

**Written Submission  
for the Pre-Budget  
Consultations in Advance  
of the 2020 Budget**



## Recommendations

**Recommendation 1:** The government should invest \$20 million over two years for workforce development and training to build Canada's low-carbon green buildings.

**Recommendation 2:** The government should allocate \$1 billion in funding from the Canada Infrastructure Bank for deep retrofits of public and private sector buildings to grow investor confidence in Canada's retrofit economy.

**Recommendation 3:** The government should commit to adopting Canada Green Building Council's Zero-Carbon Building Standard for all newly built, owned, or leased federal buildings, along with an updated LEED Platinum standard, to reduce energy use and drive uptake in the commercial and institutional market for zero-carbon building.

## Introduction

The Canada Green Building Council (CaGBC) is a national, industry-led, non-profit organization dedicated to green building. Our in-depth market research and analysis, building certification programs, and capacity-building efforts have accelerated the transformation to high-performing green buildings, homes, and communities throughout Canada.

Canada's built environment is a significant contributor to Green House Gas (GHG) emissions, with 17 per cent coming from residential, commercial, and institutional buildings. By constructing high-performing, low-emission buildings and retrofitting Canada's existing building stock, the federal government will lower emissions, create new jobs, and scale-up investments and innovation, ensuring building stock is more resilient to future climate conditions.

Innovative policies, such as labelling building energy performance, retrofit codes, and low-cost financing for retrofits, will move the sector forward. High-performing, smart, and innovative buildings are critical to Canada's transformation to a low-carbon economy in a manner that drives job creation, economic growth, and cost savings for Canadians. Canada's green building sector is one of the most advanced in the world and is well-positioned to drive the transformation to a low-carbon economy. CaGBC is confident that Canada's continued leadership position in green building will generate other opportunities for economic growth and job creation.

In Budget 2020, Canada has the opportunity to implement green building initiatives that are technically feasible, financially viable, and provide clear socio-economic benefits; including through building the capacity of Canada's construction workforce.

## Recommendations

### **Recommendation 1: The government should invest \$20 million over two years for workforce development and training in order to build Canada's low-carbon green buildings.**

Canada's complex and changing labour market requires workers to adapt, retrain, or upskill to be successful in an ever-changing economy. As Canada transitions to a low-carbon economy, it needs to develop a robust construction workforce with the capacity to develop, construct, and manage innovative, high-performing smart green buildings. This future skills shortage is a pressing concern: the Canadian Home Builders Association anticipates the exit of 122,100 workers by 2027 in the residential sector alone. The construction trades are not the only profession in the building industry that needs to adapt. Building officials, engineers, architects, designers, project managers, energy modellers, and building operators will also need to upgrade their skills to deliver on highly innovative and smart green buildings.

Buildings can effectively reduce GHG emissions by up to 91 per cent when properly designed, built, and commissioned. However, high-performing smart buildings are relatively new and often not well-understood by industry and governments regarding the necessary conditions for implementation, efficient operation, as well as the associated training required to build on a large scale with reliable performance.

A workforce educated in constructing and operating high-performance buildings will be needed at an increasing rate to meet the higher Canada-wide standards for more efficient buildings and enable Canada's workforce to compete in a globally competitive marketplace. However, there is a distinct gap between training offerings and actual uptake. Currently, there is no incentive for tradespeople to

upgrade or adapt their skills through further education because they are only paid when they are working.

CaGBC research [Trading Up: Equipping Ontario Trades with the Skills of the Future](#) identifies these barriers – and the range of skills and capabilities required by construction trades and other professions. These skills are expected to increase in importance as Canada continues its shift to high-performing buildings designed to mitigate lifecycle costs and climate-related risks through smart building technology, innovative materials, and construction and design processes.

The green building workforce requires effective education and upskilling opportunities to be successful and competitive. Each occupation in the construction industry has different challenges that affect their professional development and career advancement. Traditional trade roles need to adapt. In some cases, entire new professions will need to be created. The most pressing skills gaps and the challenges in accessing education opportunities need to be identified and addressed.

**CaGBC recommends addressing the skills gaps for workers in low-carbon construction. We recommend a \$20M investment over two years for construction workforce development, ensuring enough individuals are equipped to build low-carbon green buildings.**

These funds will support:

- Developing, testing, and measuring new approaches to green building and low-carbon skillsets required for traditional construction-related professions transitioning to the low-carbon economy;
- Existing training programs where federal investments can be quickly deployed through federal departments, programs, and stakeholders such as the Canada Green Building Council, the Canadian Institute for Energy Training, Passive House Canada, training institutions, professional bodies, and trade unions;
- Ensuring that construction workers receive the high-performing, smart-building knowledge they need in a low-carbon economy through adjustments to existing curricula and new outreach and capacity-building approaches;
- Ramping up workforce development initiatives and programs to ensure Canada is prepared to benefit from the job-creating opportunities offered by constructing high-performing buildings.

## **Recommendation 2: Leverage the Canada Infrastructure Bank to build investor confidence in Canada's Retrofit Economy**

Over 80 per cent of existing buildings will still be in operation by 2030. Retrofitting existing buildings provides a cost-effective opportunity to meet emissions targets for the building sector. CaGBC's [recent research](#) argues that when done well, retrofits offer significantly reduced energy consumption and emissions, producing lower operating costs and enhanced property values. Retrofits also improve conditions for occupants, create new employment opportunities and vocations, develop new expertise within the real estate sector, while generating attractive returns for lenders and investors. However, these improvements require incentives to complement private sector financing in a manner that helps industry and building owners cover up-front capital investments.

