

AGENDA INFORMATION	
<input checked="" type="checkbox"/> Regular Meeting	Date: <u>October 19 '20</u>
<input type="checkbox"/> Other:	Date: _____

 Dept. Manager	 GM/ Director	 CAO
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The District of North Vancouver REPORT TO COUNCIL

October 6, 2020

File: 09.3710.00

AUTHOR: Brett Dwyer, Assistant General Manager, Regulatory Review and Compliance

SUBJECT: BC Energy Step Code and Greenhouse Gas Intensity Targets

RECOMMENDATION:

THAT Council direct staff to draft amendments to the District Construction Bylaw 8271 to implement the BC Energy Step Code with Greenhouse Gas Intensity targets generally in accordance with **Attachment B** as follows:

- a. Require all Part 9 Residential new construction to meet Step 5 or Step 3 with a Low Carbon Energy System (LCES)
- b. Require all Part 3 Residential new construction to meet Step 4 or Step 3 with a Low Carbon Energy System (LCES)
- c. Require all Part 3 Commercial new construction to meet Step 3 or Step 2 with a Low Carbon Energy System (LCES)
- d. Require significant renovations to Part 3 Commercial buildings to meet Step 1 of the BC Energy Step Code
- e. Require all Public Sector Buildings including new construction to meet Step 1 of the BC Energy Step Code

REASON FOR REPORT:

On June 15, 2020, Council considered a report prepared by Councillor Megan Curren titled *Require GHGI as a Condition of Rezoning*. Council subsequently passed a motion indicating their support for requiring Greenhouse Gas Intensity (GHGI) target limits as a condition of rezoning, effective immediately, and further requested that staff prepare a report on the implementation of this approach.

An information report dated July 31, 2020, was circulated to Council outlining an approach to implement the BC Energy Step Code via a two-tier Low Carbon Energy System (LCES) option. This approach applies at building permit stage (regardless of whether rezoning was required) and allows the developer/builder to decide whether to build at the highest step of the BC Energy Step Code or at a lower step with a LCES.

This report seeks direction from Council to draft appropriate bylaws to implement the BC Energy Step Code via a two-tier LCES approach.

BACKGROUND:

Definitions:

- Greenhouse Gas (GHG): gases that trap heat in the atmosphere
- Greenhouse Gas Intensity (GHGI) Targets: a performance-based tool for measuring the total amount of GHG produced as a result of a building's energy use. Typically these approaches have a specific GHGI target measured in kilograms of carbon dioxide per year per square meter of building floor area or *kgCO₂e/m²*.
- Part 3 Buildings are larger and more complex buildings designed by architects and engineers (e.g. large residential or mixed-use buildings)
- Part 9 Buildings are smaller and simpler buildings (e.g. single family)

Please see **Attachment A** for a list of relevant District of North Vancouver policies and approaches.

