

**Potential Changes for Supplementary Standard SB-12 that will  
come into effect as of January 1, 2017:**

**Stakeholder Comment Period**

**(February 26, 2016 – March 11, 2016)**

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## **Introduction**

Ministry of Municipal Affairs and Housing (“Ministry”) is looking for your views on proposed changes to the **energy efficiency measures for houses** that will come into effect as of **January 1, 2017**. These measures are intended to support industry meet an existing regulatory requirement in the Building Code for **all** new Part 9 residential buildings (e.g. detached, semi-detached, town and row houses) to be **15% more energy efficient** than they are today.

The Ministry is eager to obtain your comments and suggestions on the proposed changes described in this document. Your feedback on these proposed changes will contribute to how houses in Ontario will become more energy efficient going forward.

## **Proposed Changes**

The proposed changes take into account government commitments and priorities, changing data, technology and industry standards, feedback received from a variety of stakeholders within Ontario’s building design and construction industry and input from the Building Code Conservation and Advisory Council; experts on building energy and water conservation appointed to provide strategic advice on such matters to the Minister of Municipal Affairs and Housing.

It is important to note that the proposed changes contained in this document, do **not** represent final government policy. They are in draft form and may be subject to change prior to finalisation.

## **About Ontario’s Building Code**

The Building Code establishes standards for the construction of buildings in which we live, work and use on a daily basis. By providing clear consistent, yet reasonable and flexible standards to follow, the Building Code helps builders and developers do their jobs and allow for the advancement of the key government priorities.

The Ministry is responsible for administering the Building Code. Builders, designers and manufacturers all have a role to play in ensuring that buildings are constructed in compliance with Building Code requirements. Municipalities, health units and conservation authorities are responsible for enforcing the provisions of the Building Code in their communities.

Ontario's Building Code is authorized by the Building Code Act, 1992. The Act is the legislative framework governing the construction, renovation, change of use and demolition of buildings in Ontario. The Building Code is a regulation authorized by the Act, and sets out detailed administrative and technical requirements.

Prior to the enactment of the first provincial Building Code Act in 1974, individual municipalities were responsible for developing their own building codes, resulting in a fragmented and potentially confusing regulatory environment. The introduction of a provincial Building Code Act, 1992 and a provincial Building Code addressed this problem by providing for uniform construction standards across Ontario which had the effect of boosting the province's building industry.

The Building Code is available at [ontario.ca/e-laws](http://ontario.ca/e-laws).

ServiceOntario publishes the Building Code Compendium, which contains the Code, Supplementary Standards referenced in the Code, appendix notes and other documentation. The compendium and other Code products can be ordered through the ServiceOntario website at: [ontario.ca/publications](http://ontario.ca/publications).

## **Climate Change**

The Ontario government has made addressing climate change one of its key commitments.

In November 2015, the government released its climate change strategy with further details expected in the release of its action plan in spring 2016.

The government's climate change strategy identified key sectors, including the buildings sector, from which greenhouse gas (GHG) emission reductions are sought in order to meet its target of an 80% reduction from 1990 levels by 2050. With regards to buildings, government has signaled that it will support the growth of net zero energy buildings using mechanisms such as the Building Code.

**"Our Strategy will support net-zero buildings across the province through updates to Building Code, incentive programs, removal of regulatory barriers, and encouraging the transition to lower carbon fuels**

**and building materials that store carbon.” (Ontario’s Climate Change Strategy, page 29)**

Enhancements to the energy efficiency performance of all building assemblies and systems will be needed, particularly the “building envelope” (walls, windows, roofs) to make sure houses use less carbon-based fuels to meet their ongoing space and water heating needs. A better building envelope will help to limit air leakage from the house, reduce fuel consumed within it and the level of GHG emissions that result.

As well as selecting more energy efficient building assemblies, it will be just as important to enhance current building construction practices. Improvements in on-site air sealing techniques that result in “tighter” homes, for example, will help realise the benefits of using better building envelope components designed to improve energy efficiency.

While there is a need to ensure that a number of complementary actions are taken by government to support the eventual transition to net zero energy buildings, you will see that the proposed changes to Supplementary Standard SB-12 includes important improvements to building components and assemblies that lay the groundwork necessary to help realise this future goal.

**Supplementary Standard SB-12**

The Building Code is supported by Supplementary Standards found in Volume 2 of the Building Code Compendium. Supplementary Standards provide information on a variety of building design, construction and product-related matters. Information contained in these Supplementary Standards help Code users better understand and meet the provisions in the Building Code.

Energy efficiency performance requirements are set in Chapter 12 of the Building Code. Supplementary Standard SB-12 (“SB-12”) contains measures to meet these energy conservation requirements. For example, measures to meet requirements for houses built today (before Jan 1, 2017) can be found in Chapter 2 of SB-12 and measures to meet requirements for houses built in the future (on and after Jan 1, 2017) can be found in Chapter 3 of SB-12.

The measures described in SB-12 represent both prescriptive and performance-based approaches to meeting the requirements.

#### 1. Prescriptive approach

The Prescriptive approach consists of compliance packages that are made up of combinations of building components and assemblies, such as insulation, windows, furnaces, hot water heaters and heat recovery ventilators. A builder can select one package for each house design that has a pre-defined set of components and assemblies with specific energy efficiency values. The prescriptive compliance packages that are in Chapter 2 provide the industry with one way to meet today's energy efficiency performance requirements.

