

2017 Pre-budget
Consultation
Submission



Introduction

The Canada Green Building Council wishes to thank the Standing Committee on Finance for the opportunity to participate in the 2017 pre-budget consultation process. The proposals put forward in this submission are designed to help communities and businesses contribute to the growth of our economy. They will support Canada's transformation to a green economy while mitigating the threat of climate change through sustainable building practices.

The Canada Green Building Council (CaGBC) is the only national, industry-led, non-profit organization dedicated to accelerating the transformation to high-performing, healthy green buildings, homes and communities throughout Canada. The CaGBC aims to transform Canada's built environment by:

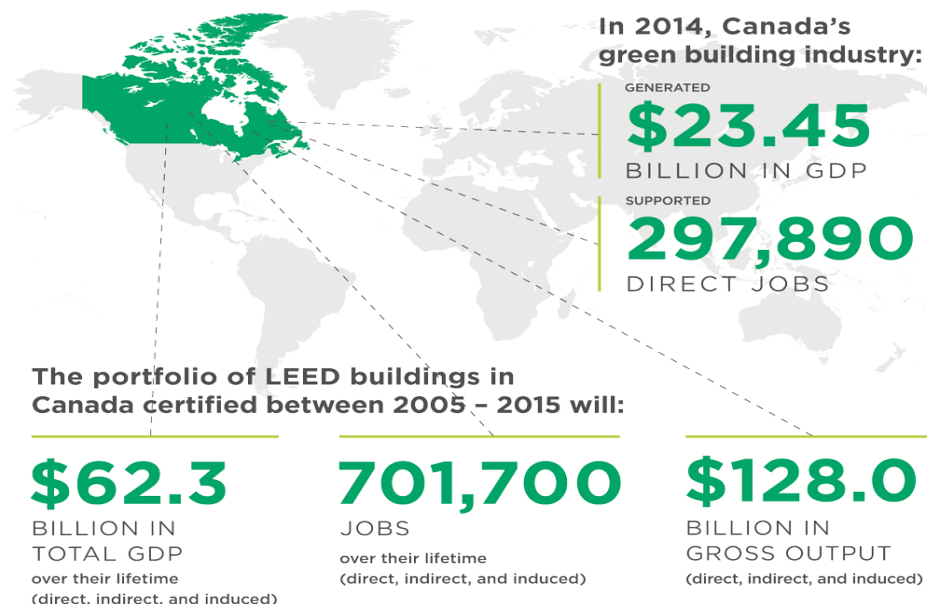
- Advancing leading edge industry standards;
- Developing best design, construction and retrofit practices and guidelines;
- Undertaking research;
- Advocating for green buildings; and
- Supporting the industry in the implementation of sustainable design and construction practices through education and training.

At CaGBC, we know that Canada can achieve economic growth and combat climate change by investing in sectors that have long-term greenhouse gas (GHG) emission reduction potential. The built environment presents a significant opportunity for the federal government to work with municipalities, provinces and industry to bring about real environmental change, and create a green economy.

A February 2016 CaGBC report on the market impacts of green building demonstrates that through both direct and indirect benefits, green building generates investment growth, job creation, and revenue for companies of all sizes across the supply chain through the entire lifecycle of a building.

Investments in green buildings and LEED certified projects contribute significantly to Canada's economy. In 2014, Canada's green building industry generated \$23.45 billion in GDP and employed 297,890 full-time workers, more than Canada's oil and gas extraction, mining and forestry industries combined¹.

¹ Green Building in Canada: Assessing the Market Impacts & Opportunities. *CaGBC* 2016.



Our recommendations will fuel the growth of Canada's sustainable building industry and real estate sector by creating jobs and developing green expertise while positioning Canada as a leader of the global green economy. These measures will also help Canadian communities contribute to economic growth while reducing the burden and cost associated with climate change. Our recommendations focus on four key areas:

- **Meeting Canada's Climate Change Targets** by investing in and incentivising building energy efficiency improvements in existing buildings;
- **Strengthening Building Performance** by advancing building energy benchmarking initiatives;
- **Reducing the Government's GHG emissions** by adopting advanced green building standards for federal building renovations, new construction and leased properties; and
- **Investing in Net Zero Buildings** by creating a National Net Zero Energy Building Initiative to craft a Canadian standard to guide the industry in building net zero buildings and neighbourhoods.

