

Input to 2012 B.C. Building Code Changes and Policy Discussion

Overview

For the public consultation undertaken in November and December 2011, the Office of Housing and Construction Standards has presented proposed changes to 14 articles in the current B.C. Building Code. The consultation information indicates that these changes may be included in the fall 2012 edition of the code. In addition, the consultation has identified three topics that may result in policy changes or changes to the B.C. Building Code post-2012.

We welcome the opportunity to provide comments on the proposed changes and the policy topics. We also appreciated the in-person consultations that the Ministry undertook in November 2010.

However we are disappointed that the proposed changes for 2012 are minor and do not address the scale of improvements to energy performance that are needed in order to put the B.C. building sector on track for meeting the greenhouse gas reductions and net-zero energy commitments.

In order for the B.C. Building Code to be an effective part of the market transformation needed for the building sector in B.C., we recommend that the Office of Housing and Construction Standards make substantial improvements in 2012. In particular, we recommend improvements to the process for revising the B.C. Building Code and including new elements to improve energy performance.

This submission presents our feedback on the consultation proposals. Firstly, it covers specific recommendations that we feel are extremely high priority for inclusion in the code in 2012, but were not included in the proposed changes presented for consultation. These recommendations for 2012 building code changes are indicated in Table 1.

Table 2 shows a summary of our comments on two of the specific questions that were part of the Office of Housing and Construction Standards' consultation process. Further explanation of these recommendations and comments are outlined in the remainder of this submission.

Table 1. Recommendations for changes to the B.C. Building Code in 2012 that are addressed by this submission

General area	Specific elements	Summary of comments
Process for revising B.C. building Code	Schedule of updates, indications of future updates, feedback & evaluation	<i>The B.C. Building Code will be strengthened by adding these specific elements to the process for future code revisions.</i>
New elements for inclusion in B.C. Building Code	Increased energy performance standards, energy labelling requirements, electric vehicle plug-in infrastructure, and renewable energy requirement	<i>The specific elements will help the province move forward on energy and environmental objectives. They fit within the B.C. Building Code scope and should be considered for inclusion.</i>

Table 2. Responses to Office of Housing and Construction Standards' consultation process that are addressed by this submission

General area	Specific elements	Summary of comments
Policy discussions	Balancing energy efficiency and housing affordability	<i>We recommend that this topic be given comprehensive and robust consideration, including analysis of</i> <ul style="list-style-type: none"> - <i>policy options for limiting, housing price increases for the economically vulnerable and</i> - <i>the impacts of changes to future energy and equipment costs</i>
	Proposals for a modern building regulatory system	<i>We support periodic, random audits to collect data, and mandatory certification of building inspectors. We need more information on potential roles for a proposed independent alternative solutions evaluation body</i>

This submission does not include comments on the elements listed in Table 3.

Table 3. Changes to the B.C. Building Code that are not addressed by this submission

General area	Specific elements
Proposed code changes	Division A and Division B articles
Proposed amendments to 2010 NBC provisions	Article 9.12.4.2.; 9.13.4.3 Radon control
Policy discussions	Application of the B.C. Building Code to Existing Buildings

Recommendations for changes to the B.C. Building Code in 2012

Process for revising the B.C. Building Code

Several improvements on the process for revising the building code should be implemented in 2012. These suggested improvements were also included in a submission through the public review of the proposed green code changes in 2007. The 2007 submission was developed by 10 groups (including local governments, environmental organizations, businesses and industry groups).¹ Relevant excerpts of the 2007 submission have been included in Appendix A of this document.

These process improvements include:

- *Schedule of updates:* We recommend that the code include a schedule of regular updates, such as every three years.
- *Indicate potential revisions in future code updates:* We recommend that the code indicate potential revisions in future code updates in order to provide the construction industry with as much advance notice as possible regarding the changes and/or levels of energy performance that are going to be considered in future code changes
- *Feedback and evaluation:* We recommend that an effective feedback and evaluation process be included in the code. Feedback and evaluation allows for regulators to transparently and accurately assess the effectiveness of code changes, and for the construction industry and other interested parties to suggest future changes.

