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A RENOVATION WAVE FOR CLIMATE RESILIENT HOMES AND AFFORDABLE HOME ENERGY

Meeting Canada’s emission reductions, climate adaptation, and affordability targets requires a massive building upgrade process and the elimination of carbon emissions from Canadian homes and buildings before mid-century. Achieving this entails:

1. Phasing out on-site combustion of fossil fuels;
2. Upgrading building envelope and ventilation systems;
3. Connecting to clean energy, mainly electricity from wind, solar, and hydro; and
4. Accommodating the unique needs of Indigenous communities.

This would ensure all homes are able to reduce energy costs, improve indoor air quality, and protect occupants and housing infrastructure from extreme weather, air pollution and earthquakes.

The government has made significant progress on policies and programs that support building retrofits and decarbonization. However, large capital investment and regulations that align with net-zero emissions targets are still required. The Deep Retrofit Accelerator Initiative allocated \$185 million and the Greener Neighbourhood

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Pilot Program (GNPP) allocated \$33.5 million to programmatic supports for accelerating deep retrofits followed by a second GNPP call for applications for Energiesprong-inspired demonstration project capital support. The Oil to Heat Pump Affordability Program and the assistance available to provinces through the \$250 million Low Carbon Economy Fund Home Heating Oil Transition have been effective, however many low-income energy users are left out of the program as it is currently designed. Canada Mortgage and Housing Corporation's recent Greener Affordable Homes Program awards up to \$170,000 per unit in multi-unit residential buildings for a deep retrofit that achieves at least 80% GHG reductions and aggressive energy reductions for affordable rental buildings, which sets the bar for zero-cost deep retrofits. This is the level of funding needed to ensure Canadians living with energy poverty can live in healthy, safe, affordable and resilient homes.

The National Adaptation Strategy has set a goal to eliminate heat-related deaths but lacks any targets or strategies for deep retrofitting homes to be able to meet this goal. While we are anticipating that the Canada Green Building Strategy (CGBS) will fill this gap and be a catalyst to dramatically increase the rate of deep retrofits, resulting in fuel switching and increased energy-efficiency across the country, it has yet to be adopted. Canadian policy-makers urgently need to adopt the CGBS and empower it with targeted regulation and capital funding designed to stimulate labour and industry growth, and market demand, while addressing the needs of Canadians living with energy poverty.

The Canadian Urban Sustainability Practitioners network defines energy poverty as the experience of households or communities that struggle to heat and cool their homes and power their lights and appliances. While experience of energy poverty varies regionally, approximately one in five Canadian households struggle to pay energy bills and make choices between paying utility bills and for necessities such as housing and food.

The Green Budget Coalition recommends that the federal government coordinate existing investments and programs across all departments and centrally deliver home upgrades to ensure impactful investments that integrate health, affordability, and adaptation targets, and accommodate the unique needs of Indigenous, northern and remote communities. We also recommend that the federal government leverage investments in low-income housing retrofits by working directly with supply chains to simplify the incentive process and remove the need for upfront financial outlay by households living with energy poverty. Consideration should be given to the procurement and incentive tools that can also address embodied carbon and advance low-carbon materials. Channeling incentives through manufacturers, suppliers and installers sends a strong signal that industry should invest in supply chain growth and labour development to meet market growth.

Background:

To meet emissions reduction targets, Canada must develop a retrofit industry able to decarbonize 600,000 dwellings and more than 30 million square metres of commercial space each year by 2040.¹⁵ This industry must be equipped to serve households of all income levels and in all regions of the country.

Federal government programs must be designed to both scale up industry capacity and ensure that households living with energy poverty can access programs designed to transition away from fossil fuels, afford their everyday energy needs, and benefit from clean energy.



Photo: Jeannette Gallant

¹⁵ Pembina Institute, *Canada's Renovation Wave: A plan for jobs and climate*. 2021. <https://www.pembina.org/pub/canadas-renovation-wave>

FEATURE RECOMMENDATIONS

The federal government must establish a targeted effort to analyze and address the housing needs of Indigenous communities and members of urban Indigenous populations led by Indigenous agencies and community representatives who would set the priorities and determine investment needs and allocation.

