ACTIONS

Photo courtesy of Jesse Colin Jackson

INTRODUCTION

The ILEO Retrofit Advisory Group conducted a thorough examination of opportunities and actions related to addressing the capital gap that hinders deep retrofit projects while ensuring both housing affordability and optimizing the tenant experience during and beyond the retrofit implementation. This section will provide a detailed outline of specific actions that can be taken to capitalize on these opportunities. Furthermore, it will contextualize these actions within the broader retrofit ecosystem and make recommendations to support the full retrofit ecosystem.

Photo courtesy of ERA Architects

TOWER RENEWAL PARTNERSHIP

SUPPORTIVE POLICY CONTEXT

Alignment:

There is significant policy alignment among Federal Ministries, Community, and Private Partners in achieving the working group's objectives, which is to engage in housing retrofit at scale while preserving housing affordability. Canada's policies, including the National Housing Strategy and the Canada Green Building Strategy, are chief among these efforts. In addition, supporting organizations such as the Canadian Infrastructure Bank (CIB), the Federation of Canadian Municipalities (FCM), and private financial organizations, such as the big five banks and community impact foundations, are all working towards the common goals of affordable housing retrofit.

However, these independent initiatives are currently working in silos and lack the capacity to address the retrofit challenge in isolation. Therefore, it is important to link the capacity and objectives of these public, private, and community partners to address the capital gap that currently limits retrofit at scale.

The proposed actions below outline a specific mechanism by which retrofit can be undertaken, along with the potential role of partners in achieving outcomes and broader actions to support the full retrofit ecosystem.

PRESERVATION IS PART OF SUPPLY

The affordability and number of legacy housing units are eroding each year. The cost of new supply far exceeds refurbishment. Efforts to preserve our existing stock are critical in the expansion of housing supply to mitigate the housing crisis.

Partners

THERE ARE CURRENTLY SEVERAL ACTORS ENGAGED IN SUPPORTING RETROFITS. BUNDLING THESE ACTIONS CREATES OPPORTUNITIES FOR SCALING MEANINGFUL COMPLETE RETROFITS.

CMHC SCHL

GREEN MUNICIPAL FUND / FONDS MUNICIPAL VERT

NATIONAL HOUSING STRATEGY

FCM FEDERATION OF CANADIAN MUNICIPALITIES / FÉDÉRATION CANADIENNE DES MUNICIPALITÉS

CIB BIC

Canada Greener Homes Grant

+ COMMERCIAL BANKS

FOUNDATIONS

TOWER RENEWAL PARTNERSHIP

GLOBAL PRECEDENTS

The EU Case Study

Canada is not the first country to undertake the actions required to achieve retrofit objectives. In fact, the European Union and its member states have been leading the way in deep retrofit for several decades. These efforts have been further invigorated through the European Green Deal, part of the broader European COVID-19 recovery efforts known as the NextGenerationEU Recovery Plan. This plan includes a Renovation Wave, a key aspect of the European Green Deal. The German Energy-Efficient Refurbishment program, administered through their national KFW Bank, also serves as an important precedent for Canadian action. In summary, these initiatives provide critical precedents for Canada to follow in its own efforts toward achieving retrofit objectives.

Photo courtesy of ERA Architects

TOWER RENEWAL PARTNERSHIP

GLOBAL PRECEDENTS

European Green Deal Renovation Wave

The European Union (EU) recognizes that climate change and environmental degradation are existential threats to Europe and the world. To address these challenges, the EU has launched the European Green Deal, which aims to transform the EU into a modern, resource-efficient, and competitive economy. The Green Deal has three key objectives: no net emissions of greenhouse gases by 2050, economic growth decoupled from resource use, and leaving no person or place behind.

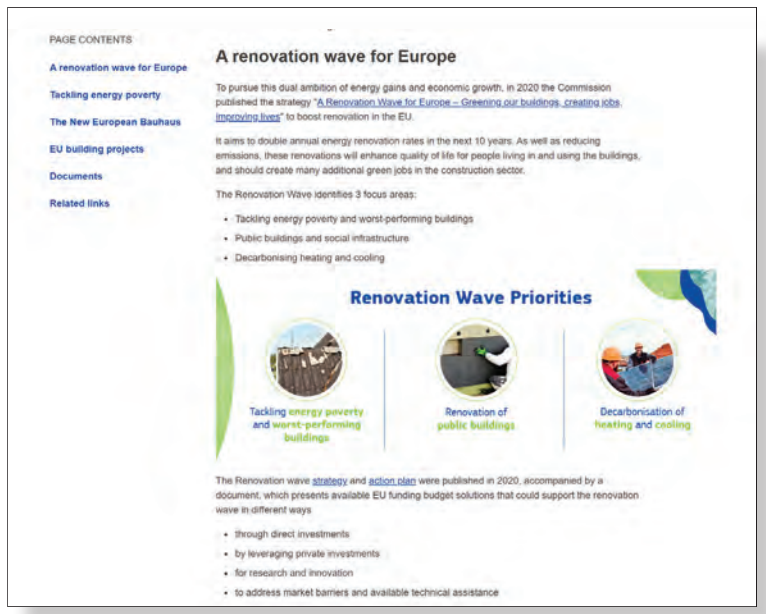
The Renovation Wave is a critical aspect of the European Green Deal, intending to double annual energy renovation rates in the next ten years. The program seeks to enhance the quality of life for people living in and using buildings and create additional green jobs in the construction sector. The Renovation Wave focuses on three areas: tackling energy poverty and the worst-performing buildings, public buildings and social infrastructure, and decarbonizing heating and cooling.

