

Extending Successful Energy Retrofitting Programs

Date: June 13, 2019

To: Infrastructure and Environment Committee

From: Director Environment & Energy and Executive Director Social Development
Finance and Administration

Wards: Ward(s) affected or All

SUMMARY

This report seeks City Council authorization to extend the Residential Energy Retrofit Programs until December 31, 2021 to authorize program enhancements including the expansion of eligible measures funded through the program. An update on program uptake and results is also provided in this report. Staff will report back with a plan for the continuation of the Programs until 2024 through the TransformTO 2021-2024 Implementation Plan in Q4 2019 and subsequently provide regular updates on the Programs through this consolidated process.

Launched in 2014, the Residential Energy Retrofit Programs have provided financing to support capital improvements (retrofits) for residential properties with energy efficiency and water conservation benefits. The Programs operate as two streams: the Home Energy Loan Program (HELP) for eligible houses; and the High-rise Retrofit Improvement Support Program (Hi-RIS) for multi-unit residential buildings. To date, almost \$14.9 million in financing has been committed to projects with over 202 properties participating in the program, which has resulted in an emissions reduction of over 4,000 tonnes of CO₂ equivalents.

By enabling energy efficiency, these Programs are also achieving a range of socioeconomic and environmental objectives identified in TransformTO, the Poverty Reduction Strategy and other key City of Toronto objectives including Tower Renewal. Through these programs, property owners have been able to undertake deeper, more comprehensive energy retrofits, thereby significantly reducing emissions while improving the quality of housing and maintaining affordability.

RECOMMENDATIONS

The Director, Environment and Energy and Executive Director, Social Development, Finance and Administration recommend that:

1. City Council authorize the extension of the Home Energy Loan Program (HELP) and the High-rise Retrofit Improvement Support (Hi-RIS) programs to December 31, 2021 using existing resources in the Local Improvement Charge Energy Works Reserve Fund and any LIC repayments (HELP and Hi-RIS) to support project and programming funding needs, including extension of one temporary project manager for the Hi-RIS program, and one temporary research analyst for the HELP program and direct the Director, Environment and Energy and Executive Director, Social Development, Finance and Administration to report back on key Program's outcomes through regular TransformTO reports to Council.
2. City Council authorize terms to maturity of up to 20 years from the current 15 year maximum for qualifying single-family Home Energy Loan Program projects to be consistent with the High-rise Retrofit Improvement Support program terms and aligning with asset lifecycle.
3. City Council amend the Residential Retrofit Program By-law (By-law 1105-2017) to expand the category of eligible measures to include energy efficient electric vehicle (EV) chargers and associated works, energy storage technology, and energy efficient resilience measures, as well as allow program participants to include the costs of an energy assessment as eligible project costs.
4. City Council authorize the Director, Environment and Energy Division and Executive Director, Social Development, Finance and Administration to develop a listing of contractors that have completed projects under the Programs, including a disclaimer that the City does not recommend, endorse or warranty the work of the contractor.
5. City Council authorize the Director, Environment and Energy Division and Executive Director, Social Development, Finance and Administration to negotiate and enter into all necessary agreements with Toronto Hydro, Enbridge Gas Distribution, Natural Resources Canada, Federation of Canadian Municipalities and other partners, in forms satisfactory to the City Solicitor, to support implementation of the Programs, as required.

FINANCIAL IMPACT

No additional financial commitments are required from the City to support the recommendations outlined in this report.

The 2019 – 2028 Council Approved Capital Budget and Plan for Facilities, Real Estate and Environment & Energy (FREEE) includes funding of \$2.390 million in 2019 to support the Home Energy Loan Program, with funding from the Local Improvement Charge Energy Works Reserve Fund (XR1724).

The 2019 Council Approved Operating Budget for Social Development, Finance and Administration (SDFA) includes \$4.0 million gross, zero net to support the High-rise Retrofit Improvement Support Program, with funding from the Local Improvement Charge Energy Works Reserve Fund (XR1724). The HELP and Hi-RIS programming requirements will be included in the 2020 Operating and Capital Submissions for the respective programs as may be required.

The Local Improvement Charge Energy Works Reserve Fund was established by the City with a \$20 million contribution from the Working Capital Reserve Fund to support a pilot implementation and will continue to be used as the funding source for its proposed extension.

To date, \$4.8 million has been committed to residents under the Home Energy Loan Program, and \$10.1 million under the Hi-RIS Retrofit Improvement Support Program.

