

Written Submission for the Pre-Budget Consultations in Advance of the Upcoming Federal Budget

October 8, 2022



Standing Committee of the House of Commons on Finance

Summary of recommendations

1 To supercharge Canada's retrofit economy, the government should

Require zero-carbon transition plans and support their development as part of any deep carbon retrofit program for all building types. Transition planning will ensure the effective timing and sequencing of carbon reduction measures.

Recommended investment of \$3 million over three years to Natural Resources Canada (NRCan).

2 To stimulate Canada's supply chain of low-carbon construction materials, the government should:

Create a grant program to build additional capacity for life cycle assessments and environmental product declarations (EPD) for products manufactured by small- and medium-sized Canadian companies. **Recommended investment of \$25 million** over three years to Innovation, Science and Economic Development Canada.

3 To set the foundational blocks for decarbonizing Canada's large buildings, the government should:

Fund a Building Data Strategy and define the structure that will collect and disclose data, and enable the labelling of industrial, commercial, and institutional (ICI) sector buildings. **Recommended investment of \$35 million** over three years to NRCan.

Introduction

The Canada Green Building Council (CAGBC) is a national organization that supports the building sector's transition to green buildings. CAGBC provides the sector with access to industry-leading products and services designed to construct and manage low-carbon, highly efficient and healthy buildings. We help shape the future of green building through our market-led research and analysis, educational programming, and capacity-building efforts. With over one thousand corporate members, we regularly convene stakeholders to share information and advance green building priorities.

Whether new construction or retrofits, zero-carbon buildings¹ are green buildings, and Canada's best and most cost-effective opportunity to reduce greenhouse gas (GHG) emissions. Investing in zero-carbon buildings delivers valuable socio-economic and environmental benefits. They result in resilient communities that are better able to adapt to climate change – a critical necessity given the recent devastation of Hurricane Fiona and other extreme weather events across the country. Beyond adaptation to climate change, zero-carbon buildings also ensure safe, healthy, and accessible workspaces, and affordable homes that recognize the total cost of ownership.

Zero-carbon buildings are also a job engine. In 2018, over 460,000 Canadians worked in green building (including operations, construction, education, and manufacturing), contributing approximately \$48 billion to the GDP, a more than 50 percent increase over four years. Looking ahead, to achieve Canada's 2030 emission reduction targets, green building construction and retrofits must accelerate and scale up, potentially resulting in a [threefold increase to 1.5 million jobs](#).

Canada's Emissions Reduction Plan (ERP) requests a 37 percent emission reduction for the building sector by 2030 compared to the 2005 levels. Reaching this target will be challenging due to some complex realities:

- Despite efforts, the building sector's overall emissions increased between 2005 and 2019;²
- Building operations account for 18% of Canada's GHG emissions, but when building materials and construction processes are considered, it rises to 28%; and,
- Limited access to low-carbon carbon materials and labour shortages strains the supply chain.

For the building sector to reach the ambitious objective set out by the ERP, the federal government allocated funding in Budget 2022 for a Green Buildings Strategy. Led by Natural Resources Canada (NRCan), the Strategy will chart the path for the building sector to reach net zero by 2050. CAGBC welcomes this initiative and strongly suggests that the federal government provide the support needed to develop and implement the strategy successfully.

¹ A zero-carbon building is a highly energy-efficient building that either produces on-site or procures non-emitting renewable energy or high-quality carbon offsets to counterbalance the annual carbon emissions from its materials and operations.

