



International Institute of Building Enclosure Consultants (IIBEC)
Comments Regarding
The Canada Green Buildings Strategy

September 15, 2022

On behalf of the over 3,500 members of the International Institute of Building Enclosure Consultants (IIBEC), and specifically the 700 members located in across Canada in every province, please accept these comments regarding the Canada Green Building Strategy (CGBS).

IIBEC members come from a diverse group of design and construction industry companies, including hundreds of engineering firms, architecture companies, consultants, contractors, and product manufacturers. Our members specialize in design, investigation, repair, and management of roofing, exterior wall, and waterproofing systems. IIBEC members act as an advocate for the building on behalf of the owner or manager and ensure the building enclosure or roofing projects meet standards, codes, warranty requirements, and functionality required. IIBEC members are perfectly positioned to inform owners and managers about the costs and benefits of adopting a high-performance approach when it comes to designing or retrofitting a building. And for these same reasons, IIBEC is well positioned to comment on the CGBS.

IIBEC credentials represent the pinnacle of roofing, waterproofing, exterior wall, and building enclosure commissioning professionalism. The Registered Building Enclosure Consultant (RBEC®), Registered Roof Consultant (RRC®), Registered Waterproofing Consultant (RWC®), Registered Exterior Wall Consultant (REW®), and Certified Building Enclosure Commissioning Provider (CBECxP®) programs distinguish professionals with proven standards of education, experience, and ethics. The requirements for attaining these designations are stringent and take considerable time and effort to fulfill. The Registered Roof Observer (RRO®) and Registered Exterior Wall Observer (REWO®) programs qualify individuals to monitor the construction process to ensure that roof and exterior wall projects stay in compliance with approved construction drawings, specifications, and best-practice or warranty-stipulated installation procedures. With hundreds of IIBEC credentialed individuals across Canada, these programs have proven beneficial to society by distinguishing between those who have attained a qualifying level of competence from those that have not and provides credibility, recognition, continuing education, job satisfaction, and often increased earning power and/or enhanced prospects for employment to the credential holder.

Buildings Enclosures Are Critical for Increasing Energy Efficiency and Reducing Carbon

Over one-third of the commercial buildings in Canada were built before 1990. There are another 500,000 commercial and institutional buildings in Canada, using about 1/3 of energy produced. Most of the energy used in buildings is generated from nonrenewable or fossil-fuel-burning sources, which generate greenhouse gas (carbon) emissions. Obviously, improving energy efficiency will decrease customer's energy bills while simultaneously reducing the amount of carbon necessary to provide that energy.

The building enclosure consists of all the elements of a building that separate its interior from the exterior environment: external walls, insulation, windows, and roofing. Advanced building enclosure materials can reduce building energy use and costs by lowering heating and cooling loads, which account for roughly half of energy consumed by a typical home and 40% in commercial buildings. Heating and cooling loads can be reduced by as much as 40% simply by using efficient building envelope technologies. Another 10% to 15% can be saved by adding roof and attic insulation.

While the use of advanced building materials can have an enormous impact on energy usage, geographical location significantly influences opportunities for energy savings from specific technologies. In cold climates, for example, improved air sealing, high-performance insulation, and advanced windows reduce energy consumed for heating.

Not only can building enclosures help reduce energy use, but they can also be made resilient, which can help keep communities safe during and after an extreme weather event. If, as detailed by numerous studies, climate change increases in the severity and frequency of storms, high-performance building enclosures can be designed to withstand, and quickly recover from, these storm events while protecting individuals and maintaining functionality. The U.S. National Institute of Building Sciences estimates that for every \$1 US spent on resilient building and construction, \$6 in recovery costs can be saved. The amounts should be the same whether the buildings are based in the US or Canada.

DISCUSSION QUESTIONS

Does this discussion paper target the right strategic themes and areas requiring change, and communicate the level of action required?

While the discussion paper considers several themes and areas requiring change, financing deserves more attention.

The largest issue facing the strategy is financing, something the plan touches on, but does not give due attention. While there are many benefits to using advanced building enclosure materials, capital costs in office buildings often present a significant barrier to realizing high-performance buildings. Innovative procurement and delivery strategies, integrated design principles, and streamlined construction methods can help overcome these barriers. In new constructions, for example, installing a high-performance building envelope can also reduce the upfront cost and space necessary for mechanical ventilation, air conditioning and space heating.

However, owners of occupied buildings face three serious disincentives to participating in the plan. First, for even an average size commercial building the cost of a deep retrofit is likely to be in the millions, money that must be paid upfront. While tax credits and deductions can alleviate the financial strain, the ROI timeline is still likely to be years long. Second, it takes time and money to clear a building for a deep retrofit. Tenant contracts may have to be broken, it may take time for tenants to find suitable accommodations and then plan their move, during which the building owner is going to be forgoing rental income. Third, at the end of the project new tenants must be located and convinced to locate in the building, an effort that also takes time for average buildings. Each of these points present a significant risk to the building owner and are likely to

prove a major disincentive for a broad swath of building owners to conduct the energy-efficiency and carbon-reducing projects necessary to achieve Net Zero Energy by 2050.

A widely cited statistic drives this point home: 80% of the buildings in use in 2050 have already been built. This means that the new codes and carbon reduction measures will only be applied to approximately 20% of the entire building stock. If the CGBS is to be successful, the plan needs to identify financial vehicles (tax credits, deductions, low-interest loans, etc.) that building owners can access to minimize business risk in order to make the necessary upgrades so Canada can achieve efficiency and carbon-reduction goals.

This discussion paper identifies current and potential actions that the federal government is taking under each theme. What actions can your organization contribute to support achieving the changes needed within each theme?

IIBEC members are perfectly positioned to inform owners and managers about the costs and benefits of adopting a high-performance approach when it comes to designing or retrofitting a building. IIBEC members and staff participate on committees related to developing and advancing green building and energy-efficiency codes and standards.

Are there other actions that you believe need to be taken, best practices we should consider, or potential risks to pursuing the Strategy?

There are several actions that Federal and provincial governments should consider in order to meet the aggressive net-zero emissions goal by 2050.

Additional financial incentives for deep retrofits to reduce the business risk for building owners. See above.

Even high-performance buildings can get sick. The CGBS should make the case for buildings to have a formal preventive maintenance program and a regular inspection regime of the major building components to determine that the building systems continue to operate as expected.

Include a requirement that buildings and multi-family housing undergoing a deep retrofit use a professional trained in the building enclosure design, installation, and commissioning and certified by an international organization specializing in these matters. By doing so, the CGBS will ensure that buildings undergoing a deep retrofit will meet the requirements, be resilient, and contribute to a healthier Canada.

Thank you for the opportunity to comment on the Canada Green Buildings Strategy.

Respectfully,



Brian Pallasch, CAE
CEO/EVP