

Design Principles for Retrofit Financing Programs and Funding Solutions to Support Building Decarbonization

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To: Infrastructure and Environment Committee

From: Executive Director, Environment and Climate Division

Wards: All

SUMMARY

Existing buildings are Toronto's largest source of greenhouse gas (GHG) emissions, accounting for approximately 58% of total community-wide emissions. In July 2021, City Council adopted the Net Zero Existing Building's Strategy (the Strategy) to address the challenge of achieving net zero emissions from existing buildings. The Strategy was developed with a net zero by 2050 target, which was then accelerated to net zero by 2040 upon City Council's adoption of the TransformTO Net Zero Strategy (TransformTO) in December 2021 ([2021.IE26.16](#)).

The Strategy identified nine actions for the City to undertake to achieve net zero emissions from existing buildings and estimates that retrofitting existing building stock to net zero performance levels by 2050 will require more than \$145 billion beyond business-as-usual investment by all levels of government and the private sector. Amongst other actions, the Strategy identified the need for mandatory emissions performance standards; integrated retrofit support to make retrofits easier and more affordable; and the expansion and enhancement of retrofit financing. The Strategy also presents the potential impacts on emissions, costs, and the co-benefits of resilience, social equity, health, and local economic development.

This report focuses on considerations for future retrofit funding programs and the City's role informed by the following design principles:

- Drive Market Transformation
- Ensure Long-term, Financial Sustainability for the City
- Attract Third-Party Investment to Support Retrofits
- Leverage Municipal Tools and Expertise
- Deliver a High-Quality Customer Experience

This report also provides:

- An overview of The City's role in identifying funding solutions and developing programs to enable decarbonization.
- The proposed use of a \$500,000 budget allocation for a credit enhancement to support scaling up the Home Energy Loan Program (HELP); and
- A summary of current retrofit funding solutions and financing programs available for both low-rise residential buildings (detached, semi-detached, row houses, small multi-unit residential) and large buildings (large multi-unit residential buildings (MURBS), commercial and institutional buildings).

A companion report (*Update on the Net Zero Buildings Strategy and Implementation of Mandatory Emissions Performance Standards*) provides progress updates on the other key actions identified in the Strategy, as well preliminary findings from work underway to realign the modelling and proposed pathways in the Strategy with the accelerated net zero by 2040 TransformTO target.

The Environment and Climate Division is in the process of developing policy actions and new and enhanced programs including funding solutions to further enable decarbonization of homes and buildings. Informed by the design principles set out in this report, staff will develop program offerings that will maximize the City's available resources and determine where to focus efforts to meet building owner and occupant needs. This approach recognizes the financial challenges the City faces in allocating significant new operating funds or City funded financing to support new programs and initiatives

It will be imperative to identify new and innovative funding solutions and collaborate with other levels of government, the financing community, and community at large to achieve the scale of retrofits necessary to meet our targets. This will be increasingly critical as the City works to introduce mandatory emission performance standards in the coming year.

These initiatives are expected to be implemented in 2024.

RECOMMENDATIONS

The Executive Director, Environment & Climate, recommends that:

1. The Infrastructure and Environment Committee receives this report for information.

FINANCIAL IMPACT

There are no immediate financial implications resulting from this report.

Financial impacts to the City, related to future Net Zero Existing Buildings Strategy (2024-2027) actions, continue to be refined and will be included in future budget submissions, beginning with the 2024 budget.

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

EQUITY IMPACT

Co-benefits of decarbonization and climate action are central to the City's TransformTO goals associated plans and strategies, including the Net Zero Existing Buildings Strategy. Implementing successful building retrofit activities have the potential to reduce emissions while improving the quality and health of buildings for their occupants. By directly or indirectly encouraging and supporting these efforts the City is aware that affordability, specifically as it relates to housing and energy costs are significant considerations that need to be addressed, amongst others.

