



This Green House II Backgrounder A New Way to Fund Retrofits

In March 2016, the Columbia Institute released a new report, “This Green House II,” which follows up on our initial research on residential energy retrofit financing in 2011.

Ontario and Nova Scotia have both changed their legislation to allow local governments to use innovative retrofit financing through local improvement charges and communities in these two provinces are stepping up to the plate.

Beyond climate action, scaling up retrofits has a host of benefits: lower residential energy bills, increased home value, job creation and more comfortable, healthier homes.

The key to unleashing local government leadership and action around retrofits is minor provincial legislative change. Local governments have jurisdiction over construction and renovations and bring community know how, initiative and leadership to local projects and initiatives. LIC financing offers a proven and secure mechanism for financing improvements and ensuring repayment.

It also offers an innovative way to scale up retrofits and climate action, especially if federal and provincial energy grant programs are re-instated. In the meantime, provinces should open the door to local government leadership and clarify LIC legislation.

“This Green House II” finds that widespread investments in the residential sector across Canada could mean slicing off about 4% percent of Canada’s emissions from energy use and 2.7% percent of Canada’s overall total emissions.

At current global emission rates, the entire carbon budget for a 50% chance of keeping global warming at 1.5 degrees will be exhausted by 2025. Clarifying legislation for local government retrofit leadership offers a spring board for climate action.

Innovative leadership on energy retrofits – the fastest way to take action on climate change – couldn’t be more timely. At current emission rates, the entire carbon budget supporting a 50% chance of keeping global warming to 1.5 degrees will be exhausted by 2025.

Energy use in buildings accounts for a significant portion of greenhouse gas (GHG) emissions in Canada. In many municipalities, such as Saanich, British Columbia, heating and cooling buildings accounts for 30% of GHGs. Green House Gas Emissions. (Source: Community Energy Emissions Inventory)

Energy efficiency retrofits over a fast and affordable way to cut GHG emissions, conserve energy and save consumers money on their utility bills. Even more, money invested in retrofitting stays in the local economy and retrofit programs result in jobs and training opportunities.

On-bill and local improvement charge financing for retrofits on private property are relatively new ideas in Canada. In effect, the LIC acts as a loan from the municipality to the homeowner, which is recovered by the municipality in installments through the property tax administrative system over many years.

Widespread energy-efficiency retrofits in Canada's residential sector could cut energy use in buildings by 28% and greenhouse gas emissions by 27%. That's equal to 4% of Canada's emissions from energy use.

Since the legislative changes, Toronto has established the Home Energy Loan Program (HELP). 18 other Ontario local governments are actively exploring retrofit programs. The City of Guelph passed by-laws in the fall of 2015 to pave the way for GEERS, the "Guelph Energy Efficiency Retrofit Strategy."

In Nova Scotia, Halifax has used LIC financing for retrofits successfully and at least four other communities in the province, including Bridgewater, Shelburne, Berwick and Guysborough have begun passing similar by-laws and setting up programs

Solar City Halifax. On March 31, 2015, after a successful two year [pilot project](#), Halifax Regional Council approved the continuation of the Solar City Program for another three years. The Halifax City Charter was amended to enable the use of LIC mechanisms. The program offers homeowners in Halifax innovative solar energy options, which can be financed through a solar collector account with the Halifax Regional Municipality. 388 solar thermal systems were installed in the two years of the pilot. Over 2500 homes expressed interest and more than 800 people turned out to community meetings. 1,265 homes had water conservation measures installed free of charge over the pilot period. The installations are expected to save over \$5.5 million and 16.1 kg of CO₂ in their 25 year lifespan, and the water conservation measures are expected to save 320 million liters of water and \$120,000 annually over their lifespan.

Nelson EcoSave Energy Retrofits Program offers a simplified process for Nelson Hydro customers, who are homeowners, to have a home energy evaluation to determine what energy efficiency upgrades (retrofits) can be done to reduce energy consumption, lower GHGs, and to access current rebate offers. Nelson Hydro is owned by the City of Nelson. During the pilot phase, 434 Homeowners registered, 309 homes had an Energy Assessment, 107 had energy efficiency upgrades and 40 homeowners accessed the loan program. GHG savings per home: 71 GJ, taking the equivalent of 1,430 cars off the road. The program is one of the key strategies for the City of Nelsons Low Carbon Path to 2040, [Community Energy and Emission Action Plan](#).

Toronto's Home Energy Loan Program is a financing tool offered by Toronto to help homeowners overcome the high upfront cost of water and energy efficiency upgrades. The city provides funding to complete the improvements and the homeowner repays the city over time through installments on their property tax. The financing is attached to the property, not the homeowner.

By November 2015, 194 homeowners had received funding offers and 89 projects were completed or in progress. Completed projects reduced natural gas consumption by over 30 percent and abated 2.5 tonnes of GHGs annually.

Infrastructure Ontario provides financing to municipalities for the purpose of local (capital) improvement projects on public or private properties, the costs of which are recovered through local improvement charges. Municipalities take advantage of Infrastructure Ontario's affordable long-term rate and manage the program within their jurisdiction. They are responsible for lending to private property owners.

Our new 2015 retrofit report, "This Green House II" further explores how clarifying legislation for local government retrofit financing offers a spring board for climate action.

Download the full report online here: http://www.civicgovernance.ca/wordpress/wp-content/uploads/2016/03/ColumbiaInstitute_This_Green_House_II_FINAL.pdf.

"Buildings offer the largest share of cost-effective opportunities for GHG mitigation among the sectors examined in this report (...). Over the whole building stock the largest portion of carbon savings by 2030 is in retrofitting existing buildings and replacing energy using equipment."

4th Assessment Report of the UN Intergovernmental Panel on Climate Change, 2007

"Saving electricity needs about 1,000 times less capital, and repays it about 10 times faster, than supplying more electricity"

Amory Lovins, Chair and Chief Scientist of the Rocky Mountain Institute and Energy Efficiency Advisor to US government