

November 3, 2022

Minister of Attorney General and Responsible for Housing
Email: BSSB.Public.Review@gov.bc.ca

Dear Minister

SUBJECT: Public Review (2022): BC Building Code Public Review (Energy Efficiency and Greenhouse Gas Reduction) (2022)

On behalf of The Canadian Association of Consulting Energy Advisors (CACEA), I am pleased to provide feedback, that encompasses that of the CACEA board of directors, CACEA Technical Committee, and BC members, on the proposed changes to the BC Building Code.

CACEA is a national association that promotes and supports Energy Advisors (EA) across the country, including those who reside in British Columbia. We are focused on elevating the level of industry professionalism, leveraging opportunities for our members, and fostering collaborative relations with stakeholders in the building and efficiency sectors. Like the government of British Columbia, we strongly support a just transition to a clean energy economy. Our members always go above and beyond business as usual, striving daily to help Canada achieve that transition.

Energy Advisors are instrumental in the application of the BC Energy Step Code across the Province and play a pivotal role, interfacing with service providers and manufactures, builders, renovators, different orders of governments, utilities, building officials, homeowners, and more. They perform necessary third-party inspections, tests, and energy modelling to verify compliance with home labeling programs such as the BC Energy Step Code, CHBA Net Zero home program BUILT GREEN®, EnerGuide Rating System, ENERGY STAR® for New Homes Program, and R-2000—work that is also recognized in building codes across the country. In addition, they are a valued partner and resource, renowned for their expertise in building science, the building envelope, as well as performance and compliance pathways. They also provide a centralized point of contact for stakeholders such as municipalities, utilities, building officials, builders and developers, homeowners and many others who are increasingly relying on EAs for guidance, knowledge, and professionalism.

We first commend the government for taking the necessary steps to move the building industry forward to meet the Province's and Canada's emissions targets and to address the climate crisis. We support:

- Applying Step 3 across the Province to ensure a consistent and forward approach;
- Providing an updated matrix around air tightness; and
- Attention to green house gas reduction.

However, there are several items that should be revised in the proposed BC Building Code.

1. Prescriptive “Back Stop” Option

- Since the 2017 adoption of the BC Energy Step Code, the EA community has increased its capacity to deliver services to meet these code targets. The number of licensed EAs in the Province has grown exponentially to 283¹ and this number continues to increase. Despite this growth, CACEA appreciates there remains challenges to easily obtain the services of EAs in non-urban, remote communities. We acknowledge that the proposed prescriptive back stop is considered a methodology to address this issue.

However, we are concerned that this pathway may in fact have the opposite desired outcome and will in fact discourage the use of EAs to the detriment of the notable efforts by all level of governments and industry to expand the ability of EAs to serve all areas of the Province and the challenges of EA capacity may worsen.

- The building sector has been preparing for the upcoming mandatory enforcement of Step Code 3 since the Province indicated this target in 2018. Stakeholders such as building officials, local government planning departments, Industry suppliers, architects and designers, builders, and EAs have been working towards this implementation date. Enacting the prescriptive back stop is a huge step backwards as it opposes the measured and calculated results that are the backbone of the Step Code – thereby weakening the Province’s objective of reaching a 2032 Net Zero Ready target.
- Builders will seek the path of least resistance, regardless of the incremental cost to the project and, therefore, will very likely follow the prescriptive pathway instead of a performance pathway (Step Code). Providing a prescriptive option, which requires neither airtightness testing nor the involvement of an EA for the building permit, encourages builders (the majority who do not have EA supply issues) to circumvent the BCESC and its intent, by focusing on costs rather than the municipal, Provincial and Federal climate goal.
- It is our recommendation that the building code allow local governments in remote locations to choose which option best suits their needs and to restrict the use of the prescriptive back stop option for those in Climate Zone 4 and 5.