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

EQUITY IMPACT

The Residential Retrofit Programs were analysed to assess a broad range of equity considerations. The Programs (HELP & Hi-RIS) are supportive of efforts to improve the quality of housing, and in-particular, affordable rental housing as it relates to the Hi-RIS program. Energy efficiency retrofitting is an important tool in addressing escalating energy costs which are an important consideration of the growing issue of energy poverty.

While HELP is accessible to any homeowner in Toronto, staff recognize that historic inequities have limited the levels of homeownership among equity seeking groups, in-particular women, indigenous people, people with disabilities, and racialized groups. Staff are actively working to improve more equitable access to the programs through participation in a Federation of Canadian Municipalities (FCM) funded program to assess energy poverty, staff are also focused on reaching a more representative group of Toronto's population (by translating marketing materials, direct community outreach) as well as efforts to engage key stakeholders, for example, seniors.

By providing financing in the rental apartment market, Hi-RIS is supporting the improvement of housing quality across Toronto. Hi-RIS is delivered as part of the City's Tower Renewal program which aims to improve older apartment towers and communities for an estimated 500,000 renters, approximately 50% of all renters in the city of Toronto which includes individuals with low incomes and newcomers. Many apartment tower clusters are located in areas of the City that have been designated Neighbourhood Improvement Areas (NIAs). To date, Hi-RIS has undertaken targeted outreach in NIAs to spur uptake for retrofits that benefit the residents of these buildings. In addition, as part of the Hi-RIS program, a restriction on Above Guideline Increases to rents is applied to the financing provided by the City which limits the impact of retrofit costs on apartment residents.

Staff are also actively supporting program applicants, even ineligible applicants, in accessing complementary programs including Toronto Renovates, and/or utility supported programs like the AffordAbility Fund and additional affordable housing incentives for multi-residential buildings.

DECISION HISTORY

At its July 2013 meeting, City Council approved an energy and water efficiency pilot program for the residential sector ([EX33.22/2013](#)) – the first municipality to do so in Ontario. Subsequently, the HELP and Hi-RIS Programs were launched in 2014 to support homeowners and the multi-unit residential building sector, respectively providing a \$20 million envelope split evenly between the Programs. Financing was provided to qualifying property owners interested in undertaking retrofit investments. The City Council Decision is available here:

<http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2013.EX33.22>

In April 2015, City staff provided an interim update on the progress of the pilot program to the Parks and Environment Committee ([PE3.2/2015](#)). The initial findings indicated a high level of interest in the programs as funding requests were higher than forecasted and program participants indicated a high degree of customer satisfaction. However, it was also reported that issues pertaining to lender consent had impacted some potential participants. The City Council Decision is available here:

<http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2015.PE3.2>

At its December 2016 meeting, City Council approved *TransformTO: Climate Action for Healthy, Equitable and Prosperous Toronto - Report #1* ([PE15.1/2016](#)). The report prioritizes energy efficiency within the residential sector as a key emissions reduction strategy to support the City's established GHG reduction targets i.e. 80% GHG reduction by 2050. TransformTO short-term actions include the Council approved business case to continue support for residential property owners using the HELP & Hi-RIS programs to accelerate greater uptake for the energy performance of existing homes and apartment buildings to help reach a cumulative GHG reduction target of 3,000 to 40,000 tonnes by 2020 (Item 1.5). The City Council Decision is available here:

<http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2016.PE15.1>

At its December 2016 meeting, City Council adopted the 2017 work plan and progress report for TO Prosperity - Toronto Poverty Reduction Strategy ([EX20.10/2016](#)). The 2017 work plan identifies the Hi-RIS program as an initiative that supports the recommendation to improve the quality and affordability of rental housing for all by supporting improvements and deterring property owners from passing down improvement costs to tenants. The City Council Decision is available here:

<http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2016.EX20.10>

In March 2017, City staff provided a Program Evaluation Report ([PE18.4/2017](#)) which presented the results of a third-party evaluation of the Residential Energy Retrofit Pilot Program. The report included seven recommendations for program refinements to further drive participation. At its April 2017 meeting ([PE18.4/2017](#)), City Council adopted all of the recommendations put forward in the Program Evaluation Report, including an extension of the program to December 3, 2018. The City Council Decision is available here: <http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2017.PE18.4>

In June 2018, City staff presented an update on the Programs, requesting an extension to December 31, 2019. Staff were asked to report back in 2019 with an evaluation of program outcomes and options for a permanent program. The report also authorized the Director, Environment and Energy and Executive Director, Social Development,

