

Local Improvement Charges for Residential Energy Retrofits

Introduction

1. Residential buildings are a significant sources of greenhouse gases (GHG) in a municipality.
2. Local Improvement Charge (LIC) financing, also known as Property Assessed Clean Energy (PACE) financing, is an effective mechanism for municipalities to support energy efficiency retrofits that achieve GHG emissions reductions in residential homes.
3. Reducing GHG emissions from homes requires an energy transition from natural gas, propane, or oil to electricity. Improving the energy efficiency of residential building stock through retrofit programs is essential to this transition, allowing us to meet our GHG reduction targets, manage energy costs, and support local job creation.

Energy Efficiency Retrofit Measures

4. To maximize reductions in energy use, existing homes should be viewed as a whole system, and retrofit measures should be implemented sequentially. The goal is to minimize energy loss, which in turn reduces the amount of energy required to heat and cool the home.
5. There are several measures to mitigate energy loss, such as adding insulation, using high-performance windows and doors, and sealing air leaks. By implementing these and switching to electric heat sources, homes have an opportunity to achieve near-zero emissions.
6. Retrofits have the most significant impact when done in the following sequence: (1) Add insulation (2) Seal air leaks (3) Replace windows and/or doors (4) Upgrade mechanical systems (5) Water upgrades (6) Thermal controls.

7. Whole home deep energy retrofits are encouraged to optimize savings and GHG reductions. They yield greater energy and emissions reductions.

Benefits of Energy Efficiency Retrofits

8. Retrofits present an untapped pool of value and can benefit homeowners, entire communities, municipalities, and all of Canada. Key benefits include:

Homeowner Benefits

9. Energy efficiency retrofits reduce the energy needs of a home. They may also reduce utility bills and protect homeowners against increased energy costs and future carbon pricing.
10. Beyond energy savings, homeowners can enjoy greater comfort, increased property values, healthier indoor air quality, and greater resilience to power outages and extreme weather events.

Municipal Benefits

11. Energy efficiency retrofits can improve air quality by reducing the amount of pollution generated from burning fossil fuels. For communities, these retrofits can stimulate the local economy with contracting jobs, improve the local building stock, and help municipalities achieve their climate mitigation targets.
12. Retrofits improve the quality of buildings, making them resilient to extreme weather events. This, in turn, reduces the liability of a municipality in case of damages from extreme weather events.

Barriers to Energy Efficiency Retrofits

13. Low customer demand, stemming from a lack of awareness of energy efficiency benefits, is the primary barrier to widespread energy efficiency adoption. The high upfront costs of retrofits, long payback times and lack of supply of trained and certified contractors and accessors limit retrofit implementation.
14. Other real and perceived risks and barriers to energy efficiency improvements include performance risks, project and timeline overrun costs, split incentives for rental properties and uncertainty with the length of ownership.

Local Improvement Charges

15. LICs are special temporary charges added to a property tax bill to pay for improvements that benefit the property owners. LICs were traditionally used to recover the costs of infrastructure provision to newly built homes (water, roads, wastewater etc.).
16. LICs are now being used on private properties to finance energy efficiency, renewable energy, water conservation and flood resilience measures voluntarily carried out by property owners.
17. LIC programs provide homeowners with a loan to retrofit their properties to make them more efficient. The homeowner repays the loan via a surcharge added to their property tax bill. The total cost of the program, including all associated administration costs and interest charges, are included in the loan.
18. Capital required to finance the loans may come from capital reserves, loans, green bonds, or private capital.
19. Therefore, while these programs may require grants/funding to address start up costs, over time, this program can operate with no net cost to the municipality and does not have to use taxpayer funds. LIC financing loan is tied to the property and transferred to the new owner when the home is sold, and the repayments are transferred to the new owner.
20. The benefits of LIC programs are - low upfront costs for the owners and availability of long-term low-interest loans with an option to pay it back at any time. The loans are tied to the property and are also available to low-income homeowners.
21. The barriers faced by LIC programs include – securing funds to support start up costs, low program uptake, mortgage lender concerns, access to capital to finance the program, risks associated with missed payments, and lack of municipal capacity to operate such programs.
22. All LIC programs follow the same basic process. Homeowners who apply are checked for eligibility, and qualifying retrofit measures are recommended based on an energy evaluation of the home. Contractors perform the work, and the costs are covered by the loan. The whole program can be delivered by a municipality or a program delivery agent on behalf of the municipality.
23. For more information about the design and delivery of LIC programs, refer to Clean Air Partnership's [Accelerating Home Energy Efficiency Through LIC Programs Toolkit](#).

Examples of LIC/PACE Programs adopted by Canadian Municipalities

24. LIC programs have successfully driven billions of dollars in energy efficiency retrofits across North America since 2009. Well-designed and well-executed LIC programs can significantly reduce residential GHG emissions and enable municipalities to achieve their climate goals.

25. In 2014, the City of Toronto launched dual-stream Residential Energy Retrofit Programs : the [Home Energy Loan Program \(HELP\)](#) for houses; and the [High-rise Retrofit Improvement Support Program \(Hi-RIS\)](#) for multi-unit residential buildings. As of June 2019, almost \$14.9 million in financing has been committed to projects for over 202 properties, resulting in over 4,000 tonnes of CO₂ reduced.
26. The City of Ottawa launched their [BetterHomesOttawa](#) program in November 2021.
27. Nova Scotia currently has approximately ten active municipal LIC programs. The Clean Foundation has acted as the administrator of several financing programs operating under the banner of [Clean Energy Financing](#). PACE Atlantic delivers another three municipal [retrofit programs](#).
31. Well designed LIC programs may prove to be a game changer in paving the way for large-scale emission reductions and a clean energy future.

Related Webinars and Further Reading

32. [Accelerating Home Energy Efficiency Through Local Improvement Charge Programs Toolkit](#).
 33. [Using Local Improvement Charges to Finance Residential Energy Upgrades](#)
 34. [Federation of Canadian Municipalities Community Energy Financing](#)
 35. [Local Improvement Charge \(LIC\) Financing Pilot Program Design for Residential Buildings in Ontario](#)
 36. [PACE Programs \(United States\)](#)
28. LIC/PACE financing is an emerging tool for municipalities to address barriers to advance GHG emission reductions in residential homes.
 29. Cutting emissions from the residential sector is challenging as it requires convincing large numbers of homeowners to carry out energy efficiency retrofits and fuel switching. If designed and implemented correctly, LIC programs generate many financial, environmental and health benefits for homeowners, the community, and the municipality.
 30. LIC programs through long-term, low-interest loans can serve as an attractive financing option for a variety of homeowners, including those on low incomes. Municipalities can learn from their peers and design programs in a variety of ways to meet their unique needs.

Contact: **Devanshi Kukadia**, Research and Communications Manager.
Email: dkukadia@cleanairpartnership.org