The City has an important role to play in protecting the interests of equity deserving communities who could be negatively impacted directly or indirectly by efforts focused on building decarbonization (e.g., housing displacement). The City also has a role to play in ensuring decarbonisation activities supported by other levels of government, industry, utilities, and the broader private sector are designed and implemented with equity in mind.

DECISION HISTORY

On February 15, 2023 City Council adopted the 2023 Operating and Capital Budgets (MPB4.1) and authorized an increase the 2023 Operating Budget for Environment and Climate Division, on a one-time basis, by \$500,000 for a credit enhancement program to support scaling up the Home Energy Loan Program, subject to a second quarter report to the Infrastructure and Environment Committee with program implementation details and a sustainable funding solution, including identifying third party capital, funded by the Local Improvement Charge Energy Works reserve fund that would normally be used as capital for a limited number of home retrofits. <https://secure.toronto.ca/council/agenda-item.do?item=2023.MPB4.1>

On March 29, 30 and 31, 2023, City Council adopted "Home Energy Loan Program - Review of Eligibility Requirements" (2023.IE 2.3) and approved changes to the Residential Energy Retrofit Program in accordance with recommendations included in the report. <https://secure.toronto.ca/council/agenda-item.do?item=2023.IE2.3>

On May 10, 11 and 12, 2023, City Council adopted " TransformTO 2022 Annual Report: Laying the Foundation for Net Zero" (2023 IE 3.3) which included an update on short-term implementation actions for the TransformTO Net Zero Strategy. As part of this report, it was identified that significant investment from all levels of government, the private sector and community at large would be required. <https://secure.toronto.ca/council/agenda-item.do?item=2023.IE3.3>

On July 19, 20, 21 and 22, 2022 City Council authorized changes to the Sustainable Energy Plan Financing program to extend the maximum debt service

period for financing from 20 years to 30 years to further enable investments required to meet the accelerated TransformTO Net Zero target.

<https://secure.toronto.ca/council/agenda-item.do?item=2022.IE31.9>

On December 15, 2021, City Council adopted TransformTO - Critical Steps for Net Zero by 2040, endorsing accelerated community-wide greenhouse gas reduction targets including net zero greenhouse gas emissions by 2040.

<https://secure.toronto.ca/council/agenda-item.do?item=2021.IE26.16>

On December 15, 2021 City Council authorized the extension of the Home Energy Loan Program component of the Residential Retrofit Program from its current expiration date of December 31, 2021 to make the Program permanent, using existing resources in the Local Improvement Charge Energy Works Reserve Fund as well as funding provided by the Federation of Canadian Municipalities to support project and programming needs.

<https://secure.toronto.ca/council/agenda-item.do?item=2021.IE26.17>

On July 14, 2021, City Council adopted the report - Net Zero Existing Buildings Strategy (2021.IE23.1). In adopting that report, City Council endorsed the Net Zero Existing Buildings Strategy and nine key policy actions that the City could implement to enable and accelerate the uptake of retrofits by building owners while maximizing potential co-benefits and minimizing potential harms to owners and tenants.

<https://secure.toronto.ca/council/agenda-item.do?item=2021.IE23.1>

At its meeting of October 2 and 3, 2019, the City Council declared a Climate Emergency and endorsed a net zero greenhouse gas emissions target that is in line with keeping global average temperature rise below 1.5 degrees Celsius by adopting MM10.3 entitled "Declaring a Climate Emergency and Accelerating Toronto's Climate Action Plan".

<https://secure.toronto.ca/council/agenda-item.do?item=2019.MM10.3>

COMMENTS

TransformTO Overview

The TransformTO Net Zero Strategy (TransformTO NZS) is the City's climate action strategy to reach net zero greenhouse gas (GHG) emissions by 2040 and was adopted by City Council in December 2021. It includes a set of low-carbon goals and short-term actions to reduce Toronto's GHG emissions while improving health, encouraging economic growth, improving social equity, and increasing climate resilience. The TransformTO NZS identifies key GHG emitting sectors – buildings, transportation, and waste. Achieving Toronto's goals will require:

- Coordination and accountability across all City divisions, agencies and corporations;
- Engaging with Toronto residents, organizations and businesses;
- Seeking additional City authorities to effectively scale-up and implement strategies and programs; and

- Significant investment and coordination with other orders of government.