- The total public investment needed to stimulate decarbonization and climate-proofing of Canada's existing building stock has been estimated at **\$10- 15 billion per year for ten years**, covering 50-75% of the incremental cost of the required upgrades (above normal replacement costs).¹⁶
- The Indigenous Clean Energy (ICE) *Indigenous Housing Energy Efficiency Data Set*¹⁷ estimates 209,000 homes in Indigenous communities across Canada (121,000 First Nation, 13,000 Inuit, 75,000 Métis) require energy efficiency upgrades. Combined with the need for about 72,000 new homes, **this represents an investment of \$5.4 billion**. These numbers generally reflect rural, remote and on-reserve homes.

To be truly transformative, the early-stage retrofit accelerators and market development programs should be connected to last-mile capital funding to tie into cutting edge whole-building solutions, such as those that emerged from the Energiesprong program. In Europe, this has resulted in technologies like prefabricated retrofit panels and all-in-one HVAC units now being manufactured and implemented. Support for transformation of the construction industry is also necessary for scaling beyond one-off unicorn projects. Specific, targeted funds must also be directed to ensure households living with energy poverty have access to energy efficiency measures.

Photo: Gennifer Miller



¹⁶ Pembina Institute, Canada's Renovation Wave: A plan for jobs and climate. 2021. <https://www.pembina.org/pub/canadas-renovation-wave>

¹⁷ Indigenous Clean Energy, Energy Foundations. 2021 <https://indigenoucleanenergy.com/wp-content/uploads/2022/06/Energy-Foundations-Report-FINAL.pdf>

Recommended Investment:

To begin ramping up to the full investment level needed, the Green Budget Coalition recommends that the 2024 federal budget allocate **\$24.3 billion over five years**, including:

- **\$20 billion over five years** for no-cost home retrofits and heating electrification, including heat pumps, for households experiencing energy poverty, with assurances to include and protect renters. Within this funding stream, special attention should be paid to rental buildings, non-market, and social housing (through the National Housing Strategy) and include climate adaptation measures that not only reduce heating energy demand and carbon emissions, but also make them healthier, safer and resilient.¹⁸ [NRCan, CMHC, HC, INFC]
- **\$7.5 million over five years** for the development of a **National Affordable Home Energy Strategy** with clear actions and outcomes to address energy affordability in Canada. This national strategy should be developed with a focus on energy poverty, with the input of a new advisory group and in coordination with the National Adaptation Strategy and Canadian Green Building Strategy. This new Strategy would set targets for the reduction of energy poverty across the country, seek to identify which gaps should be addressed, and create new programs to address those gaps through federal programs or joint programs with the provincial governments. [NRCan, INFC]
- **\$2.7 billion over five years** for retrofits and energy efficiency upgrades for housing in Indigenous communities, as identified by Indigenous Clean Energy.¹⁹ [ISC, CMHC, CIB, INFC]
- **\$1.5 billion over five years** for skill development, capacity building and recruitment, with funds earmarked to increase equity and diversity in the retrofit economy.²⁰ [NRCan, ISED, HC]
- **\$125 million over five years** for last-mile capital investment in 15-20 transformative deep retrofit demonstration projects identified by deep retrofit accelerator and market development teams. [NRCan]
- Capitalizing a loan guarantee program to reduce the risk to private financing of building retrofits.²¹ [CMHC, CIB, NRCan, INFC]

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Photo: Pembina Institute

18 Based on the modeling used in the Pembina Institute report Canada's Renovation Wave: A plan for jobs and climate. 2021. <https://www.pembina.org/pub/canadas-renovation-wave>

19 Based on the costs estimate of Indigenous Clean Energy in their Energy Foundations report. 2021. <https://indigenoucleanenergy.com/wp-content/uploads/2022/06/Energy-Foundations-Report-FINAL.pdf>

20 This mirrors the recommendations of the Canada Green Building Council and Efficiency Canada: see <https://electricenergyonline.com/article/energy/category/environment/18/834780/cagbc-tables-recommendations-for-canada-post-covid-19-economic-recovery.html> and <https://www.energycanada.org/wp-content/uploads/2020/09/EffCan-2020-Advocacy-federal-Pre-budget-submission.pdf>

21 Équiterre and the Pembina Institute, "Federal Policies for Low-Carbon Buildings: A blueprint to implement the PanCanadian Framework buildings strategy," <https://www.pembina.org/pub/federal-buildings-blueprint>