² ECCC, *Greenhouse gas sources and sinks: Executive Summary 2021*, <https://www.canada.ca/en/environment-climate-change/services/climate-change/greenhouse-gas-emissions/sources-sinks-executive-summary-2021.html#toc3>

Budget 2023 will set the pace for decarbonizing of the built environment through zero-carbon buildings and retrofits. To accelerate that pace, CAGBC recommends that the federal government prioritize policies, and public and private sector market support for green buildings in the following ways:

1 Supercharge the retrofit economy

Almost all existing large buildings, among the 482,000 commercial and public buildings in Canada,³ can reach net zero over time, according to CAGBC's [*Decarbonizing Canada's Large Buildings*](#) study, released in December 2021. However, the federal government and the private sector must overcome the competing priorities and economic, market, and financial barriers that prevent the pursuit of deep carbon retrofits.⁴ These much-needed deep retrofits will improve building performance and reduce GHG emissions. Analysts have suggested that Canada must scale up retrofit activity right now; otherwise, it could take 71 years to completely retrofit commercial buildings and 142 years for the residential building stock.⁵

Every building and retrofit that does not target zero-carbon operations today will increase emissions. For these same buildings to reach net-zero by 2050, it will require significant investments in mechanical equipment, ventilation systems, and building envelopes.

Over the next 30 years, owners could have only one opportunity to cost-effectively finance a complete deep carbon retrofit. Aligning the typical life cycle of building systems renewal with investment in retrofit is the best approach to deep carbon retrofits. Building owners require transition plans to strategically invest in the retrofits needed to remove fossil fuels from their building portfolios over time. The government could support this long-term planning by requiring zero-carbon transition plans and energy efficiency upgrades (such as enhanced envelopes or fuel switching such as heat pumps) as a condition of federal funding.

We recommend an investment of \$3 million over three years to NRCan to support the development of guidelines, training, and communications to ensure the building sector quickly adopts transition plans.

³ Natural Resources Canada, [The Canada Green Buildings Strategy | Natural Resources Canada \(nrcanengagenrcan.ca\)](#), September, 2022.

⁴ A deep carbon retrofit is a project involving multiple energy efficiency and/or renewable energy measures in an existing building, designed to achieve major reductions in net energy use (40% or greater reductions).

⁵ Efficiency Canada, [Canada's Climate Retrofit Mission](#), June 2021.

2 Stimulate Canada's supply chain of low-carbon construction materials

Whether a retrofit or new construction, zero-carbon buildings offer economic and environmental benefits. They are technically and financially feasible to design, construct and operate today. Zero-carbon buildings can drive innovation, enhance Canada's global competitiveness, and support the domestic supply chain for low-carbon services, materials, and technologies with associated gains in skilled jobs.

Attaining meaningful carbon reductions for buildings also requires a focus on embodied carbon.⁶ Research predicts almost [75 percent of emissions](#) between now and 2030 will come from new building materials. Federal procurement policies must shift from the lowest-cost option to low-carbon construction materials with a set "made in Canada" threshold. The United States already uses a preferred procurement approach, and the Canadian government need to adopt and implement its own Buy Clean strategy, a recommendation made by multiple organizations including industry associations.⁷

Establishing a sustained low-carbon supply chain requires research and development and manufacturing support including clarity on documentation requirements and a transparent timeline for new regulations. The federal government should invest \$25 million to enable Canadian SMEs to pursue Life cycle Assessments (LCAs) and facilitate obtaining product-specific Environmental Product Declarations (EPD) for low-carbon products, with a focus on structural construction materials, as prioritized by Greening Government Strategy. This investment could bring up to 500 EPDs or LCAs to the market, and to the Life Cycle Inventory, established through the LCA² Initiative, supporting the creation of a healthy Canadian low-carbon supply chain, and enhance local economic growth and global competitiveness.

3 Building data is the foundation for the decarbonization of Canada's large buildings

CAGBC strongly supports including a Building Data Strategy in the Green Buildings Strategy (GBS). Effective benchmarking and data disclosure must become standard practice for building operations. Access to reliable data can inform future versions of the GBS, raise awareness of carbon reductions, and measure retrofit outcomes. The 2018 Reports from the [House of Commons](#) and [Senate](#) recommended that benchmarking and data disclosure activities be regulated nationally. This strategy can be accomplished quickly with tools such as [Arc Skoru](#), a globally recognized building performance platform.