The full financial impacts for the required investments to achieve net zero by 2040 are still to be determined. Technical modelling from 2019 suggests that over the next thirty years, the total investment required by the entire community, that is, the City, the business community, other levels of government, and individual residents, to retrofit existing buildings is \$145 billion. Annual investments between \$4-9 billion per year will be needed over the next 17 years, with most investments needed in the near term.

This number includes the financial investments made by homeowners towards retrofitting an estimated 476,000 homes and buildings, or about 27,000 home retrofits each year until 2040, as well as individual purchases of 333,000 electric vehicles before 2030. These investments will need to be complemented by provincial government actions to support and maintain a clean and carbon-free provincial electricity grid.

The City will work to regulate, advocate, and facilitate transformation in five priority areas:

- Demonstrate carbon accountability by establishing a carbon budget for its own operations and the community as a whole;
- Accelerate a significant reduction in natural gas use;
- Establish emissions performance standards for existing buildings across Toronto;
- Increase access to low-carbon transportation options, including walking, biking, public transit, and electric vehicles; and
- Increase local renewable energy to contribute to a resilient, carbon-free grid.

The Net Zero Existing Buildings Strategy (the Strategy)

The building sector is the primary source of GHG emissions in Toronto, contributing 58% of the community-wide total (2020 GHG inventory). The Net Zero Existing Buildings Strategy (the Strategy) was adopted by City Council in July 2021 ([2021.IE23.1](#)) as a contributing plan to facilitate the implementation of the City’s climate goals. As outlined in Table 1 (below), the Strategy presented a set of nine critical actions for the City to consider in reducing emissions from the community-wide building stock. The Strategy targets all building types and owners across Toronto and envisions improving building enclosures (insulation, windows/doors, etc.) while shifting heating energy use in existing buildings from fossil fuel heating systems to efficient heat pumps powered by a low carbon electricity grid.

Table 1. Overview of Nine Recommended Actions in the Strategy

Purpose	Action(s)
Set requirements to assess building performance and create a path to net zero	1. Require annual emission performance reporting and public disclosure for all existing buildings 2. Establish emissions performance standards 3. Require energy and emissions audits and tune-ups

Purpose	Action(s)
Provide support and resources to make retrofits easier and more affordable	4. Provide integrated retrofit support 5. Expand and enhance retrofit financing 6. Support permitting and approvals processes for deep retrofits
Lay the groundwork for market transformation	7. Build awareness and capacity of home and building owners for emission reductions strategies and supports 8. Support workforce development and training 9. Advocate and partner with other levels of government

Retrofitting all buildings across Toronto represents a significant challenge that will require various technical, financial and policy solutions to drive emissions reduction in such a broad range of buildings. Recent preliminary analysis to re-align the technical modelling and pathway analysis for the Strategy to a net zero by 2040 target (updated from 2050) found that current market conditions have resulted in a significant increase in the upfront capital costs required (a 37% increase over pre-pandemic prices).

These cost increases may direct some building owners towards fuel-switch focused retrofit packages that are less costly and easier-to-implement. The recalibration also highlights the importance of the requirement to decarbonize the Provincial electricity grid. Please refer to the report to Council titled *Update on the Net Zero Existing Buildings Strategy and Implementation of Mandatory Emissions Performance Standards* for additional details on the Strategy recalibration.

These preliminary findings will inform the City’s approach to stakeholder consultations as well as the development of future programs. As identified in the Strategy action to expand and enhance retrofit financing and explore funding solutions that support greater access to low-cost financing for retrofit projects will be critical.

Design Principles for Retrofit Financing Programs

Informed by engagement with those delivering retrofit projects and programs, the following design principles have been identified in informing the development of future retrofit financing programs. These principles will also inform further engagement with stakeholders, including third party financing organizations, industry stakeholders and community-based and non-governmental organizations.