The program will achieve its goals through four key actions:

- direct investments;
- leveraging private investments;
- research and innovation; and
- addressing market barriers and technical assistance.

The Renovation Wave is also supported by complementary initiatives, including the New European Bauhaus, the BUILD UP initiative, the BUILD UP Skills initiative, and the 4RinEU project. Together, these programs support the broader skill, technology and design sectors critical in achieving retrofit at scale.

One-third of the €1.8 trillion investments from the NextGenerationEU Recovery Plan and the EU's seven-year budget will finance the European Green Deal, of which the Renovation Wave is a core pillar. Renovation Wave is implemented through direct EU and member state action.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A renovation wave for Europe

Tackling energy poverty

The New European Bauhaus

EU building projects

Documents

Related links

A renovation wave for Europe

To pursue this dual ambition of energy gains and economic growth, in 2020 the Commission published the strategy "A Renovation Wave for Europe – Greening our buildings, creating jobs, improving lives" to boost renovation in the EU.

It aims to double annual energy renovation rates in the next 10 years. As well as reducing emissions, these renovations will enhance quality of life for people living in and using the buildings, and should create many additional green jobs in the construction sector.

The Renovation Wave identifies 3 focus areas:

- Tackling energy poverty and worst-performing buildings
- Public buildings and social infrastructure
- Decarbonising heating and cooling

Renovation Wave Priorities

Tackling energy poverty and worst-performing buildings

Renovation of public buildings

Decarbonisation of heating and cooling

The Renovation wave strategy and action plan were published in 2020, accompanied by a document, which presents available EU funding budget solutions that could support the renovation wave in different ways

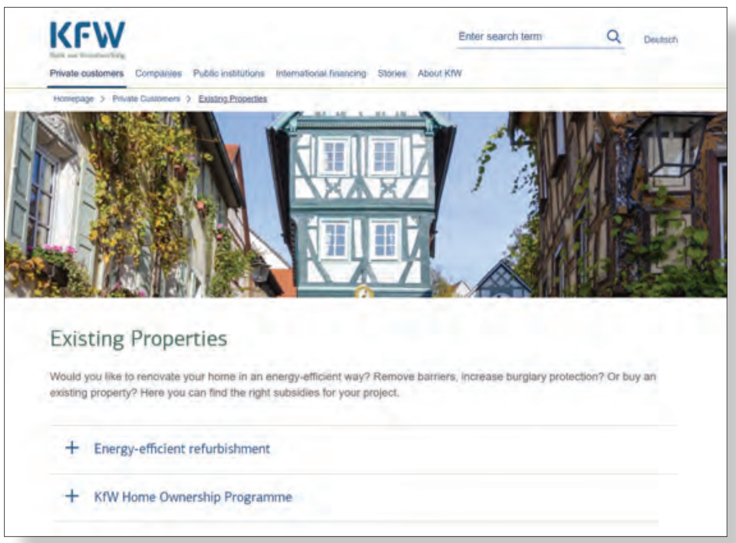
- through direct investments
- by leveraging private investments
- for research and innovation
- to address market barriers and available technical assistance

TOWER RENEWAL PARTNERSHIP

GLOBAL PRECEDENTS

German Federal Action Toward Energy-efficient refurbishment

At the EU member state level, Germany has been a world leader in energy efficiency refurbishment for several decades. The German Energy-Efficient Refurbishment program, which is administered by KfW Bankengruppe, is aimed at promoting the energy-efficient renovation of buildings. KfW Bankengruppe is a German state-owned development bank that promotes economic and social progress both within Germany and in other countries. It is the largest national promotional bank in the world. It offers a wide range of financing options, including loans, guarantees, and equity financing, focusing on projects related to climate protection, environmental protection, infrastructure development, and social development.