Finance and Administration to allocate a portion of the unused funding envelope attributed to the Home Energy Loan Program (HELP) to the High-rise Retrofit Improvement Support Program (Hi-RIS) as part of the extension of the programs, and include the staffing and funding resources needed for the extension in the 2019 Operating Budget Submission for Social Development, Finance and Administration. The report is available here:

<http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2018.PE27.4>

COMMENTS

HELP and Hi-RIS (the Programs) provide financing to support the uptake of energy and water efficiency retrofits in the residential sector. The Programs were designed to address key barriers to deep energy efficiency retrofits such as high, upfront costs, long simple payback periods and concerns around the long-term nature of these investments given the ownership horizon of these properties. To date, the Programs have had success in reducing over 4,000 tonnes of CO₂ equivalent emissions, improving housing conditions for an estimated 5,200 residents and fulfilling a market need for supporting property owners in undertaking deeper, more comprehensive building retrofits.

The Programs use the Local Improvement Charge (LIC) mechanism to levy a charge for the cost of the energy retrofit on participating properties with repayment facilitated through a special charge on the property tax bill. Using the LIC mechanism, the City is able to secure repayment with a priority lien on the property which greatly minimizes the risk to the City.

In Toronto, this model has been successful in creating a pathway for property owners to complete retrofits that have increased energy efficiency, reduced GHG emissions and improved the quality and comfort of housing for residents. The City of Toronto was the first Ontario municipality to use LIC financing in this way, and has developed Programs that successfully support deep energy retrofits needed to achieve the City's low carbon and resilience goals. Other cities and regions, as well as the Federal Government are examining the opportunity to use LIC-type financing approaches to financing energy retrofitting efforts.

1. HELP & Hi-RIS Program Participation, Uptake and Results January 2014 to April 2019.

As detailed in Figure 1, properties in every ward of the City have benefited from participation in the Programs, although uptake does appear to be concentrated in particular areas. City staff are undertaking initiatives to expand Program participation City-wide.

HELP and Hi-RIS Projects (2014-2019)

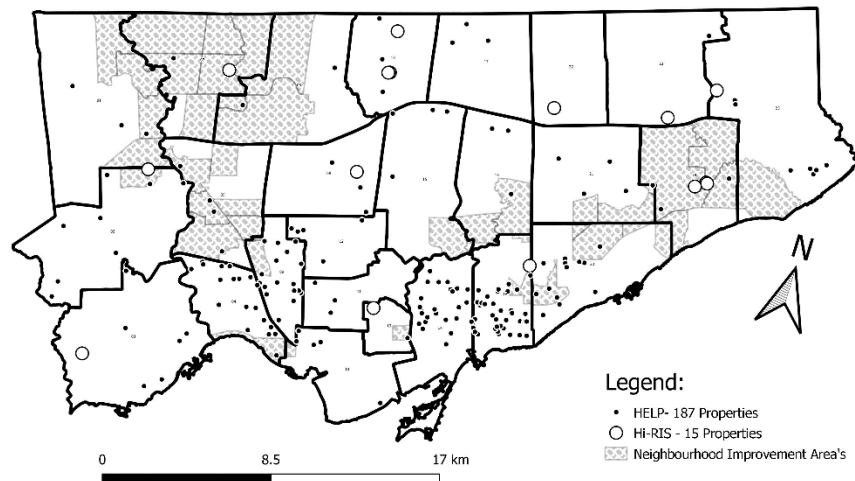


Figure 1: Map of HELP and Hi-RIS Projects city-wide

Table 1 provides a high-level overview of program participation, uptake and results. Since the program launch in March 2014, over 202 properties have completed or have projects underway and the total financing committed to date is \$14.9 million. It should be noted that both programs have experienced an increase in uptake since April 2017 primarily due to the addition of dedicated staff and resources. In 2018, the HELP program received more than a 100% increase in applications than it had in 2017. Additional staff resources and funding through TransformTO made it possible for staff to secure more than \$368,000 in Natural Resources Canada funding to broader support residential energy retrofit efforts, as well as contribute and benefit from involvement in a FCM funded project focused on addressing energy poverty, among other issues. From 2016 to 2017, Hi-RIS experienced an 88% increase in applications that has been sustained into 2018.