Prescriptive compliance packages in Chapter 3 of the current edition of SB-12, only represent "samples" that illustrate how the energy efficiency requirements of the future (15% improvement over today's standards) could be achieved; they are **not** final and do not have the force of law unless they remain in SB-12 on and after January 1, 2017.

The revised SB-12 that is the subject of this comment period includes new prescriptive compliance packages in Chapter 3 for your review and consideration. All of these packages represent a 15% energy efficiency improvement over today's standard. It is anticipated that the revised SB-12 will replace the current edition and take effect as of January 1, 2017.

#### Proposed Changes – highlights

While the majority of SB-12 features were kept following improvements were added.

- New prescriptive compliance packages that represent 15% energy efficiency improvement over existing packages
- Fewer packages within each table to minimise redundancy of unused packages i.e. 6 instead of up to 13 packages in current edition
- Tables that express building assemblies and components in both imperial and metric thermal values to support ease of understanding
- Inclusion of thermal U and effective RSI values along with nominal RSI values to provide added flexibility in choice of different assembly structures e.g. basement wall and roofs
- Packages that accommodate combi-heating systems and insulating concrete form walls as design choices

- Credits for reducing air leakage to encourage better energy conservation through the building envelope
- Mandatory requirement for heat recovery ventilators in all packages in order to protect indoor air quality as homes get increasingly “air tight”
- Clarification regarding use of Earth Energy systems and other heat pumps
- Some limited exceptions for decorative glasses and decorative entrance doors
- Inclusion of R2000 program along with Energy Star

## 2. Performance-based approach

Energy efficiency requirements for houses can also be met through a performance-based approach. Instead of using prescriptive compliance packages, a builder can choose to meet the energy efficiency requirements by making sure that the energy use of the house being designed does not exceed the amount of energy it would use if it was designed according to a select prescriptive compliance package. This approach can potentially provide a builder with greater choice in the type of building components and assemblies they use in designing the house in question.

The proposed SB-12 that is the subject of this comment period includes guidance and clarifications in Chapter 3 associated with the use of this approach for your review and consideration.

### Proposed Changes – highlights

- Addition of table to clarify requirements for designing reference building
- Clarification provided to enable credits for more efficient building assemblies
- Air-leakage rates for the reference building are revised to encourage testing and improved air tightness
- New air leakage metrics such as NLA and NLR are added
- Clarification provided to facilitate credits for renewables, dedicated ventilation systems and broader types of HVAC equipment
- Clarifications provided for operating conditions used in energy simulations

Please note, changes proposed to SB-12 included in the draft circulated for comment, have been underlined to help focus your feedback.

## How To Use This Document

This paper provides an overview of Supplementary Standard SB-12, proposed changes to take effect as of January 1, 2017 and how you can participate in the comment period.

You are encouraged to review and submit comments and any additional material/s in a manner that best allows you to express your views on the proposed changes. However, the Ministry of Municipal Affairs and Housing must receive your comments by **March 11, 2016**.

In order to maximize the effectiveness of your comments and to fully understand your views, we ask that your comments relate to the specific potential changes listed in the draft SB-12 document. If you support or do not support the potential changes or would more fully support the changes if modifications are made, please feel free to comment and include an explanation to help the Ministry understand your views.

A comment form has been provided for your convenience as an Appendix.

Please remember to include the following within your submission:

- Your name
- Your mailing address
- Whether you are responding on behalf of yourself or an organization
- Your general comment: support, support with modifications, and do not support
- Reference i.e., article, sentence or clause number

Comment forms and any supporting documents may be submitted by email to:

- Email: [BuildingCodeConsultations@ontario.ca](mailto:BuildingCodeConsultations@ontario.ca)
- Subject Line: **Supplementary Standard SB-12 (2017)**

If you require the same information in an alternate format to better meet your needs, please contact us using the email address above.

A comment that refers to Supplementary Standards or Building Code requirements that do not pertain to proposed changes to SB-12, will not be considered as part of this comment period. Any other code change proposals can be evaluated as part of the consultations for changes to future editions of the Building Code.

We look forward to your feedback, your active involvement helps to ensure that potential changes are fully informed, are technically and economically feasible, and enforceable.

Personal information provided in responses to Building Code consultations is collected under the authority of subsection 38(2) of the Freedom of Information and Protection of Privacy Act for consultative purposes and for contacting you should we need to clarify your response. Responses to consultations (minus addresses, where provided) may be shared with provincial and national building and fire code development committees. Questions about the collection of personal information should also be sent to the same email address.

### **Next Steps**

At the invitation of the Ministry, a small dedicated working group may be convened to evaluate feedback received from stakeholders.

The recommendations of this working group will then be submitted to the Ministry for consideration. Once approved, changes will be finalised in the publication of a new SB-12 that will come into effect as of January 1, 2017.

# APPENDIX

## SB-12 (2017) COMMENT FORM

### CONTACT INFORMATION:

I am submitting this on behalf of:       Myself,   or    Organization:

Your Title: \_\_\_\_\_

Your Name: \_\_\_\_\_

Address: \_\_\_\_\_

City: \_\_\_\_\_

Province: \_\_\_\_\_

Postal Code: \_\_\_\_\_

Telephone: \_\_\_\_\_

Fax: \_\_\_\_\_

Email: \_\_\_\_\_

Your function:

- Builder/Contractor (if submitting on behalf of yourself)
- Building Official
- Building Owner/Manager
- Designer/Architect/Engineer
- Home Owner/General Public
- Supplier/Manufacturer
- Other: \_\_\_\_\_