The objectives of the German Energy-Efficient Refurbishment program are to reduce energy consumption in buildings, promote the use of renewable energy sources, and support the construction industry and related jobs. The program also aims to improve building occupants' comfort and quality of life while reducing greenhouse gas emissions. The funding for the program comes from various sources, including KfW's own funds, public funds from the German Federal Government and the states, and private capital.

The program offers two types of financing:

1. KfW loan: A low-interest loan for homeowners, landlords, and housing associations to finance energy-efficient building renovations. The loan can cover up to 100% of the renovation costs, with loan terms ranging from 4 to 30 years and interest rates starting below 1%;
2. KfW grant: A grant for homeowners who carry out energy-efficient building renovations. The grant can cover up to 20% of the renovation costs, with a maximum grant amount of €37,500. The grant is means-tested and available to low- and middle-income households.

To be eligible for financing under the program, buildings must meet specific energy efficiency standards and undergo an energy efficiency assessment. The program also provides technical support and guidance to building owners throughout the renovation process. The program is designed to reward high performance, enabling nearly 200 billion Euros in retrofit investment over the past decades. The stability and longevity of the program have enabled Germany to emerge as a world leader in knowledge, technology, and retrofit implementation.

TOWER RENEWAL PARTNERSHIP

CANADIAN PRECEDENTS

Current Successes and Existing Programs

Current programs aligned with the National Housing Strategy, such as the Co-Investment Repair and Renewal Fund and FCM's Sustainable Affordable Housing Fund, have enabled deep retrofit projects across Canada. **These programs have advanced the industry through landmark projects like CityHousing Hamilton's Ken Soble Tower—North America's first Passive House retrofit of a high-rise apartment building—and portfolio-scale investments like the $1 billion funding agreement with Toronto Community Housing, which enables the modernization of hundreds of existing buildings.** This progress has moved deep retrofit projects beyond the pilot stage and is building industry capacity to address the broader sector. A continued focus on not-for-profit and public housing will support the wider decarbonization effort while providing housing security for millions of Canadians.

Challenges with Existing Programs

Current programs have gaps that limit scalability and overall retrofit potential. On one end, the complexity of program requirements and administrative burdens restrict participation to only the most sophisticated non-profit and public entities. On the other end, options for private housing participation are highly limited. The FCM Sustainable Affordable Housing Fund explicitly excludes private housing, and the CMHC Repair and Renewal Program imposes affordability requirements that necessitate deep rent reductions without operating subsidies to offset revenue losses. Consequently, no private owners have engaged in the program.

However, the CMHC MLI Select Mortgage has seen widespread uptake. This tool offers preferential refinancing terms for projects that achieve social and environmental objectives in housing. It could serve as the foundation for a deep retrofit Loan + Grant program that addresses financing current gaps.

RETROFIT FINANCE AND AFFORDABILITY: HIGH-RISE RETROFIT IMPROVEMENT SUPPORT PROGRAM (HI-RIS)

The City of Toronto's High-rise Retrofit Improvement Support (Hi-RIS) program, part of the Tower Renewal Program, offers funding to private property owners for energy-efficient and water conservation building improvements. This financing is provided at below-commercial rates and is not considered debt for the property owner. Instead, it is financed through the City and repaid via a special property tax levy.

To participate in the program, property owners apply, complete an energy assessment, and enter into an agreement with the city. Once the improvements are finished, a special charge—covering the cost of the works, finance cost, and administration fee—is added to the property tax bill. The owner repays this charge over an agreed term of 5 to 20 years. The payment obligation is tied to the property, not the owner, and is secured by the city's priority lien status. As a program condition, property owners must agree not to apply for rent increases above the guideline set by the Residential Tenancies Act related to the funded improvements.

The maximum funding amount per property cannot exceed 10% of the property's Current Value Assessment (CVA), with a limit of $2 million per building. While this tool has primarily enabled intermediate to light retrofits rather than deep ones, it has facilitated essential work on private sector apartment housing while maintaining affordability.

TOWER RENEWAL PARTNERSHIP

RETROFIT ADVISORY GROUP
RECOMMENDATIONS

Canada has conducted a series of ground-breaking retrofit experiments coast to coast over the past decade, and it is now time to move beyond the demonstration stage and implement these measures at scale. These successes have been made possible through a combination of federal initiatives such as the National Housing Strategy, FCM, provincial and territorial programs, not-for-profit organizations, and foundations. Innovations by designers, trades, and manufacturers, and the leadership of individual housing providers who have taken the risk of embarking on ambitious housing renewal and decarbonization projects, have also contributed to these successes.

However, significant action is required to support sustained deep retrofit initiatives that also maintain affordability.

Critical to achieving large-scale deep retrofit is an effective, stable, and streamlined retrofit finance mechanism to address the capital gap that is the largest barrier to action today.

