



August 24, 2018

Hon. George Heyman  
Ministry of Energy & Climate Change Strategy  
525 Superior Street  
Victoria, British Columbia V8V 1T7

## **RE - Commercial Real Estate Industry Comments on "Clean, Efficient Buildings Intentions Paper"**

### **INTRODUCTION**

The Canada Green Building Council (CaGBC) and the Real Property Association of Canada (REALPAC) would like to commend the B.C. Government for its leadership towards a low-carbon economy and developing an innovative and ambitious long-term Clean Growth Strategy that maps out solutions to reduce carbon emissions from the buildings sector. Innovative policies, like labelling building energy performance, stronger (retrofit) codes, financial incentives, and training and certification will move the sector towards low-carbon solutions.

We appreciate the opportunity to comment on the proposed strategy to provide constructive feedback on the Discussions that relate to buildings on behalf of the green building industry in B.C. and Canada.

What follows are the CaGBC's and REALPAC's recommendations related to the built environment which can be found in Discussions 4 -8 of the Clean Growth Intentions Papers.

### **ABOUT CaGBC AND REALPAC**

The **Canada Green Building Council (CaGBC)** is a not-for-profit, national organization that has been working since 2002 to advance green building and sustainable community development practices in Canada through market-based solutions. We are an industry-led organization providing value-added solutions that benefit the environment, economy, and public health. Our in-depth market research and analysis, building certification program (LEED, Zero Carbon Standard), and capacity building efforts have accelerated the transformation to high-performing green buildings, homes, and communities throughout Canada. Our reach is enhanced by the work of eight provincial Chapters that provide regionally tailored market education and advocacy.

The **Real Property Association of Canada (REALPAC)** is Canada's senior national industry association for owners and managers of investment real estate. Our Members include publicly traded real estate companies, real estate investment trusts (REITs), private companies, pension funds, banks, and life insurance companies with investment real estate assets each in excess of \$100 million. The association is further supported by large owner/occupiers and pension fund advisors, as well as individually selected investment dealers and real estate brokerages. REALPAC recognizes the significant environmental, social, and economic impact of Canada's commercial real property sector and our members participate in initiatives such as ENERGY STAR Portfolio Manager, BOMA BEST, LEED, and GRESB.



## RECOMMENDATIONS

### Discussion 4 – Building Energy Labelling Requirement (Improving Buildings)

#### Implement an energy benchmarking regulation

CaGBC and REALPAC believe that the Province of B.C. should start with an energy benchmarking regulation (following the same framework recently established in Ontario) before introducing a labelling requirement. We would suggest starting with energy benchmarking before introducing an energy labelling requirement to learn more about actual building performance and collect data to inform labelling. Labelling at point of sale/rental is useful to ensure prospective owners and tenants have access to energy performance information, but annual benchmarking is foundational and a more effective tool to drive ongoing performance improvements and conservation programs. It provides owners with regular data to assess how their buildings perform compared to their peers and incents an attentive approach to managing energy. It can also guide code evolution and contribute insight into the impact of the B.C. Energy Step Code. Benchmarking of energy performance should start with larger buildings over 250,000 sq ft and include smaller ones over time, phasing in disclosure within three years.

In our experience, energy benchmarking can support significant reductions in building energy use over time and allows for peer to peer comparison of energy use between similar buildings, further driving energy efficiency improvements. Ontario’s benchmarking framework uses ENERGY STAR Portfolio Manager as the reporting tool and a phased reporting schedule based on building size. We expect that data collection and reporting would be easier in B.C. than Ontario because there are only two utilities in the province, but over 60 in Ontario. Although the City of Richmond has expressed interest in piloting their own energy benchmarking program, we believe that energy benchmarking should be a provincial initiative and not a municipal one to ensure that there is consistent reporting across the province and no reporting differences among municipalities.