1. Drive Market Transformation

- Catalyze opportunities to meet the City's ambitious net zero by 2040 target driven by City leadership through the introduction policy of tools and programs.
- Support the evolution and growth of the retrofit ecosystem in Toronto.
- Provide certainty to building owners and service providers by setting clear expectations.
- Enable rapid action to both scale up programs and drive significant levels of investment and coordination with other levels of government.

2. Ensure Long-term, Financial Sustainability for the City

- Advance the development of new retrofit financing programs recognizing the financial challenges facing the City.
- Enabling community wide financing from private lenders and other levels of government recognizing the scale of investment in transformation required.
- Use City funding during a transitional period and/or to support specific typologies of buildings in jump-starting retrofit activity.
- Explore innovative funding and financing approaches that can be scaled to meet the demands of the building retrofit market.

3. Attract Third-Party Investment to Support Retrofits

- Mobilize investment from financial institutions, impact investors, and other lenders to either capitalize new/enhanced programs and/or provide direct lending to property owners.
- Develop frameworks to support funding for retrofits recognizing that it will be imperative to collaborate with all levels of government, the private sector and community at large to achieve the scale of retrofits necessary to meet our targets.
- Use policy tools to provide certainty to building owners and lenders to enable the business case for retrofit funding solutions.

4. Leverage Municipal Tools and Expertise

- Leverage policy tools (e.g., emissions performance standards), and where appropriate municipal funding, to drive outcomes through collaboration with delivery partners to support building sector innovation and to scale-up retrofitting activity.
- Coordinate internally on the design and delivery of financing programs.
- Develop awareness and resources to socialize and advance climate action in the building sector.
- Develop resources and guidance materials to support and inform building decarbonization.

5. Deliver a High-Quality Customer Experience

- Enable a frictionless experience for building owners and tenants through simple, streamlined processes and enhanced customer support to reduce known/typical barriers to program participation and retrofit project implementation.
- Conduct broad stakeholder engagement, including equity deserving communities, in the design and development of future retrofit financing programs.

A central consideration for City staff is equity and affordability. Recognizing the significant costs associated with retrofitting, a detailed analysis of the equity and affordability impacts is required to mitigate negative impacts and enable the suite of positive benefits for equity-deserving groups. Work to develop next generation programming will focus on identifying how the City's decarbonization efforts will help address the City's housing and affordability objectives, with specific consideration for rental properties and their tenants.

While the priority is to explore financing solutions that do not add further pressure to the City's debt load, opportunities may exist to utilize the Toronto's Green Debenture program as an option for raising capital for next generation programs. The City of Toronto was one of the first municipalities to establish a Green Debenture Program in Canada – issuing its first green bond in 2018. Funding the Home Energy Loan Program (HELP) and High-Rise Retrofit Improvement Support Program (Hi-RIS) is eligible through this program (although not currently used) and expanded application of this tool may be possible to support other programs.

Given the scale of capital required – the City is likely to have a limited role in directly financing projects but has a significant leadership role to play in market transformation and growth for decarbonization. As the City works to define the details on how to further enable retrofit activity, including potential next generations programs it's necessary to assess the scale at which the City would be directly or indirectly involved in retrofit financing programs as the capital and staffing resources required are significant. Certain sectors (e.g., small MURBs, affordable housing, condominiums) will require additional support to enable decarbonization projects and catalyze action. These sectors represent areas in which City leadership is needed to generate retrofit activity

The City's Role in Identifying Funding Solutions

Recognizing the challenges in the marketplace and that the industry capacity to support deep retrofitting for all building typologies is still maturing, additional work is still required to develop the capacity in various building sectors to scale up building retrofits.

The City will play an important role in catalyzing and enabling retrofits by providing clear policy direction through mandatory emissions performance standards (EPS), as well as direction or supports for retrofit support services and related expertise. A key role for the City will also include awareness and engagement with buildings owners, targeted at addressing the unique challenges and opportunities for decarbonization for various stakeholders.