Germany's KfW Retrofit finance program has been a world leader, with a several decade-long track record demonstrating efficacy and impact. The Retrofit Advisory Group has identified the development of such a tool in the Canadian context as the key action to accelerate deep retrofit and one that will have an immediate and long-term impact.

Photo courtesy of ERA Architects

TOWER RENEWAL PARTNERSHIP

CORE RECOMMENDATION

Establish Comprehensive and Combined Retrofit Remortgage Tool and Grant Program

The Retrofit Advisory Group considered tools to address a specific gap - enabling deep retrofit of privately-owned buildings while continuing to provide naturally occurring affordable housing. As the Greater Golden Mile is the focus of the ILEO initiative, it used it as a case study to ask:

“How might we design concrete and practical solutions that motivate private building owners in the Greater Golden Mile to meet future decarbonization regulations via deep retrofits in a manner that maintains housing security for tenants?”

This question explores transitioning from exclusively supporting non-profit to funding privately-owned buildings that must be retrofitted to meet Canada’s climate change commitments. The current state of retrofits in private buildings is either shallow retrofits that are funded by utility cost reductions and/or deeper retrofits that impact the affordability of units. The Advisory Group identified and evaluated tools that addressed the financial gap (between utility cost savings and the cost of a deep retrofit) to ensure continued affordability. Preserving these units as affordable is necessary to address the ongoing housing crisis. While preservation doesn’t negate the need for new housing supply, it is far more cost-effective to preserve and retrofit existing units than constructing new affordable homes to replace those lost to market pressure.

The primary challenge in achieving deep retrofit in Canada is the capital gap. The cost of a deep retrofit amortized monthly can range from $500 to $1,500 per unit over twenty years, depending on the required work, interest rates, amortization period, and expected rate of return. The higher range is anticipated in the worst-performing buildings.

AFFORDABILITY:

Canadians of modest incomes simply cannot afford to bear the cost of retrofit if they are passed on as rent increases. For low-income Canadians, these increases could represent 25% of total income or more. In Toronto, 49% of high rise renters (non-condo) are low income households (Toronto CMA, 2016 census.) Retrofits funded by rent increases are not tenable.

A RETROFIT FINANCE AND FUNDING FACILITY:

Government support can leverage private investment in achieving retrofit while maintaining housing affordability. This will enable a just transition in the building stock that secures healthy homes for lower-income Canadians while also decarbonizing and growing the economy.

Early successes in Canadian deep retrofit have been achieved through stacked financial tools supported by federal and provincial governments, targeting housing assets in the public or not-for-profit sectors. The core recommendation of the Advisory Group is to pilot a tool that directly addresses this capital gap through an aggregated loan and grant retrofit tool that, by targeting private assets, aims to attract and expand the impact of private capital while ensuring affordability is maintained.

TOWER RENEWAL PARTNERSHIP

CORE RECOMMENDATION

Establish Comprehensive and Combined Retrofit Remortgage Tool and Grant Program

An effective retrofit financial facility has the capacity to influence immediate impact and will pave the way for capacity-building and lead to future regulatory changes.

The primary considerations for our core recommendation, Retrofit Financial Tools, are:

- **Funding:** Tools must introduce a new pool of money tied to higher performance through deep retrofits.
- **Stackability:** Tools must be aligned with other programs to stack funding sources and be predictable and consistent.
- **Flexibility:** Tools must apply to various situations, ownership scenarios, and business models, and set the groundwork for the industry to self-sustain.
- **Affordability & Security:** Tools must enable social outcomes, including maintaining affordability and tenant security.

An effective, stable, and streamlined retrofit finance mechanism is critical to achieving large-scale deep retrofit to address the capital gap that is the largest barrier to action today. Germany's KfW Retrofit finance program has been a world leader, with a several decades track record demonstrating efficacy and impact.

The Retrofit Advisory Group has identified the development of such a tool in the Canadian context as the key action to accelerate deep retrofit, which will have an immediate and long-term impact.

A comprehensive combined retrofit remortgage tool and grant program that would offer better loan terms *(interest and amortization) and grant amounts based on the level of energy and greenhouse gas reductions and depth of affordability. The more committed owners are to the outcomes, the better the incentives. For larger owners, affordability requirements could be viewed through a limited geographic area portfolio lens.*

The financing organization and the granting organization (Foundation or Government Department) would work together to:

- **Enable all grant funding to be included in the underwriting of the project;**
- **Increase the total amount of funds available to owners to incentivize GHG reductions**
- **Reduce the administrative load to access available funding and undertake complex retrofit**
- **Require covenants to maintain existing affordability and housing security**
- **Attract broad participation.**
- **Incorporate funding for tenant engagement.**

TOWER RENEWAL PARTNERSHIP

CORE RECOMMENDATION

Establish Comprehensive and Combined Retrofit Remortgage Tool and Grant Program

Why these tools?