#### INDUSTRY QUOTE

*“Trioest supports efforts to achieve a harmonized, national approach to report, benchmark and label commercial buildings. A consistent approach will reduce the regulatory burden of compliance on organizations. It will also make it easier for Canadians to understand each building’s environmental performance.”*

**Philippe Bernier**  
Vice President, Innovation & Sustainability  
Trioest Realty Advisors Inc.

### Discussion 5 – Financial Incentives (Improving Buildings)

#### Introduce financial instruments for the retrofit market

CaGBC and REALPAC recognize that it is important for financial incentives to be part of B.C.’s Clean Growth Strategy because it is not always economically feasible for building owners to implement retrofits, energy efficiency measures, and carbon reduction technologies on their own. However, any incentive program should be developed with the intention of building up the market infrastructure to sustain and accelerate retrofit activities in the province. We know that grants and rebates alone will not lead to the scale of retrofit activity necessary to achieve deep carbon reductions and transform the economy. Private financiers, insurers, and other financial intermediaries can contribute to “green” underwriting practices, project financing approaches, and risk management products that foster building owner and financier confidence in managing risk, particularly project performance risk. CaGBC’s “Roadmap for Retrofits in Canada”, outlines a number of financial measures that have already been established in other jurisdictions. Some financing tools that B.C. should consider are:



- **Property Assessed Clean Energy (PACE) Financing:** Projects are secured with a property lien and repaid by the owner through a special assessment on the property tax bill. Ideally, a commercial PACE program should also ask for clear performance outcomes post-retrofit.
- **Metered Energy Efficiency Transaction Structure (MEETS):** Investors finance energy efficiency retrofits and are repaid the revenues from energy savings.
- **Green Mortgages:** Increase the borrowing capacity of property owners to undertake retrofit projects and provide an interest rate incentive for energy savings.
- **Investor confidence project (ICP):** ICP is an increasing popular global standard for underwriting, developing, and measuring energy efficiency retrofit projects. It would create an industry trusted standard, methodology, and certification akin to that provided by credit rating agencies for investors in debt securities and help to support other green financing products. (*Ontario is currently piloting the introduction of ICP, partnering with CaGBC and therefore could be transferred easily to B.C.*)

## INDUSTRY QUOTE

*"The Province should provide some support to help companies trial new technology. Nobody wants to pay the price of being an early adopter."*

**Matthew Macwilliam**  
Manager, Energy and Sustainability  
Ivanhoé Cambridge

In our collective view, the Ministry should secure strategic partnerships with industry and the financial community to establish the necessary market infrastructure for a profitable retrofit economy in B.C. All incentives should consider a tailor-made approach which assesses the financial needs of varying asset classes to determine the best use of incentives and related public funds.

## Discussion 6 – Stronger Codes and Standards (Improving Buildings)

### Explicitly address carbon pollution

To provide an effective climate protection strategy, the Province's code requirements should address not only energy efficiency, but also carbon pollution. To encourage new buildings to connect to low-carbon heating sources, our energy code should compare the relative merits of different fuel uses based on their carbon intensity. This should be done alongside requirements for energy efficiency, to limit energy waste and protect consumers against future energy cost increases. Even as efficiency increases, the choice of heating fuel dominates the emissions outcome of building operations. There are plenty of low-carbon options to heat buildings, and regulations should be adjusted to send a clear signal to building designers that these are preferable and also affordable. Setting a carbon intensity budget gives developers an incentive to connect to low-carbon heat sources (e.g. electricity, district energy systems, or renewable natural gas) while still providing the flexibility to use fossil natural gas and other carbon-intensive fuels for high-value uses like cooking or back-up heating systems.

The simplest way to meet this objective would be to incorporate GHG intensity metrics (GHGI) into the Step Code. This would help to ensure a consistent framework and approach across the province which would also be seen as essential by the industry. To preserve the innovation that will be necessary to transition B.C.'s building stock to low carbon, we would encourage the Province to

## INDUSTRY QUOTE

*"The BC Energy Step Code is a global model for how to improve energy efficiency in new buildings but not including carbon metrics and specifically a GHGI was a profound oversight that needs to be corrected. There is strong support from industry to do this in order to ensure cost effective low carbon outcomes. "*

**Dave Ramslie,**  
Vice President, Sustainability  
Concert Properties LTD.



explore alternative compliance pathways for all steps beyond Step 3. This would mean that buildings would still need to meet the established Thermal Energy Demand Intensity (TEDI) and Energy Use Intensity (EUI) thresholds of Step 3 for Part 9 and Part 3. However, they would be afforded the option to achieve a GHGI in lieu of a higher TEDI threshold, for example. This is a natural extension of the intention and structure set by the Step Code, and will ensure its ongoing success.