Table 1: Participation and Results

January 2014 to May 2019	HELP	Hi-RIS
Pre-applications/Expressions of Interest Received	886 properties	53 buildings
Retrofit Projects Completed and Committed (#)	187	15 buildings (2,200 units)
Retrofit Projects Completed and Committed (\$)	\$4.8 M	\$10.1 M
Number of Projects in NIAs	23	5 buildings (596 units)

January 2014 to May 2019	HELP	Hi-RIS
Jobs Created or Supported ¹	67	140
GHG emissions reduction to date	550 tonnes of eCO ₂	3,500 tonnes of eCO ₂

Additional benefits identified by program participants and tenants have included improved thermal comfort and reduction in noise for residents. The programs are also seen to provide property owners with a trusted mechanism to make improvements that can be combined with other City and utility programs (e.g. basement flooding protection program, energy conservation incentives). The extended loan terms enable deep retrofits, significant operating cost savings and consequently, increase building reinvestment by freeing up funds for other projects.

Typical Project Profile

Table 2 provides an overview of a typical projects funded through HELP and Hi-RIS

	HELP	Hi-RIS
Average project cost	\$22,000	\$735,000
Average operating cost savings per year	\$560	\$13,000
Average total energy reduction per year	30%	19%
Average Greenhouse gas emissions reductions	28%	21%
Average project completion timeline	4 - 6 months	15 -17 months
Types of energy efficiency retrofit measures undertaken	Windows and doors, heating system, insulation, air sealing	Windows and balcony doors, roof, boilers, elevator motors, BAS

The Programs have demonstrated significant impact in driving deep energy retrofits that have resulted in numerous benefits for property owners and residents. The potential for

¹ Building an Ontario Green Jobs Strategy (2017). This number reflects a multiplier of 13.41 jobs for every \$1,000,000 spent on retrofitting. https://d36rd3gki5z3d3.cloudfront.net/wp-content/uploads/2017/04/EDEF_GreenJobsPrimer-WebRes-FINAL-FINAL.pdf?x47766

these programs are significant especially when considering the wider Canadian energy efficiency industry which was estimated to have operating revenues of \$86.2 Billion and provided 436,000 jobs in 2018.² Through these Programs as well as other TransformTO strategies and initiatives, staff aim to drive this scale of growth in retrofits across Toronto.

At the moment, no other dedicated energy retrofit financing tool that utilizes LIC exists in the Toronto market. Therefore, to meet market needs and demand, while realizing the various co-benefits generated through these Programs, an extension until the end of December 2021 is requested. An integrated plan for a full program will be provided as part of the TransformTO 2021 to 2024 Implementation Plan.

Additional Recommendations for Program Development and Enhancement

Staff have been exploring ways to enhance various program elements to further increase program uptake, and support broader residential energy retrofit action. These efforts have included the following:

- Engaging banks and other mortgage lenders to address issues around lender consent and LIC disclosure
- Advancing complementary policy objectives, including building energy labelling and disclosure
- Enhancing program offerings, improving program workflows and examining opportunities to decrease administrative costs, while delivering excellent customer service
- Advocating to the Federal government for policy changes to benefit Program uptake and scale up

Engaging Lenders and the Canadian Banking Association

The City engaged the Canadian Banking Association (CBA) and its members, as well as individual banks and lenders to give financial institutions a better understanding of the program and support our respective clients in navigating the process. The City also developed a LIC Disclosure page on the City's website to assist banks in identifying which properties were subject to the LIC By-Law (in addition to publicly posted by-laws). Staff remain interested in collaborating with banks, investors and other lending institutions to support property owners in pursuing the deep energy retrofits that support the City's socioeconomic and environmental objectives.

To date, the City has interacted with over 44 banks and mortgage lending institutions to support applicants through the lender consent process. With respect to the HELP program, the City has seen an increase in the number of banks approving HELP participation, and/or establishing internal processes to support their clients in assessing eligibility. Staff believe this could be improved in collaboration with the banking industry and other municipalities developing LIC financing programs.

² Energy Efficiency Employment in Canada (2019) <https://www.eco.ca/research/report/energy-efficiency-canada/>

Policy Tools

The City is a leader in its work on the Energy & Water Reporting and Benchmarking (EWRB) policy. This work is currently focused on buildings above 50,000 square feet. Staff have begun an active examination of jurisdictions around the world that have applied this concept of energy labelling and disclosure to single family residential buildings. Staff will be bringing forward recommendations for household level energy labelling program once additional research and consultation has been conducted. This labelling effort should be viewed as a means of encouraging widespread energy efficiency efforts aligned with providing better consumer protections to home-buyers.