Each of these tools, on its own present strengths, enables retrofits. Taken together, they will close the capital gap, which is the primary barrier to retrofitting:

Retrofit Remortgage Tool Strengths

- Offer owners the opportunity to access some of the equity in their building at favourable rates, which is of particular benefit to owners who do not have other equity sources to fund a retrofit. Lowering the cost of financing reduces the burden on building NOI.
- Retrofits extend the life of the building and lower operational cost, which improves NOI and the value of the building, which can extend amortization periods, driving monthly savings that reduce reliance on rent uplift.
- This is a tool people are familiar with and is streamlined within standing refinancing cycles, which means additional loan applications (and administrative work) are not required.
- Ideal for assets at the point of remortgage, when owners are primed to make significant investments in a building.
- When the bank retains the senior secured position as the lender, the client benefits from lower rates due to the security of the building.

Grant Strengths

- Simple for the funders to design and administer
- No requirement to hit profitability metrics
- Catalytic for additional debt financing
- Suitable across owner types
- Stacked with tax credits and favourable debt products
- Can have a sliding scale with larger grants given to those groups that have a larger capital gap to overcome

Photo courtesy of ERA Architects

TOWER RENEWAL PARTNERSHIP

CORE RECOMMENDATION

Establish Comprehensive and Combined Retrofit Remortgage Tool and Grant Program

An opportunity for action

Implementing the core recommendation has the potential to:

- Test funding solutions for **maintaining the affordability** of existing stock;
- Test funding solutions for **deeply retrofitting MURBs** to meet GHG emission reduction targets and support climate resiliency;
- Test strategies to engage and focus on **improved tenant experiences** during and after retrofits
- Collect data and evidence to **enable the retrofit ecosystem.**

Building pilots to test the tool would involve stakeholders committed to affordable housing, GHG reductions, climate, resiliency, and equity coming together to harness their strengths to build this comprehensive tool. Although it would take concerted collaboration, the potential benefits of such a solution would transform our housing and climate landscape, including:

- **Preservation** of naturally occurring affordable rental housing while transitioning them for a net zero future at a lower cost (~$200,000/unit) compared to building new (~$550,000/unit)
- Energy savings with the potential to **increase operational savings** for owners by 10-15% and reduce monthly expenses for tenants by ~$60/unit
- **Substantially reduced GHG emissions** and movement towards GHG emission reduction targets
- **Improved community health** and climate resilience in the face of increasing climate events. For example, improvements to the building envelope and systems will mitigate adverse health effects (including death) for vulnerable populations during heat waves and other shelter-in-place incidents
- **Building trust** in the process and value of deep retrofits through data collection and dissemination will encourage and enable future retrofit projects and **innovations in the housing system.**

Important design considerations

To maximize effectiveness and sustainability, the tool must:

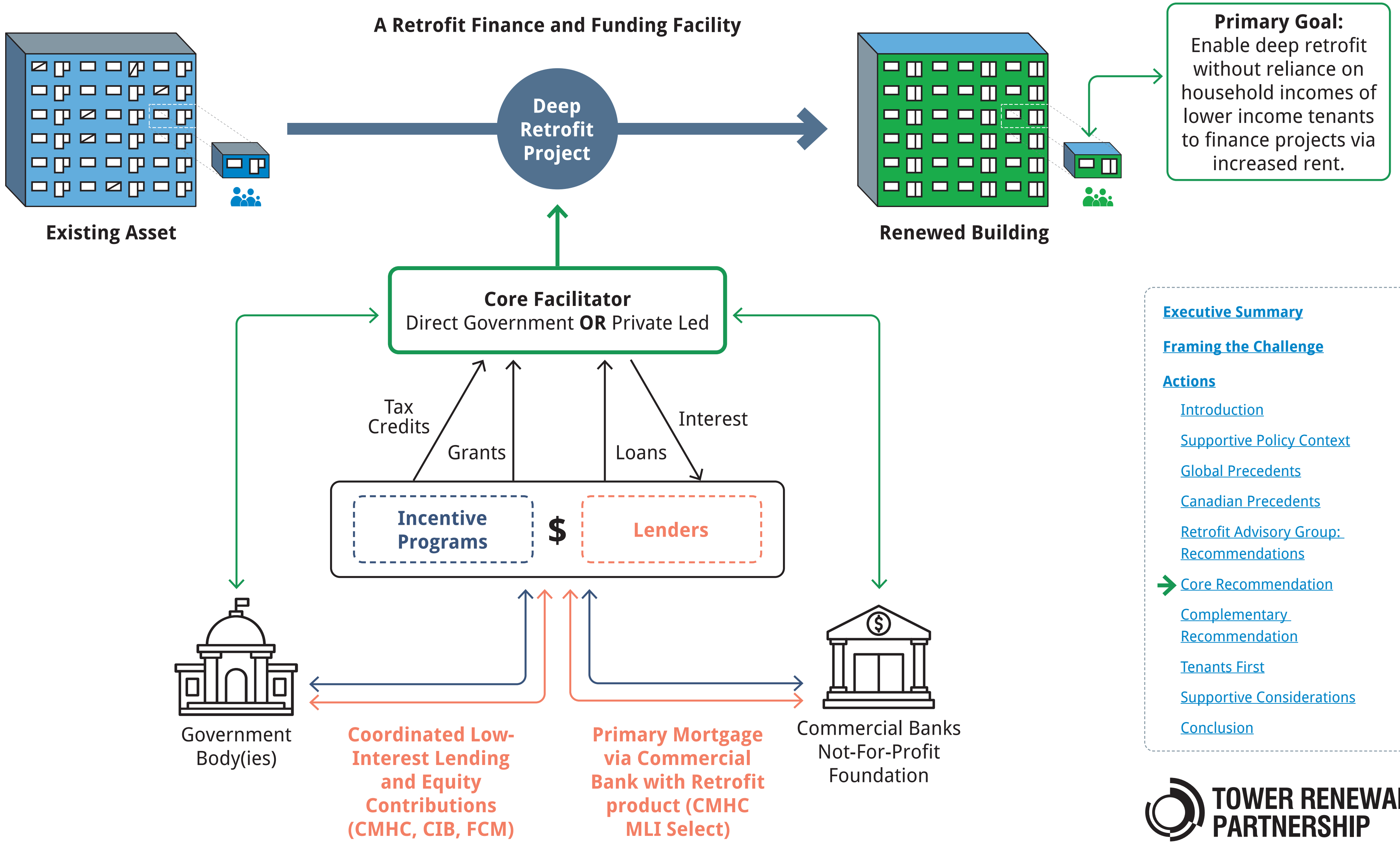
- Consider the role of additionality: for a retrofit to be considered additional to what would have occurred in the absence of the tool, the possibility to receive the preferred terms and additional funding must be strong influencers in the decision to undertake the deep retrofit and maintain affordability
- Have a significant impact on the owner's business case
- Reduce administrative burden, stack easily with other funding sources, and be predictable and consistent
- Apply to a variety of business models and set the groundwork for a successful and scalable retrofit economy
- Consider all aspects of tenant security

Pilots should be targeted for outcomes, testing specific technical, financial and resident-focused milestones. *A funded retrofit pipeline will create a market for industry innovation, create market confidence for performance regulation, reduce perceptions of risk for owners, and create both bottom-up and top-down demand by showing what good looks like.*