¹ *Comments on B.C.'s Proposed Green Building Code* (December 21, 2007), <http://www.pembina.org/pub/1709>

New elements for inclusion in B.C. Building Code

We recommend that the following specific provisions be included in revisions to the B.C. Building Code. The specific elements will help the province move forward on energy and environmental objectives, fit within the B.C. Building Code scope and efforts should be undertaken in 2012 to include these elements in future revisions.

Increased energy performance standards for new Part 3 and Part 9 Buildings

The building industry in British Columbia, as well as local governments, supporting industries and community groups, has been expecting higher standards on energy performance for new buildings since 2007. **We recommend that the B.C. Building Code be amended with energy performance standards reflecting, at minimum, the energy performance goals of EnerGuide 80 for Part 9 and ASHRAE 90.1 (2010) for Part 3.** The delays in implementing these improved energy performance standards has led to confusion within the building industry and loss of opportunity for environmental benefits resulting from these improvements.

Energy performance labelling

The owners and renters of homes and buildings need to be given the necessary information about the energy performance of their buildings if they are to be a driving force in the innovation of green buildings in B.C.

As such **we are recommending that the code require by 2013:**

- **All new homes and buildings have an energy performance rating**
- **All existing homes and buildings have an energy performance rating at the time of sale.**

Energy performance labelling is required in the automotive industry and on most equipment, so a similar requirement for homes and buildings is reasonable. The European Union has required all member nations to develop and mandate building labelling programs; energy certificates for existing buildings were mandatory in nine EU States by January 1, 2009. The state of California and City of Seattle require energy data disclosure for buildings over a prescribed floorspace (m²).

Mandatory performance labelling on existing homes and buildings will also enable future code changes that set minimum energy performance standards for existing homes and buildings. This would be similar to policies already in place in Berkeley, California.

Electric vehicle charging infrastructure in buildings

The City of Vancouver recently included a requirement for electric vehicle charging infrastructure in new multi-family buildings:

- 20% of parking stalls in new multi-family buildings must contain charging receptacles, and
- the electrical room must include sufficient space for the future installation of

electrical equipment necessary to provide a receptacle to accommodate use by electric charging equipment for 100% of the parking stalls that are for use by owners or occupiers of the building or of the residential component of the building.

Other local governments in B.C. do not have the ability to set such requirements and need the provincial government to provide concurrent authority for local governments or set up a specific, optional requirement that local governments can choose to implement in their own community.

We recommend that the B.C. Building Code be revised to allow local governments throughout the province to set requirements for electric vehicle charging infrastructure for new homes and buildings in their communities.

Renewable energy requirement

Based on resolution B98, which was endorsed at the Union of B.C. Municipalities conference in fall 2011, **we recommend that work be undertaken to:**

develop an amendment to the provincial building code to implement the option for a local government to impose a 10% minimum renewable energy requirement for new residential and commercial buildings within its jurisdiction.

Responses to consultation process policy discussion topics

Our responses to questions from the Office of Housing and Construction Standard's consultation website

(<http://www.housing.gov.bc.ca/building/bcbcsurvey/concept.htm>) are highlighted in yellow.

Balancing Energy Efficiency and Housing Affordability

Given the tradeoffs between upfront capital costs and the ongoing monthly impacts of mortgage payments/energy costs (for which the [BTY report](#) provides one analysis), which of the following energy efficiency scenarios for the construction of new housing represents the best balance between energy efficiency and affordability?

- A 2-4% increase in the construction cost of new housing, excluding land and other non-construction costs (roughly equivalent to the estimated average cost of implementing the new national provisions which are estimated to yield up to 29% in energy savings);
- A larger increase in upfront capital cost with an increase in energy savings;
- A smaller in upfront capital cost with a smaller increase in energy savings.

SEE NOTE BELOW; the choices above do not reflect the best approach for considering the questions of housing affordability and energy efficiency.

Please use this space to add any comments related to balancing energy efficiency and housing affordability.