The Role of Federal and Provincial Leadership and Support

Policy, programming and funding changes from other levels of government will likely have a material impact on the City's emissions profile and the opportunity to drive reductions in energy usage and emissions from the residential sector. Policy and programming changes at the provincial level, including cancellations to the Province's broad range of conservation demand management programs will have an impact on the extent to which cities, not least Toronto, are able to encourage, incent and deliver on our emissions reduction goals.

City staff continue to advocate to senior levels of government, provincial and nationally, for the policy and regulatory changes necessary to broadly scale retrofitting, such as changes to mortgage insurance rules that currently inhibit consent from financial institutions among other issues.

Program Design & Enhancement Recommendations

In addition to supporting the range of activities above, staff are also recommending a number of program changes and enhancements through this report. The descriptions below provide supplementary details and rationale for program design changes and recommendations outlined earlier in the report.

Expand the financing terms for up to 20 years on qualifying projects for the HELP Program.

Staff recommend expanding the options of terms to 20 years for qualifying projects, including solar photovoltaic/solar thermal, geothermal and air source heat pumps. Recognizing the program requirements, this extended term would only be allowed on projects with an average estimated useful life of 20 year or more. The option to extend payback terms would make the program more accessible and affordable to program participants, a key equity consideration of program design. It would also help participants in undertaking deeper, more comprehensive projects. An ability to offer terms of 20 years on these projects would support the City in meeting its goals toward increasing use of renewable energy, as well as potentially off-setting demands on the electrical grid, especially as the use of electricity increases.

Allow program participants to include the costs of the Energy Assessment as an eligible project cost.

Recognizing numerous Provincial policy and programming changes, there has been a direct impact on the utilities that typically cover the costs of the energy assessment, staff recommend the Programs have the option to include the costs of the energy assessments less any rebates or incentives. Pre and post retrofit energy assessments, and other building energy evaluations are a key input to the identification of retrofit measures, a means to ensure retrofits have been completed correctly, and that energy savings and greenhouse gas emissions reductions are being realized.

Expand the category of eligible measures to include Electric Vehicle Supply Equipment, energy storage technology, and energy efficient resilience measures

Recognizing the role the electrification of transportation will need to play in meeting TransformTO targets, staff recommend including the costs associated with the installation of permanently affixed, energy efficient and certified, Level 2 and Level 3 Electric Vehicle Supply Equipment (EVSE) as eligible expenses. This recommendation is aligned with complementary objectives and actions identified in the City's EV strategy.

Staff are also recommending that energy storage technologies be included as an eligible expense, recognizing the complementary role energy storage could play alongside already eligible technologies, like renewables, and the proposed inclusion of electric vehicle chargers. As the need to electrify increases, demands on the grid will intensify. The development of integrated solutions to better manage energy is a critical element of grid resilience. The inclusion of battery storage would provide property owners with increased resilience and energy security.

Allow the City to have a listing of contractors that have completed projects under the program, while fully disclaiming that the City does not recommend, endorse or warranty the work of the contractor.

One of the barriers of facing property owners when undertaking improvements is the challenge and time that it takes to find a trustworthy contractor. Currently, there is a list of qualified HVAC contractors that the Independent Electricity System Operator (IESO) has available for all Toronto homeowners, in support of their Heating and Cooling Rebate program. Similarly, earlier in 2018, the Ontario government through the Green Ontario Fund (GreenON) published a list of qualified contractors specializing in windows, insulation, air source or ground source heat pumps and air sealing. When this list was publicly available, staff felt there was no need for the City to develop a roster of contractors as well. Provincial policy changes and the cancellation of GreenON have meant this list is no longer available. To support potential program participants and improve customer experience, staff are recommending a simple list be developed to support program participants in identifying potential contractors.

Identifying and Mobilizing Sources of Capital for Project Funding

Staff are actively assessing various opportunities for continuation of the Programs through a variety of potential options. These options will be further explored through the forthcoming TransformTO Implementation Plan, in consultation with relevant divisions.

CONTACT

Fariha Husain, Project Manager, Tower & Neighbourhood Revitalization
Social Development, Finance & Administration Tel: 416-392-9688
Email: fariha.husain@toronto.ca

Stewart Dutfield, Program Manager, Public Energy Initiatives – Existing Buildings,
Environment & Energy Division Tel: 416-392-6861
Email: stewart.dutfield@toronto.ca

SIGNATURE

Jim Baxter, Director
Environment & Energy Division

Chris Brillinger, Executive Director
Executive Director Social Development, Finance and Administration