TOWER RENEWAL PARTNERSHIP

CORE RECOMMENDATION

Establish Comprehensive and Combined Retrofit Remortgage Tool and Grant Program

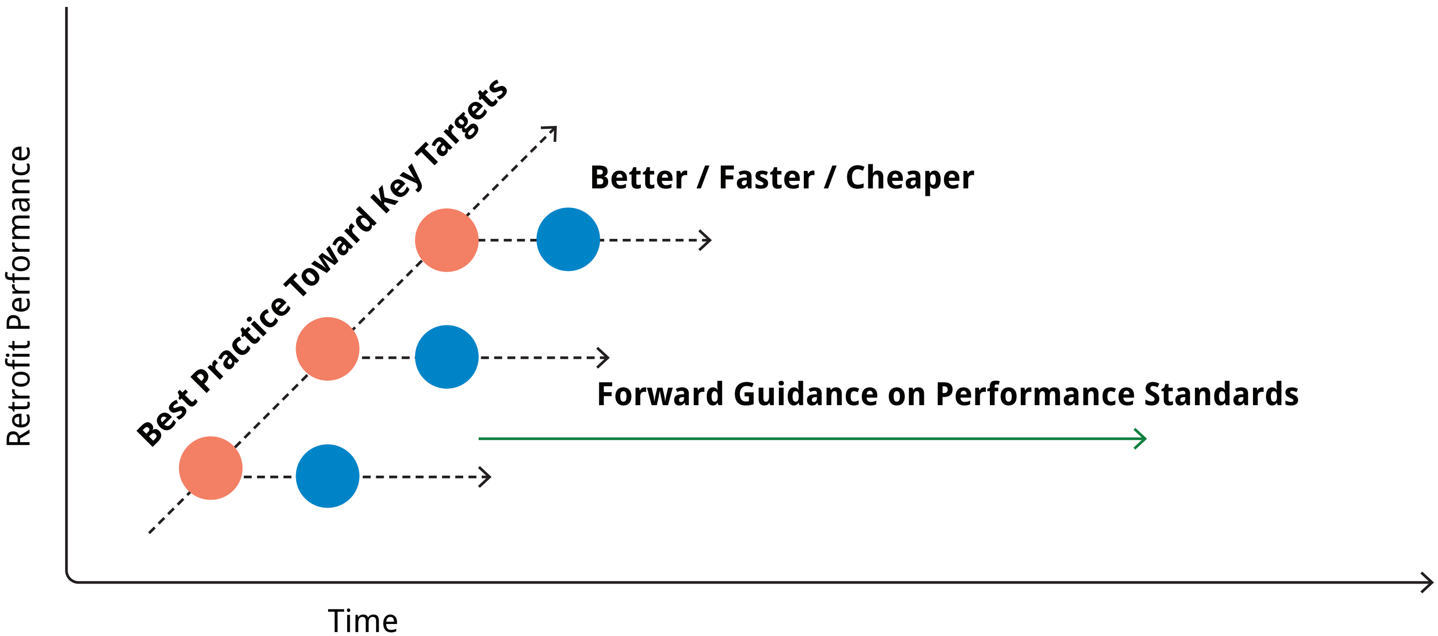


TOWER RENEWAL PARTNERSHIP

CORE RECOMMENDATION

Comprehensive and Combined Retrofit Remortgage Tool and Grant Program

Targeted Retrofit Pilot Strategy



A robust retrofit pipeline with clear performance targets will mobilize industry in both pushing performance best practice, and refining innovation to deliver retrofits that are better, faster and cheaper. This strategy of targeted outcomes within a ‘market place’ of solutions, will support both critical innovation and de-risking toward broad scaling.

TOWER RENEWAL PARTNERSHIP

COMPLEMENTARY RECOMMENDATION

Comprehensive and Combined Retrofit Remortgage Tool and Grant Program

In Summary, the Retrofit Advisory Group Recommends the following Core Action:

- **Comprehensive and Combined Retrofit Remortgage Tool and Grant Program:** Bundle existing retrofit funding and grant capacity into a single point of entry, combining the capacity of CMHC, the CIB, FCM, and Commercial Banks to streamline participation and provide sufficient support to close the financial gap in today's market conditions

The Retrofit Advisory Group also outlines the following complementary recommendations for the design of the tool::

- **Target the most challenging buildings and Incentivize Deep Retrofit Best Practice:** Tie project grant value to project performance to incentivize excellence toward meeting and surpassing Canada's 2030 & 2050 decarbonization goals
- **Attract Private Sector Leadership:** Broaden current retrofit program criteria to include privately-owned rental housing providers and incentivize their participation through direct financial support to kickstart private sector retrofits and leverage private sector investment
- **Preserve Affordability:** Ensure the rents of sitting tenants are safeguarded from the costs of retrofit and affordability plans. Consider the following actions:
  - Prohibit above-guideline rent increases
  - Sublease blocks of units to Not-for-Profit Operators to manage as below-market affordable homes
  - Transfer entire buildings to Not-for-Profit Operators to manage as below-market affordable housing
  - Require covenants that protect affordability at tenant turnover and ensure long term housing security.
- **Set Clear Targets:** Ensure projects are aligned with Canada's decarbonization targets and broader health, safety, and resilience goals
- **Design a Tenants First Approach:** Ensure projects anticipate the full costs of retrofit, including resident engagement, customer care activities during the retrofit, and post-construction training and commissioning to ensure long-term stewardship
- **Create Additional Financial Tools:** Create a national Low-Carbon Retrofit Tax Credit that is refundable and transferable for private and non-profit operators

TOWER RENEWAL PARTNERSHIP

TENANTS FIRST

Affordability and Tenant Customer Care

Today, investments in privately owned legacy towers often evoke fear and suspicion among residents, who worry about rent increases or being forced to move out due to renovations. **To address these concerns, there needs to be a transition towards partnership, where residents can actively participate in the changes to their homes, be involved throughout the construction process, and truly benefit from the transformation without affecting affordability or tenure.** This begins with program designs that enable project capitalization while ensuring rental security for sitting tenants. Additionally, adopting a 'customer-first' approach to design and construction methods is essential.

Living through renovations can be challenging, especially considering the scale and duration of large-scale retrofit work. However, fostering innovation and partnerships among owners, constructors, and residents can lead to greater efficiencies and higher impacts as retrofits expand.