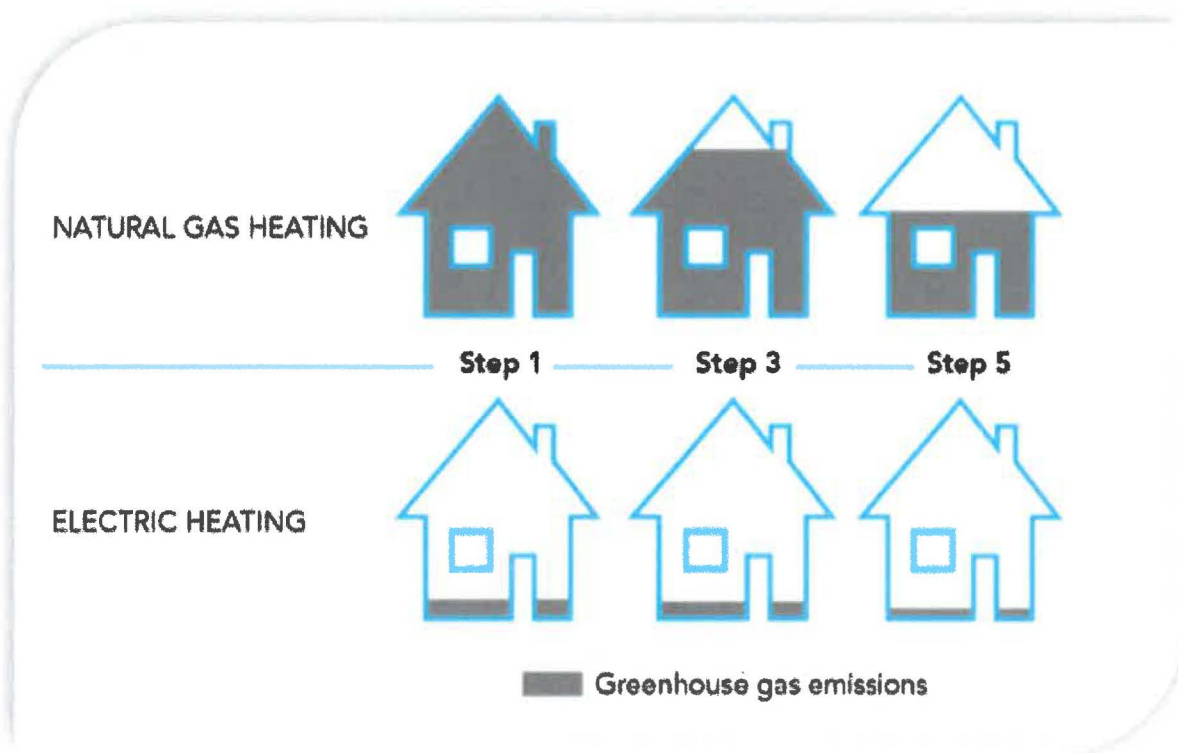
ANALYSIS:

BC Energy Step Code

The Energy Step Code is a voluntary standard introduced as part of the BC Building Code (BCBC) in April 2017, which sets higher requirements for energy efficiency than in the base BC Building Code. Local governments have authority to require or incentivize the BC Energy Step Code in their communities.



The Step Code is an effective regulatory tool for requiring buildings to greatly improve energy efficiency. It does not, however, directly regulate fuel sources for heat and hot water and thus can result in significant variations in the total GHG emissions in new buildings depending on the selected fuel source for the provision of heat and hot water, even at the higher steps.



Greenhouse gas emissions by heating type and energy step (Source: Metro Vancouver Climate 2050 Discussion Paper – Buildings)

Current Approach to BC Energy Step Code

The initial Energy Step Code implementation was undertaken in collaboration with all three North Shore Municipalities. Taking this approach made for a smoother transition, more easily accepted and understood by industry and stakeholders.

In the District of North Vancouver, a building permit application for new construction currently must demonstrate compliance with the BC Energy Step Code as follows:

- Part 3 Residential - Step 2 (Step 3 if a rezoning is required)
- Part 3 Commercial - Step 1
- Part 9 Residential - Step 3

The BC Energy Step Code and Reducing GHG

District staff have evaluated a 'two-tier' approach for Energy Step Code compliance, where a lower target step is permitted for low carbon energy system proposals. A low carbon energy system would require all thermal conditioning and domestic hot water for the new building to be from low-carbon energy sources. This approach incentivises low carbon energy systems while enabling builders to construct at a relatively lower step of the Energy Step Code. For example, a two tier approach for single family homes would be to provide the option to build to Step 5 or Step 3 *with* a low carbon energy solution. Please see **Attachment B** for more details on this proposed low carbon approach. This approach is supported by the Province in the latest version of their publication "BC Energy Step Code: A Best Practices Guide for Local Governments, July 2019".

At this time, all three North Shore municipalities are considering or proposing a low carbon approach to future Energy Step Code implementation. The City of North Vancouver is considering a two-tier low carbon approach for Part 9 residential buildings, while the District of West Vancouver has already adopted bylaws, which come into effect Feb 28, 2021, providing for a two-tier low carbon approach for Part 3 residential and commercial buildings and Part 9 residential buildings.