2. Green House Gas (GHG)

- While we agree in principle with this focus, CACEA is hesitant to support this initiative without having a better understanding of the associated calculation methodologies and proposed guidelines.
- We strongly recommend that any focus on GHG requirements be required for all of British Columbia, and not offered as an option. Providing an option for compliance will not send a clear message to the market. It also risks adding confusion to the industry as was demonstrated when the initial Step Code compliance was optional for each jurisdiction. Experience has shown that the “opt in” approach for Step Code has led to a

¹ Natural Resources Canada October 2022 Report: Number of active energy advisors by province - by program

disproportionate uptake as well as a disconnected set of municipal policies that has resulted in inconsistencies and costly confusion for the industry.

- We recommend a more throughout review be conducted and CACEA would be happy to participate in further discussions around appropriate methodologies, practices, and guidelines.

3. Peak Cooling Loads

CACEA recognizes that heat stress in buildings is a real and pressing safety and health concern that must be addressed. However, the proposed metric does not address this issue adequately.

As the professional body focused specifically on modelling for code compliance, we have notable concerns:

- Current building code minimums inherent in the modeling of the Reference House still allow homes with substantial cooling risks, while Prescriptive Pathway compliance has no requirements around cooling. The proposed code changes continue to allow building with substantial cooling risks.
- The risk of unintended consequences due to weak modelling practices and procedures associated with overheating can result in comfort issues and safety concerns. Improvements and better calculations such as CSA F280 must be required on all Part 9 building as a first step in addressing the looming cooling crisis.
- Through CACEA's participation in discussions at a National level, peak cooling approach is recognized to be flawed and that changes must be made to the NBC. This is an opportunity for BC to take the initiative on a more practical immediate solution.
- As an interim solution, CACEA supports the Canadian Home Builder's Association's recommendation for geographic locations that require, or are likely to require cooling in the future. The code should require either: A) air conditioning or B) a rough in for future cooling systems.

4. Removing Reference to EnerGuide:

- It is critical that the BCBC adopt NBC 2020 9.36.5.3 that aligns the Building Code with EnerGuide to remain aligned Nationally and support movement consumer protection through mandatory labeling.
- To not specifically align with EnerGuide will result in confusion in the industry whereby local officials may perceive that its removal indicates that HOT2000 is not an acceptable tool to determine Step Code compliance and, therefore, should not be referenced.
- Promoting and leveraging a familiar, built-in, and widely available tool which is included in the EnerGuide process is cost effective for the builders, and in the end, homeowners.
- EnerGuide has a quality assurance element built into the process that would pass to the government.

- EAs, using the EnerGuide process, are best suited to verify Part 9 code compliance as they perform the required heating, cooling and ventilation verification, energy modelling, blower door testing and consulting in a streamlined and affordable manner. The Step Code compliance process is modelled after the EnerGuide Rating System, which EAs have been delivering for the past 20 years.
- We recommend the NBC 2020 be matched and clearly aligned with EnerGuide as an approved pathway for Performance Code calculation and compliance.

5. Air Tightness Method

- The proposed changes greatly improve the clarity around expected air tightness calculation, building preparation and testing with CAN/CGSB 149.10.
- While CAN/CGSB 149.10 is a very common test method and used for the EnerGuide and low-rise buildings. The standard lays out preparation and testing procedures for a wide range of approaches including Guarded and Unguarded, “As Operated” and “Sealed”. Under paragraph 1.3 in the standard, assumes ‘as operated’ test method be used unless clearly indicated by requiring or code body. This penalises tight homes with more unsealed intentional openings. This will push industry to include dampers on all openings and increase costs for some housing types and equipment. While allowing the “sealed” condition creates inconsistency in how air tightness is measured between buildings and makes the air tightness requirements easier to reach for some housing types.
- ASTM 779 and USACE testing standards are robust and well used current standards for Part 3 buildings their use is inappropriate in Part 9 and should not be allowed. ASTM allows for the sealing of intentional openings and this practice has been important in building reaching high Steps current.
- We recommend the Code provide clarity in the preparation for testing between Part 9 and Part 3 building types to ensure air tightness measurement are consistent across all building types. We recommend retaining the option to use ASTM 779 and USACE as testing standards in Part 3 buildings only and allow CGSB 149.10 “Sealed” setup of intentional openings be optional in Part 9.

We would be pleased to have further discussions on all, or any one of these items.

Sincerely



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