Together, we can achieve the required GHG reductions in the building sector through a concerted approach that meets rigorous international standards. This approach will not only help us achieve our 2030 targets but also bolster our environmental credibility at home and abroad.

Recommendation #1: Meeting Canada's Climate Change Targets

According to a WSP report commissioned by CaGBC, building owners in both the public and private sectors must dramatically accelerate building energy efficiency improvements in order to reduce GHG emissions. By developing a suite of grant programs, tax incentives and pilot projects, the government can help building owners achieve significant emission reductions.

We recommend the following specific initiatives for buildings over 25,000 square feet:

- Undertake deep retrofits for 60% of buildings;
- Recommission remaining 80% of buildings;
- Incorporate solar or other renewable onsite energy systems for 40% of buildings; and
- Work with provinces and the private sector to install emission-reducing fuel pumps to generate emissions reductions in 20% of buildings.

Implemented in 2017-2030, these initiatives deliver long-term, positive results. According to analysis commissioned by Acton White Associates, the estimated net present value of all GDP impacts to be \$261 billion. Employment gains from building upgrades are anticipated to average 260,741 equivalent full-time jobs annually. When direct, indirect and induced impacts are combined, construction activity in 2030 alone generates \$5.2 billion in taxes accruing to the federal, provincial and municipal levels of government. In 2030 alone, the social cost of the GHG emissions avoided is \$960 million in current dollars (\$729 million in 2016).

Recommendation #2: Strengthening Building Performance through Energy Benchmarking

We cannot take targeted measures to reduce emissions without having an accurate baseline picture of how our buildings perform and where our current emissions come from. Energy benchmarking is a foundational tool for measuring energy use and year-over-year GHG emissions reductions in existing buildings.

Energy benchmarking enables building owners in the public and private sectors to pinpoint exactly how energy is used and where emissions are coming from. It provides them with the data that they need to strategically invest in improvements in operations, technology upgrades and retrofits to reduce GHG emissions. The data generated through energy benchmarking further stimulates private and public sector investment in efficiency measures.

The federal government can demonstrate leadership in achieving its GHG reductions goals by mandating energy benchmarking for all buildings in its portfolio. Energy benchmarking and associated data will provide the government with:

- Access to key data on the performance of its buildings, enabling targeted improvements to building operations and retrofits;
- Improved energy conservation awareness among the civil service; and
- A measured framework and outcomes to demonstrate that the federal government is taking action toward achieving climate and energy goals.

Recommendation #3: Reducing the Government's GHG Emissions 30% by 2030 through Advanced Green Building Standards for Federal Building Renovations and New Construction

The government successfully adopted a LEED Gold policy for new federal office buildings in 2005². Since then LEED has become the *de facto* international standard for green building construction and retrofit with projects in over 150 countries³. Expansion of this policy to large building retrofits across the entire portfolio of government buildings would signal government leadership to the industry.

While there are costs associated with taking rapid action to reduce GHGs in government owned or leased buildings, there are clear short and long-term economic benefits as well.

A 2014 CaGBC-McGraw Hill Construction study demonstrated that LEED certified buildings yield savings in energy and water costs, and increased employee well-being and productivity, with a significant return on investment over the buildings' lifecycles. It found that the majority of owners of buildings that had been retrofitted to a LEED standard in Canada expected to recoup the cost of their renovation within

² Government of Canada Adopts New Environmental Standard for Buildings. *Public Works and Government Services Canada*. 2005.

³ CaGBC.

just three to five years. Respondents also expected to see a decrease in operating costs for their retrofitted building of 3-10% within the first year, and up to a 32% decrease within five years. LEED certification provides the assurance that designers, contractors and owners have followed through on green design, construction and retrofit targets. Without stringent targets and rigorous certification standards, these benefits cannot be realized.