In the short term, as noted above on page 4 we recommend that the B.C. Building Code be amended in 2012 with energy performance standards reflecting, at minimum, the energy performance goals of EnerGuide 80 for Part 9 and ASHRAE 90.1 (2010) for Part 3.

Beyond 2012, we recommend that the Office of Housing and Construction Standards give this topic careful consideration. In particular we recommend analysis that includes a wider range of scenarios than just the single one considered by BTY. The analysis needs to consider policy options for mitigating, or at least limiting, housing price increases for the economically vulnerable. These policy options will allow the B.C. Building Code to incorporate energy savings that are high enough to be consistent with B.C. energy policy while not increasing barriers to housing affordability.

To answer these questions, the Office of Housing and Construction Standards must consider energy performance options that achieve greater savings than those in the national energy code analysis, and must consider alternative future scenarios including

- *fuel prices that are different from current levels, including potential carbon price increases*
- *upfront costs that are different from single value in BTY analysis (costs of building equipment decrease when the equipment becomes more widely adopted)*

- *role of additional financing policies to change consumer costs*

Proposals for a Modern Building Regulatory System

Do you support periodic random audits of Part 3 construction projects to collect data on code compliance?

yes

no

don't know

Do you support periodic random audits of Part 3 construction projects to collect data on code administration processes?

yes

no

don't know

Do you think an independent alternative solutions evaluation body would help to improve the system for the submission and evaluation of alternative solutions?

yes

no

don't know

What functions should an independent alternative solutions evaluation body perform? Click any that you think are appropriate.

the review of complex or contentious alternative solutions after initial discussions between proponent and local building department

hearing appeals of local authorities' decisions on proposed alternative solutions

considering proposals that appear to transcend equivalency and challenge underlying the code's risk assumptions

evaluating alternative solutions proposals for jurisdictions that do not have the staff expertise to do so on their own

Please use this space for additional comments related to the subject of a proposed independent alternative solutions evaluation body.

The independent alternative solutions evaluation body could be extremely helpful, but may limit the ability for local governments to recognize unique aspects of their own communities. This potential evaluation body needs to be considered carefully and given specific responsibilities

Do you support mandatory certification of building officials?

yes

no

don't know

APPENDIX A. Excerpts from 2007 joint submission

See full submission at: <http://www.pembina.org/pub/1709> (December 21, 2007)

Schedule of updates

In order to provide maximum flexibility to the construction industry, it is recommended that the code include a schedule of updates. Given that the province already has a building strategy with clear objectives for 2010, that would be the next logical year in which to update the code. Following 2010, a three-year cycle would be appropriate.

Indicate Potential Revisions in Future Code Updates

In addition to a schedule of updates, we are recommending that the code indicate potential revisions in future code updates. These will provide the construction industry with as much advance notice as possible regarding the changes and/or levels of energy performance that are going to be considered in future code changes. For example, the code could signal that by 2010, minimum requirements for on-site renewable energy will be considered in the same way that the Merton rule sets such standards in the U.K. For Part 3 buildings, the code should signal that updates to the ASHRAE standards will be considered. This would help the construction industry plan, as well as provide an incentive for companies to adopt impending energy-efficiency measures before they are required in the code in order to gain a competitive advantage. Once a longer term building strategy is in place (see comments below), it would also be appropriate to incorporate some of those anticipated future performance levels into the code.

Feedback and Evaluation

An effective feedback and evaluation process allows for regulators to transparently and accurately assess the effectiveness of code changes, and for the construction industry and other interested parties to suggest future changes. We recommend that these feedback loops be embedded into the code process. Useful examples to consider include the U.K., where they have instituted a feedback system to enable timely input into the code as it evolves. Also, in the U.K., a continuous ongoing assessment process is in place to monitor the results of regulations and the alignment of the outcomes with regional priorities. B.C. does not currently provide an ongoing on-line feedback process that is easy to use or accessible to the breadth of users.

Timing

We recognize that the further improvements recommended in these comments will place additional demands on design professionals, builders, and building officials and inspectors. As such, we would be supportive of an additional two months to phase in the proposed changes so that the industry has a total of 6 months to adjust if deemed necessary by industry.