CAGBC Feedback on Draft Policy Framework for Climate Change Mitigation

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The Canada Green Building Council (CAGBC) strongly supports incorporating operational carbon provisions in the 2025 National Model Codes draft.

CAGBC's members and stakeholders recognize the critical role buildings will have in meeting Canada's climate objectives. As such, we support a standardized approach to assess and reduce operational carbon emissions, including establishing carbon reduction objectives for future code updates. A standardized approach will establish a level playing field and send the required strong market signal to drive decarbonization actions by owners, developers, operators, manufacturers, and designers.

The building sector is ready for the National Model Codes to establish minimum requirements that recognize the urgency of the climate crisis and the sector's ability to reduce operational carbon emissions. Significant reductions are achievable now with current cost-effective technologies and solutions that often contribute to a return on investment. As a result, we urge the Canadian Board for Harmonized Construction Codes (CBHCC) to be ambitious when considering the near and long-term trajectory of operational carbon requirements. While looking at the long-term, CBHCC should consider that systems for heating that rely on fossil fuel generally have long lifespans (typically 15 to 30 years) and weight the implications of locking in operational emissions for decades.

Where combustion-based space heating is permitted, the National Model Codes must ensure compatibility with electric heating sources (i.e., heat pumps), which provide lower-temperature heat. Otherwise, the required tenant disruption and investment cost will significantly limit the feasibility of future retrofits to electrify space heating.

CAGBC also supports efforts to provide clear direction on when and how the National Model Codes requirements will apply to building retrofits. Today, decarbonizing the current stock of buildings is a more significant challenge than addressing new construction.

CAGBC also endorses and supports the proposed definitions for the National Model Codes, including "net-zero emissions building or house" and "zero or near-zero operational emissions building or house." These definitions are well articulated and provide important clarity in communicating the goals of the National Model Codes and related measures to support the decarbonization of buildings.

Concerning the policy recommendations, we offer the following observations and key considerations:

Recommendation 1: Adopting energy efficiency tiers in the 2020 editions of the National Energy Code of Canada for Buildings (NECB) and the National Building Code of Canada (NBC) was a positive step. The tiers provide market visibility on the likely pace of future updates and allow leaders to push the industry forward in advance of the codes. CAGBC supports and encourages the introduction of tiers for operational carbon abatement to assist with the market transition.

Recommendation 2: CAGBC recognizes regional differences in ambition for operational carbon reduction and energy efficiency. While all regions of Canada must electrify now to reduce operational carbon emissions, CAGBC supports flexibility for provincial and territorial jurisdictions to adopt operational carbon and energy efficiency tiers independently.

Recommendation 3: CAGBC supports the inclusion of scope 1 and scope 2 emissions. Regarding concerns that only including scope 1 emissions "could lead to design choices that do not reduce GHG emissions overall," it is important that emissions are evaluated over the life of the space heating equipment, typically 15 to 30 years. While the operational carbon from an electrified space heating system may initially be higher in a few jurisdictions due to the carbon intensity of the electrical grid, the total emissions over the lifespan of the heating equipment can be expected to be lower as electrical grids are decarbonized.

Recommendation 4: CAGBC supports the adoption of Environment and Climate Change Canada's future emission factors for grid electricity. These factors more accurately reflect the context in which mechanical space heating systems will operate over their lifespans. The future emissions factors should represent the average of the next 15 years, which represents the lower end of the typical lifespan of space heating systems in large buildings and aligns with the expected lifespan of heating systems used in homes.

Recommendation 5: CAGBC supports the development of both performance and prescriptive options for the NBC and NECB, recognizing that energy modelling is not typical or required for all building types and asset classes.

Recommendation 6: The choice of metrics to assess operational GHG emissions is complex, with substantial advantages and disadvantages to each approach. Recognizing that some building types do not lend themselves to intensity-based or absolute metrics due to the variation in space uses (e.g., community centers that might include ice pads, swimming pools, gymnasia, and other unique space uses), a reference building metric is necessary.

Intensity-based metrics offer several advantages for building types that are more standardized (residential, office, retail, warehouse, etc.). However, this approach requires that targets be established for each building type, for each climate zone (or similar, such as using Heating Degree Days) and for each jurisdiction (to recognize the different electrical grids).

CAGBC does not recommend absolute metrics. Even for building types with the smallest amount of variation in size, such as homes, the range likely remains too great for absolute metrics to drive appropriate measures to reduce operational carbon in the smallest homes without imposing unrealistic or impossible to achieve requirements on large homes.

Additional considerations

Operational greenhouse gas (GHG) intensity metrics are vital to aligning federal, provincial, and territorial codes with climate change objectives. Specifically, the use of GHG intensity metrics will support the alignment of National Building Code outcomes with the objectives of the 2030 Emissions Reduction Plan.

CAGBC strongly supports the decision to include embodied carbon in the National Model Codes. The importance of addressing embodied carbon is illustrated by the fact that between now and 2030, 75 percent of GHG emissions will come from new building materials and processes. We urge the CBHCC to consider that a delay in tackling embodied carbon in 2025 only magnifies the reduction required by 2030.

Further, with building codes moving towards zero carbon internationally, from California Zero to the new European Union directive, Canada must advance carbon reductions to stay competitive with its trading partners and to attract investment and drive innovation in the building sector.

Building codes represent an effective approach to shift the entire market toward decarbonization. Recognizing the importance of managing carbon in the building sector, CAGBC will continue to advocate for zero-carbon buildings and retrofits as the new norm and promote ambitious carbon reductions in the NECB and NBC.