool for deep residential energy retrofits while designing communication tools, a monitoring and evaluation framework, and sharing guidance to help achieve full-scale implementation.

**Guelph Energy Efficiency Retrofit Plan (GEER)** encourages residents to make energy efficiency improvements to their homes by retrofitting insulation, windows, weatherizing, climate control devices, furnaces, air conditioners, and heat recovery systems. The upfront costs of these retrofits are paid through the program, making the investment affordable for most homeowners. The homeowner then repays these costs over a 5 to 25-year period at low interest rates through special monthly charges on their tax bill (i.e.: LIC). If the homeowner sells their property before the cost of the retrofit is fully paid off, the new homeowner assumes responsibility for making the remaining payments. Program participants benefit from the energy upgrades and related energy cost savings. The program also benefits the local economy by creating jobs for contractors and equipment suppliers while at the same time reducing GHG emissions. The GEERS program will be pilot tested amongst 20 homes in 2018.