Increasing numbers of commercial real estate companies have set net-zero carbon targets and stated environmental, social and governance (ESG) objectives. To achieve their goal, companies are turning to digitalization to help them to obtain a standard like LEED because

⁶ Embodied carbon emissions arise from manufacturing, transport, installation, use, and end-of-processing of materials used in building construction. Design teams can find the greatest embodied carbon savings by carefully considering the issue from project outset.

⁷ Clean Energy Canada, [A Buy Clean Roadmap for Canada - Clean Energy Canada](#), July 2021.

“green certifications result in a rental premium of 6 percent and a sales premium of 7.6 percent.”⁸ While Canada has the greatest number of certified zero-carbon buildings in the world through the [CAGBC Zero Carbon Building standards](#), JLL indicates that the market for zero-carbon buildings remains restrained. That leaves tenants and occupiers seeking, at minimum, sustainability actions from their landlords and data from utilities.⁹ In other words, the industry needs standardized building data that is reliable and easy to access, including (but not limited) to water and energy consumption, waste, and GHG emissions. The government should support the implementation of standardized energy benchmarking, disclosure and rating systems in provinces and territories or provide one they could join.

To better understand benchmarking, data disclosure and building labels, the federal government should look to Australia, New Zealand, and the United Kingdom. All three countries have mandatory laws to collect building data, for example, Australia’s [Building Energy Efficiency Disclosure Act 2010](#). The main differences between these countries are in collecting data and labelling. The UK primarily uses Energy Performance Contracts, a system based upon predicted or designed performance rather than the measured one, contrary to the NABERS UK program, which is for offices only.

There are three approaches to a labelling program:

- A public agency is responsible under the supervision of industry stakeholders and national and subnational governments (e.g., NABERS Australia);
- A Crown Corporation is accountable or hires an independent organization to administer it (e.g., NABERS New-Zealand); or,
- A government can leave it to a third party in the private or non-for-profit sector to organize the program with the inputs of public and private stakeholders (e.g., NABERS UK).

CAGBC recommends a \$20 million investment to create a benchmarking, disclosure, and labelling program and another \$15 million over two years to support it. To respect intellectual property and effectively address Canada’s privacy laws, considered among the most comprehensive of OECD countries, an organization at arm’s length from the government or a third party to administer the program is the most appropriate solution. The federal government may also consider the participation of provinces and territories in the program or provide guidelines and funding so they can create their own.

⁸ JLL, [Return on Sustainability \(jll.ca\)](#), January 2022.

⁹ JLL, *Capital Markets Foundations and the Net-Zero Carbon Transition*, October 2022.

Conclusion

On the heels of a historic and devastating hurricane and increasingly unpredictable and damaging weather events, climate change and resiliency must be Canada's top priorities. To slow and eventually reverse climate change, we need to lower carbon emissions significantly. The building sector can reduce emissions at scale with zero-carbon buildings – as a proven and cost-effective approach.

Reaching net-zero emissions by 2050 requires the decarbonization of all Canada's buildings starting now – and the financing of bold actions by the federal government. Committing Canada to the decarbonization of its built environment will provide a global model that other countries can follow and, at the same time, ensure buildings and communities can better respond to climate change. As a co-benefit, the retrofit economy will create new jobs, foster innovation, and grow Canada's low-carbon supply chain.

The green building sector is ready. We've proven zero-carbon buildings are technically and financially feasible and that all buildings have a path to zero. For the building sector to advance its carbon targets, it needs intentional and thoughtful federal leadership, especially around procurement and public investment. Further, the government can leverage a national retrofit strategy tied to GHG reductions to advance healthier and more affordable homes.

Committing to zero-carbon buildings and a net-zero emissions economy will change Canada profoundly. Our approach – both the building sector and the federal government – must be bold and creative. Only by matching our ambitions with determined action will we meet Canada's 2050 decarbonization goal.