Photos courtesy of ERA Architects

TOWER RENEWAL PARTNERSHIP

TENANTS FIRST

A Customer Care Approach

There is local and global excellence in engaging in deep retrofit with residents in place. Yet care and attention needs to be taken to ensure these practices are built into projects from day one. Below are some consideration:

- **Develop and implement a strong tenant engagement strategy** for the entire duration of the retrofit, from initial planning to post-commissioning. What is being contemplated and how will it improve homes? How is the project performing and can it be improved?
- **Ensure tenants are empowered and informed** with clear paths of communication from residents, to building manager, to constructor. Communication should be translated into commonly spoken languages (employ a tenant if possible) and include the following information:
    - Overview of the renovation, including timeline
    - Contact information of tenant liaison and/or social media site to air concerns/provide input
    - Requirements for tenants to prepare for the retrofit
    - Implications of construction process on health
    - Impacts on energy performance
    - Co-benefits of the retrofit (affordability, health, aesthetics, thermal comfort)
    - Information on how to use equipment post-retrofit
- **Assign a point person as the tenant liaison,** a member of the retrofit team that works directly with tenants and the construction team throughout the retrofit to keep tenants informed, sequence activities and timelines, and minimize impacts.
- **When tendering a retrofit project:**
    - Include minimize tenant disruption in terms of reference
    - Provide a clear codes of conduct from workers, including information on how these are enforced on site
    - Include a tenant liaison role in contractor requirements
    - Include residents in Contractor selection to evaluate their 'customer care approach

For further ideas, see 'Tower Renewal: A Field Guide to Retrofits in Occupied Buildings'.

Photos courtesy of ERA Architects

TOWER RENEWAL PARTNERSHIP

SUPPORTIVE CONSIDERATIONS

The Retrofit Advisory Group's primary recommended action is the establishment of a **Comprehensive and Combined Retrofit Remortgage Tool and Grant Program**, which is critical in providing a capital facility sufficient to motivate immediate action toward the deep retrofit of legacy housing and preservation of affordability. However, alongside the launch of this tool, a series of complementary actions related to retrofit standards, industry readiness, and cross-sector innovation is also recommended. Together, these actions will increase uptake, reduce risk, and be self-reinforcing, leading to the scaling required to meet housing needs, affordability and decarbonization objectives.

Complementary to Retrofit Advisory Group's financial tool recommendation, broader ecosystem recommendations include:

The following recommendations target federal leadership and action in strengthening the Retrofit Ecosystem in addition to Retrofit Finance:

1. Establish a national strategy: Develop a comprehensive and coordinated national strategy with clear GHG reduction and affordability targets, timelines, and funding mechanisms.

- Set annual retrofits targets scaling over time for all buildings, supported by targeted Acceleration Funding for aggregator and to support start-up work
- • Establish a regulatory ecosystem for tenant protection

2. Strengthen regulatory frameworks: Strengthen building codes and regulations to require higher energy efficiency standards for existing buildings and establish mandatory energy audits and disclosure requirements.

- Develop federal model retrofit standards to outline a trajectory on future requirements to spur industry readiness, align with the insurance sector, and update provincial and territorial codes
- Require owners of MURB buildings to benchmark and implement '"decarbonization' plans to meet 2050 targets, encouraging phased but '"stackable' retrofits

An Ecosystem Approach

The success of the European Union's efforts toward deep retrofit comes from an integrated approach involving industry: design, technology and trades; building regulations; and substantial public investments motivating both public and private action to reach ambitious targets both in terms of energy performance and volume of homes retrofitted. As a result, the average operational carbon intensity for buildings in Germany

TOWER RENEWAL PARTNERSHIP

SUPPORTIVE CONSIDERATIONS

3. Provide technical support: Provide technical support to building owners and contractors to ensure effective and efficient retrofit projects.

- Establish demonstration and training centres to support education and trades training in partnership with trade schools, colleges and universities
- Guide owners with specialized retrofit service support from initial assessment through to implementation

4. Develop industry capacity: Build industry capacity with a focus on supply chain and trade expertise, creating jobs and building a retrofit economy.

- Propel industry through targeted research and development funding for products and assemblies required to fill identified market gaps

5. Foster innovation: Support research and development of innovative design, technological and process solutions to achieve deep retrofit targets through labs, industry partnerships, and targeted demonstrations.

- Establish design labs to develop integrated solutions partnered with industry to advance 21st-century retrofits

TOWER RENEWAL PARTNERSHIP

SUPPORTIVE CONSIDERATIONS

6. Collaborate with stakeholders: Collaborate with building owners, tenants, contractors, designers, suppliers and community organizations to ensure that retrofit initiatives are tailored to meet the needs of different communities.

- Establish a cross-Canada retrofit forum to advise on targets and regulatory frameworks and identify local barriers and opportunities nationwide

7. Demonstrate Best Practice: Lead by example through immediate action in deep retrofit with early adopters, accelerating through a multi-year rollout.

- Prototype next generation retrofits & holistic site renewal tackling identified technical and supply chain gaps
- **"BETTER, FASTER AND CHEAPER"** Repeat proven solutions at scale targeting product and process innovation