City staff have also been actively engaging with lenders, other levels of government, associations, and property owners to identify opportunities to support including technical education, business case development, and financing support. Opportunities exist to work more closely with financial organizations, including major banks in taking on a larger role in directly funding decarbonization projects. There may be a role for the City as an aggregator of potential projects to bundle multiple projects for funding from the same capital source, working in collaboration with commercial lenders or other funders, however additional analysis and stakeholder consultation is required to define the most effective role for the City and broader market transformation. Staff are also exploring how the City's limited funding could be used for direct project financing to be most impactful.

The Use of Local Improvement Charges (LIC)

The City has played a catalysing role previously. For example, when the City launched the Home Energy Loan Program (HELP) in 2014, it was one of the first local improvement charge (LIC) financing programs in the country. This program has been complemented by incentives and funding from other levels of government to support retrofits in low rise residential. This program has proven to be a viable concept and several similar programs modeled after HELP have been developed and launched by municipalities across the country which include Edmonton's Home Energy Retrofit Accelerator program (HERA) and Ottawa's Better Homes Loan Program.

The scale of funding required to sustain the level of retrofitting required to meet our objectives is significant. Municipalities, including the City of Toronto recognize that we lack the available resources to fully fund the level of activity required to meet our retrofitting goals. The LIC model could be a viable option that could be replicated using alternate sources of funding.

The City's experience operating LIC programs shows these can be a viable funding mechanism for a subgroup of building owners, and LIC programs could potentially be expanded using external funding. It is important to note that LIC programs are not the best mechanism for all building owners, and other subgroups will use other sources of retrofit financing.

The Use of Credit Enhancements

In February of 2023, Council authorized an increase of \$500,000 in the Environment and Climate Division's 2023 Operating Budget, for a credit enhancement to support scaling up the HELP funded by the Local Improvement Charge Energy Works reserve fund on a one-time basis.

A credit enhancement is a strategy for improving the credit risk profile of a business, usually to obtain better terms for repaying debt, and examples may include funds that protect lenders from loss or are used to offset borrowing costs as well as features to guarantee repayment. There are other municipalities that have developed funding models that utilize credit enhancements to reduce the interest rate from third party funding to encourage participation.

At present these funds have not been utilized as additional work is required to determine the most effective means of leveraging this funding. The \$500,000 allocation of the credit enhancement will be carried over into the 2024 budget year to support next generation programming.

If the City chose to utilize third party capital, a credit enhancement could be used to buy down the costs of third-party capital. Other options for credit enhancement include a loan loss reserve or City guarantee, but a more significant fund would need to be established to create a new framework at a scale attractive to lenders (i.e. to offset the efforts required to create a new program and provide certainty to operate at scale).

City-Led Action to Drive Building Decarbonization

Staff recognize that programs will need to develop as the market evolves. In discussion with key stakeholders, including financial organizations the critical importance of mandatory emissions performance standards (EPS) has been noted as essential and will send a signal for building emission performance expectations and incite action by stimulating market transformation and motivating decarbonization efforts.

Setting these standards will provide confidence that investment in improvements to buildings will pay-off in the long-term. These standards will also help lenders to make the business case to lend to building owners using existing financial instruments such as through mortgages or operating loans. Refer to the report to Council titled *Update on the Net Zero Existing Buildings Strategy and Implementation of Mandatory Emissions Performance Standards* for more information. Staff plan to further engage with the banking industry, building sector and government to identify the needs and opportunities for mobilizing additional capital to support retrofitting activity.

The City must prioritize actions that maximize impact and develop new programs including identifying additional financial supports for building decarbonization. As the depth and scale of retrofits increases, the market will mature, and traditional private sectors will likely expand retrofit financing offerings to recognize low carbon building value streams and increase the amount of capital available.