To date, government interventions have been focused on grants and rebates to incent retrofit activity. While important, these interventions should also focus on establishing the appropriate market infrastructure to create a self-sustaining retrofit economy. Access to financing continues to be a barrier to achieving deep retrofits. To build the confidence of lenders to invest in retrofits, private sector lenders need to incorporate energy efficiency and GHG reductions into their underwriting criteria. Factoring monetary savings into cash flow calculations of the borrower guards against the financial risks

of future value impairment if a building asset does not meet regulatory requirements (e.g. through minimum energy efficiency standards or losing value as the price of carbon increases).

Recognizing the need for investor confidence, CaGBC introduced the [Investor Confidence Project](#) (ICP) to Canada. The ICP de-risks investments in retrofits. It assembles existing standards and practices into a consistent process for underwriting, developing, and measuring energy efficiency retrofit projects that support the assessment of risk and expected outcomes. This provides confidence that a project will achieve its stated energy efficiency or carbon reduction targets.

Working with stakeholders and financial institutions to encourage a consistent approach to standardizing the development and measurement of energy efficiency and carbon reduction in retrofits should be a federal priority. This would create industry-trusted standards, methodology, and certification akin to those provided by credit rating agencies for investors in debt securities.

Unfortunately, a lack of investor confidence in anticipated cash flow generated from energy savings persists – and institutional investors still prefer larger (e.g. portfolio) transactions, meaning efficiency projects are relatively small-scale.

Consequently, CaGBC recommends the federal government instruct the Canada Infrastructure Bank (CIB) to use \$1 billion of its \$35 billion allocation to finance retrofits of commercial and multi-residential buildings. Through this commitment, the CIB can catalyze investor confidence by helping to backstop retrofit loans and bundle retrofit projects through financial structures that pool retrofits for scalable investment.

An investment of this scale would leverage significant amounts of private capital, stimulating the economy in the short-term and improving Canada’s long-term productivity, while lowering its GHG emissions.

### **Recommendation 3: Invest in Zero-Carbon Buildings to scale-up innovation and investment**

[Research by CaGBC demonstrates](#) that zero-carbon buildings are not only technologically feasible using readily available technologies and practices; they are also financially viable.

A “zero-carbon” building is characterized by four key components: demonstrating a zero-carbon balance in its operations; incorporating a design that prioritizes reducing energy demand and meeting energy needs efficiently; using renewable energy onsite; and evaluating the level of carbon in the manufacturing of structural and envelope materials as part of the design.

On average, zero-carbon buildings can achieve a positive financial return of 1 per cent over a 25-year lifecycle, inclusive of carbon pricing. Importantly, research shows that zero-carbon buildings can be built today and that operating cost savings will cover upfront investments. Furthermore, should the cost of carbon rise over time, the business case for zero-carbon buildings grows stronger, spurring new investments and innovations.

The cost of not adopting a zero-carbon approach increases with each passing day. Every building built today that is not designed accordingly is contributing to increased carbon emissions – and will inevitably require major investments in mechanical equipment, ventilation systems, and building envelopes by 2050 to meet Canada’s GHG reduction targets. These retrofits will need to occur before the normal span of lifecycle re-investments, proving costly and disruptive to building owners, operators, and tenants.

If Canada starts now, over 12 Mt CO<sub>2</sub>e/yr could be avoided through zero-carbon buildings by 2050.

The establishment of a robust zero-carbon building marketplace can be accelerated by a range of pricing

mechanisms, procurement and partnership models, and regulations that address the known impediments. This would create more conducive conditions for widespread market adoption of zero-carbon technology in Canada and, scale- up investment, innovation, and export opportunities for forward-looking Canadian solutions.

CaGBC encourages the federal government to continue its “greening government” strategy and commit to constructing and operating new buildings as zero-carbon, adopting CaGBC’s Zero-Carbon Building Standard for all newly owned or leased federal buildings, along with an updated LEED Platinum policy.

The federal portfolio is large enough that it can be levered to demonstrate the business case for building to zero-carbon. The federal government would signal leadership to the provinces, territories, and private sector building owners in proving the economic case for zero-carbon buildings and normalizing the processes and technologies that will make zero-carbon buildings the Canadian industry standard for value. This action by the federal government will drive uptake in the commercial and institutional market.

## Conclusion

Canada can compete in the global economy while re-affirming its commitment to lowering GHG emissions. CaGBC is presenting recommendations focused on driving the transition to a low-carbon economy while contributing to economic growth and mitigating the effects of climate change.

Canada’s retrofit economy is well-positioned to provide significant new sources of wealth generation and job creation over the medium-term, provided that the right workforce and fiscal incentives for the private and public sectors are in place to help the retrofit economy realize its full potential. As Canada transitions to a low-carbon economy, recognizing where government action can prepare Canadians to capitalize on this transition is essential.

CaGBC will continue to provide the federal government with thought leadership and solutions to grow the low-carbon economy, realize economic benefits, and achieve GHG reductions from the building sector.