#### Building code requirements for existing buildings

The majority of carbon pollution reductions in the building sector need to come from existing buildings. We support the alignment of a B.C. retrofit code with federal codes and adopting it by 2024. However, there is inherent risk in waiting. The appropriateness of this code for the B.C. context, as well as its stringency and scope with regard to carbon objectives is unknown. B.C.'s future retrofit code should include a GHG metric along with energy thresholds. To be successful, a retrofit code for existing buildings must be integrated into a comprehensive retrofit strategy that includes incentives, financing, capacity building, energy information, and performance verification.

The role of building commissioning was not discussed in the intentions paper, yet commissioning by a certified commissioning authority is one of the most effective ways to encourage high-quality installations, to detect and correct errors early, and to ensure a smooth transition between builders and building operators. For this reason, commissioning has been a requirement for building certification programs such as LEED for many years and is becoming common practice across the industry. Requiring commissioning and re-commissioning especially for all complex buildings would support code compliance, protect owners, and help close the gap between as-designed and as-operated performance, but could be implemented through other means than the building code, as well. We recommend that commissioning requirements for complex buildings should be introduced in the next revision of the B.C. Building Code. Also, we suggest that recommissioning requirements for existing buildings should be implemented through regulations that also cover benchmarking and reporting as done in US jurisdictions.

### Discussion 7 – Low Carbon Buildings Innovation Program (Improving Buildings)

#### Research on embodied carbon and life cycle carbon emissions

The full carbon footprint of a building contains both operational carbon and embodied carbon in the type and amount of materials used for the building. To date the focus of most interventions has been on operational carbon only. However, high performing buildings need to be aware of all life cycle emissions. The embodied emissions result in a carbon "debt" that must be repaid before the building can be carbon neutral to the atmosphere. Carbon debt is paid off using emissions reductions from reduced energy use. Reduced electricity use in B.C. has a minimal GHG impact due to the use of hydro power - on cleaner grids such as B.C., carbon debt is much harder to pay back. Higher TEDI values may also result in higher embodied carbon as more material is needed to ensure energy efficiency and a tight envelope. Currently, there is only limited research and data available on embodied carbon emissions in Canada. The National Research Council is working on developing a national database for environmental product declarations and a standard methodology for Canada over the next five years.

However, until more research on this issue is done and it became a clearer as to which approach is best, the path to zero needs to be as flexible as possible to ensure that an optimal route can be found for every building type. It would also enable research and innovation. We recommend

#### INDUSTRY QUOTE

*"Incentives aimed at embedding total energy and environmental management into a portfolio wide structure, inevitably helps both the Province and its people reach the goals required to meet the Climate Change Action Plan."*

**Christine Wickett**  
Manager, Corporate  
Sustainability & Responsibility  
Morguard Corporation



engaging in research on embodied carbon and life cycle carbon emissions to inform future policies and regulations.

#### Holistic approach to sustainability

In the quest to address climate change, policymakers so far have narrowly focused interventions on energy use within buildings and are losing sight of the larger attributes of sustainability and how these contribute in a more indirect way to carbon reduction. Addressing a broad spectrum of direct and indirect sources of GHG emissions, as well as other important aspects of sustainability such as the health and wellness of occupants, water efficiency, ecological impact, and sustainable building materials will be vital for the B.C. government moving toward a clean growth strategy. In addition, not only sustainability but also the resilience of buildings will play a major role going forward. Resilience is the capacity to adapt to changing conditions and to maintain or regain functionality and vitality in the face of stress or disturbance. Buildings need to be constructed to be able to respond to natural and manmade disasters and disturbances—as well as long-term changes resulting from climate change—including sea level rise, increased frequency of heat waves, flooding, regional drought, air pollution from forest fires, and power outages.