As private sector financing of net zero retrofits expands, the City can transition financing resources to public and private sector partners to focus on the deepest and most challenging projects. City supports will likely be needed to address challenges in specific markets. For example, condominiums will increasingly require the ability to access financing and technical services to undertake building retrofits. Given considerations like ownership structures and condominium corporation restrictions on borrowing, significant effort will be required to support aging condominiums in retrofitting. At present programs to support condominium retrofits are extremely limited.

Recognizing the limitations on the City's ability to currently provide tax supported financing or incentives, staff are actively exploring opportunities to secure alternative funding for retrofit projects. The City will continue to expand partnerships and collaboration with other levels of government and non-governmental organizations (NGOs)'s to create an investment ready environment for building owners who are committed to net zero retrofits. The City of Toronto has been actively engaging a broad range of stakeholders and seeking out opportunities for collaboration. As an example, City staff have been collaborating with colleagues from The Atmospheric Fund's (TAF) Retrofit Accelerator team to enable several deep retrofit projects. These hands-on projects have provided invaluable insights into the opportunities and challenges associated with delivering deep retrofit projects, including non-financial challenges. For example, the limited expertise available to develop these projects and the lack of skilled labour.

Non-financial supports are also needed to build out the marketplace and provide building owners with resources to plan and execute on decarbonization projects. In delivering current programs staff have provided significant one-on-one support to

building owners in navigating the retrofit journey (e.g., understanding best practices/planning a decarbonization project and navigating incentive programs). It will be necessary to expand delivery of retrofit supports including the development of retrofit guidance and tools, as well as retrofit coaching services. Further consideration is required to assess a scalable and cost-effective approach. This needs to be carefully coordinated with the City's introduction of further policy, including by-laws specifically emphasizing carbon emissions reductions and plans to implement emissions performance standards.

As identified in the Strategy, while the City has a critical role to play in scaling up retrofitting it needs to be a collaborative effort between all levels of government and the private sector. To meet the net zero by 2040 target, the Federal and Provincial governments will need to introduce new grants and loan programs that recognize the high cost of net zero and the lack of available resources. Engagement with the Province of Ontario will be needed to enable City led policy changes as well as funding and program support to meet net zero objectives.

Current Retrofit Funding Solutions and Financing Programs

City of Toronto Retrofit Financing Programs

The City currently operates four retrofit financing programs that provide home and building owners with support to identify, finance and implement low carbon retrofits. These programs feature unique eligibility requirements to maximize the diversity of eligible building types that can be supported.

The programs include:

- Home Energy Loan Program (HELP)
- Energy Retrofit Loan Program (ERL)
- High-Rise Retrofit Improvement Support Program (Hi-RIS); and
- Taking Action on Tower Renewal (TATR)

Home Energy Loan Program (HELP)

The City's Home Energy Loan Program (HELP) provides Toronto homeowners access to low-interest loans of up to \$125,000. This financing can cover the costs of a wide range of decarbonisation and energy efficiency measures including air-source heat pumps, window/door replacements, rooftop solar photovoltaics, electric vehicle chargers and more.

Energy Retrofit Loan (ERL) Program

The Energy Retrofit Loan program supports low carbon retrofit implementation through long term fixed rate financing. Nearly all building types can apply for funding to support a broad range of eligible measures and technologies. Project funding is delivered through the Sustainable Energy Plan Financing (SEPF) - Recoverable Debt financing mechanism. Qualified participants can access up to 100 per cent of project costs at a

rate equal to the City's cost of borrowing, with repayment terms up to 30 years for qualifying projects. Please refer to the report to Council titled *Update on the Net Zero Existing Buildings Strategy and Implementation of Mandatory Emissions Performance Standards* for more information on recent HELP and ERL program activities.