According to the Acton White Associates report, in the short-term, manufacturing, installation and construction jobs will be created from the initiatives that generate GHG reductions. Advisory sector jobs in architecture, consulting and engineering will also see growth. As discussed above, the impacts of adopting green building deep retrofits, renewables, and fuel switching will stimulate 16 industry sectors across the supply chain in Canada, including: manufacturing, professional services, trade, real estate, construction, and telecommunications.

Over the long-term, the initial costs associated with the upgrades can be recouped through energy savings. Due to its rigorous third-party verification, LEED buildings typically achieve better environmental outcomes than other standards, and result in higher overall savings⁴.

Implementing carbon reduction activities for federally-owned buildings over 25,000 ft², which account for almost 3%⁵ of building sector emissions, can demonstrate a significant commitment to achieving Canada's GHG target. According to the WSP report, if the government implements significant carbon reduction measures, the resultant benefits would include GHG emissions reductions of approximately 480,000 tonnes and cost savings of approximately \$170 million annually. The following are some specific actions the federal government can undertake to reduce its GHG emissions by 30% by 2030:

- a) Establishing high-performance targets for energy efficiency to help the government achieve maximum carbon reduction benefits, for both the construction and operating components, through its ambitious investment in infrastructure for its existing portfolio and new buildings;
- b) Mandating that 60% of all government-owned buildings that are undergoing significant renovations by 2020 meet the LEED EB:O&M standard by assessing and prioritizing the retrofit potential of buildings that are the best candidates for high performance green standards;
- c) Further improving highly efficient buildings by achieving zero carbon targets through a renewable or low carbon energy option and using these as demonstration projects for the industry; and
- d) Defining strong leasing requirements and infrastructure program guidelines for buildings, such as LEED Platinum or zero/carbon targets.

Recommendation #4: Developing Net Zero Buildings

CaGBC proposes to partner with the federal government on a National Net Zero Energy Building Initiative to create a Canadian standard to guide and support developers, owners, designers and builders in building net zero buildings and neighbourhoods. According to the WSP report, if all new buildings above 25,000 square feet were built to be net zero carbon between now and 2030, GHG emissions for the large building sector would be 17 % lower than those in 2005. This is equal to 7.5 megatonnes of GHG emission reductions.

A national net zero initiative would also drive innovation in the building sector and further strengthen Canada's position as an international leader and innovator in net zero buildings. This would open up

⁴ LEED Facts. *USGBC*. 2013.

⁵ National Carbon Forecast. *WSP*. 2016.

trade opportunities for Canada in the growing international market for green buildings.

Net zero policy development in Canada is in its early stages and CaGBC is working on defining the parameters for the Canadian context. To this end, CaGBC has established a national Working Group, including federal government representation that engages leading Canadian building energy experts to:

- a) Define net zero and develop metrics for use by the Canadian industry;
- b) Identify pathways for the industry to move toward net zero construction and retrofit; and
- c) Develop a standardized verification and monitoring protocol to ensure performance targets are being met and maintained over the life of a building.

To manage future growth in Canada's building footprint that is in line with a low-carbon economy, CaGBC is developing a regionally-based, net zero framework and certification program (to be developed by Fall 2016 and Spring 2017 respectively). With current advances in innovation, it is reasonable for the government to be a leader in net zero buildings by setting a net zero new build goal for government-owned and leased buildings.

Conclusion

This submission proposes recommendations focused on greening our built environment that will have important impacts on growing Canada's green economy while mitigating the effects of climate change. We have demonstrated that there are opportunities for the building sector to achieve GHG reduction targets if a comprehensive approach is taken to overhaul building operations and improve building systems.

The built environment plays a significant role in our day-to-day lives. Our actions in reducing GHGs associated with the buildings in which we live, work, learn and play will help Canadians do their part to combat the most important challenge of this century while positioning Canada as an international leader and innovator in efficient and green building practices.

The Canada Green Building Council will continue working with the Government of Canada to provide advice on the most efficient mix of solutions to grow the green economy and reduce emissions in the building sector, as well as provide advice on the policy levers to ensure that these changes are achieved in time to meet Canada's GHG targets.