### Discussion 8 – Training and Certification (Improving Buildings)

#### Construction workforce strategy

Within the continuous process of structural economic change, the transition to a low-carbon economy massively affects all economic activity. The transition to a low-carbon economy inevitably brings about changes in sectors and occupations, and therefore in workforce skills and competences. To date, insufficient attention has been paid to adapting the labour market to these changes and building up capacities to meet these challenges. To meet the 2030 strategic targets, fundamental changes of the structure of the B.C. economy, its sectors, and occupations will be required. The decarbonization of B.C.'s building stock represents a tremendous opportunity to create local green jobs across the province. However, B.C. is already in the midst of a shortage of skilled labour, and this issue is likely to be exacerbated by the aging demographics of the industry. A provincial construction labour strategy should also begin to address the issues of temporary employment and a lack of skills development in the industry. It should provide support for and access to training in trades and increase the skilled labour workforce. A workforce strategy could include the development of low carbon skills training and continuing education, as well as accreditation for certified retrofit professionals (see below).

#### Develop low carbon skills training and continuing education

A skilled workforce will help tremendously with the adoption of the Step Code and the Clean Growth Strategy. It would therefore be valuable for the Province to partner with industry associations such as the CaGBC and Zero Emissions Building Exchange (ZEBx) to collaborate on aspirational targets for market transformation, ensuring that B.C.'s designers, builders and trades have the skills and training to build to net-zero ready ahead of the 2032 deadline. These partnerships will also be central in delivering the capacity building measures and should be integrated with a wider construction labour strategy. When developing training opportunities, the existing and new green building workforce needs to be considered separately, as people already working will require different training than individuals entering the profession, such as apprentices.

To develop training and certification for the green building workforce,

#### INDUSTRY QUOTE

*"Training / certifications are a must for energy reduction methods as it is rapidly growing in terms of new technologies and implementation strategies. Even basic training on proper installation for certain building materials (insulation, doors, windows, vapor barriers) for trades can have a big impact on building performance."*

**Christine Wickett**

Manager, Corporate Sustainability & Responsibility  
Morguard Corporation



the Province will need to know more about the actual gaps in knowledge and skills of the trades and other building related professionals such as building inspectors or building managers. We encourage the Province to undertake research that can inform certification and training efforts. CaGBC is currently undertaking a study in Ontario on low carbon buildings skills gaps of the trades. This work can provide valuable insights to the B.C. government. Developing an education roadmap for the current and future workforce for high performing buildings could show a pathway for training and education in B.C.

#### Accreditation for certified retrofit professionals

We support the Province's intention to establish accreditation for Certified Retrofit Professionals. This could include multiple trade disciplines including HVAC, insulation, and window fitting. We encourage the Province to consider not only the proper application of these components, but also how they can be integrated over time in a whole building phased retrofit approach targeting a low-carbon end goal. This accreditation should eventually be required as a qualification for incentive programs, motivating contractors and suppliers to earn this credential. The CaGBC has a long history of developing training for the green building workforce and can assist with the creation of credential-based education.

#### CONCLUSION

CaGBC and REALPAC support the Clean Growth Strategy of the B.C. government. We recommend that the Province:

- Introduce an energy benchmarking and disclosure regulation as a foundational strategy toward a provincial labelling program;
- Design market-based solutions which assess the financial needs of varying asset classes to determine the best use of incentives and related public funds;
- Incorporate carbon emission intensity targets (GHGI metrics) into the Step Code as opt-in requirements for local governments;
- Introduce a retrofit building code that includes (re-)commissioning;
- Consider other attributes of sustainability and resilience in addition to energy efficiency and
- Develop a skilled labour strategy, as well as a roadmap for education and training which includes research on the skills gap of the green building labour force.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "T. Mueller".

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