High-Rise Retrofit Improvement Support Program (Hi-RIS) and Taking Action on Tower Renewal (TATR)

The City of Toronto's Hi-RIS program is specifically targeted at supporting apartment building owners in reducing energy use and water consumption. Through Hi-RIS participants can access up to \$2M in Local Improvement Charge (LIC) financing for multi-unit residential building retrofits. In May of 2023 the City launched the Taking Action on Tower Renewal (TATR) program as part of an ongoing effort to support apartment building owners and operators in making improvements to buildings. The program is intended to support eligible property owners in completing retrofits that will increase energy efficiency and help reduce greenhouse gas (GHG) emissions while maintaining affordability and improving tenant comfort.

Both Hi-RIS and TATR can support holistic building retrofits and utilize the LIC financing mechanism (like HELP) and are subject to primary lender consent, which may restrict participation for mortgaged buildings (the majority of buildings).

These programs are not able to provide the level of financing required to reach the City's net zero by 2040 target. In addition to programs that enable projects financially, the City operates the Navigation and Support Services Program, the Green Will Initiative, among other programs to support building retrofits. Please refer to the report to Council titled *Update on the Net Zero Existing Buildings Strategy and Implementation of Mandatory Emissions Performance Standards* for details on recent program activities.

External Retrofit Funding Solutions

Various programs and funding solutions currently exist to support private building owners with retrofitting their buildings. In the low-rise residential sector these include programs administered by Enbridge Gas and the Canadian Mortgage and Housing Corporation (CMHC). For larger buildings programs have been introduced by the Canadian Infrastructure Bank (CIB), Canadian Mortgage and Housing Corporation (CMHC) and the Federation of Canadian Municipalities (FCM). These programs are largely federally funded and nationally focused. Local provincially funded utility programs provide some support however there are no programs designed to support decarbonization and the pathway to net zero. While these programs are helping to fund retrofit activity, they are limited in the buildings sectors/typologies they can support and are insufficient to sustain the level of retrofit activity required to decarbonize existing buildings.

Challenges to Scaling Building Decarbonization

Overall, the level of retrofit project support and available funding is far below the level required to meet the scale and pace of retrofits required to meet the City's net zero by 2040 target. The preliminary results of the net zero recalibration work on the Strategy described above have demonstrated that scaling Toronto's net zero building retrofit projects is challenging as the current business case for net zero retrofits is less attractive due to increased capital costs, however fuel-switch-focused packages for all building sectors are now less costly and easier-to-implement.

Based on longer term economic expectations, and as economics of scale for retrofits continue to develop, it is expected that the business case for net zero retrofits will improve as it has improved over previous years. The increase in upfront capital for retrofits may direct some owners towards more fuel-switch dominant retrofit packages, particularly in residential buildings, in the short- and medium-term, should by-laws or other regulations be put in place to drive change.

Although retrofit codes are under development and the co-benefits from retrofitting can be great, there are currently no legislated requirements and no major imperative based on business case for owners to voluntarily improve their buildings. The introduction of mandatory emissions performance standards for all existing buildings that will require improved emissions performance over time will help provide a reasonable and achievable pathway for building owners to improve their buildings.

The majority of building owners, including those of large commercial buildings, condominiums, small and medium buildings, and mid-rise apartment buildings, are not likely to qualify for existing public grant and loan programs. Lenders have made substantial financial pledges to increase sustainable or green project financing, however, the business case for net zero retrofits is often challenging and regulated lenders are unlikely to deliver the required financing on their own. As highlighted previously, specific building sectors may face additional challenges, for example condominium building whose reserve funds are already stressed by post pandemic inflation. Providers of affordable and supportive housing represent another sector facing significant challenges.

Next Steps

Informed by the design principles set out in this report, the Environment and Climate Division is developing new and enhanced programs and identifying funding solutions to enable building retrofits. These programs will be developed in coordination with policy implementation, notably the introduction of emissions performance standards (EPS). Even though the City will continue to play a leadership role in advancing building retrofits, support, including financial support from other levels of government, the financing community and community at large is imperative to meet the City's net zero goals.

Future updates on the progress of the Strategy implementation, including the development of next generation programs will be provided in 2024.

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SIGNATURE

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