Consultation and Industry Engagement

Since Council's adoption of the CEEP, staff have been engaging with industry on a new approach to Energy Step Code implementation. The following stakeholder groups were contacted:

- Urban Development Institute (UDI),
- Homebuilders Association of Vancouver (HAVAN),
- Contractors and professionals with active building permits in the District:
 - General Contractors,
 - Architects,
 - Mechanical (Heating Ventilation and Air Conditioning) Engineers.

District staff carried out engagement between December, 2019 and September, 2020. Engagement activities involved correspondence and meetings with industry groups, email outreach to contractors and professionals, and updates to the District's Energy Step Code webpage. District staff submitted a Notice of Consultation to the Province of British Columbia and have participated in ongoing coordination with staff from the District of West Vancouver and the City of North Vancouver

Industry feedback on the low carbon approach included the following comments/concerns:

- Support for a 'two-tiered' approach that enables construction to a lower step with a low carbon system;
- Support for considering GHG as proposed that focus on primary space and water heating systems;
- Support for efforts to coordinate on timing and implementation with other North Shore municipalities;
- Consider reducing permit fees or other measures to incentivize low carbon systems;

- Consider delaying implementation for up to six months and aligning across North Shore;
- Concerns over cost implications and knowledge capacity for building to higher steps (Steps 4 and 5);
- More clarity and details needed on low carbon systems;
- Preference for not requiring step code at rezoning phase.

Staff continue to engage with stakeholders regarding readiness for a two-tier low carbon approach to the BC Energy Step Code and will be concluding this engagement over the coming weeks to assist in refining proposed bylaw language.

Timing/Approval Process:

Staff continue to liaise with our counterparts at the City of North Vancouver and the District of West Vancouver regarding the specifics of each jurisdiction's approach and the timing of implementation with a view to a consistency of approach to the extent possible. This 'North Shore approach' proved very successful in terms of industry readiness and acceptance with the initial roll out of the BC Energy Step Code with the three North Shore municipalities.

In accordance with the Province's Best Practices Guide for Local Governments, adequate lead time should be provided to allow industry to adjust and for existing projects to make their way through the approval process. It is anticipated that bylaws would contain an effective date of implementation of July 1, 2021.

Environmental Impact:

The District's adopted Community Energy and Emissions Plan (CEEP) provides strategies related to buildings and energy to assist in achieving overall GHG emissions reductions of 45% by 2030 and 100% by 2050.

Regulating new construction to provide for energy efficient buildings together with low carbon energy systems will assist in the District in reaching the CEEP targets.

Conclusion:

Staff have worked collaboratively with stakeholders towards a two-tier low carbon energy approach to Step Code implementation and now seek direction to prepare the necessary bylaw amendments.

Options:

1. Direct staff to prepare bylaws to amend Construction Bylaw 8271 to implement the BC Energy Step Code with Greenhouse Gas targets generally in accordance with **Attachment B**.
2. Provide alternate direction to staff.
3. Make no changes to the Construction Bylaw at this time.

Respectfully submitted,



Brett Dwyer

Assistant General Manager, Regulatory Review and Compliance

Attachment A - District of North Vancouver: Polies and Initiatives

Attachment B - District of North Vancouver: Proposed Low Carbon Approach

REVIEWED WITH:					
<input type="checkbox"/> Community Planning	_____	<input type="checkbox"/> Clerk's Office	_____	External Agencies:	
<input type="checkbox"/> Development Planning	_____	<input type="checkbox"/> Communications	_____	<input type="checkbox"/> Library Board	_____
<input type="checkbox"/> Development Engineering	_____	<input type="checkbox"/> Finance	_____	<input type="checkbox"/> NS Health	_____
<input type="checkbox"/> Utilities	_____	<input type="checkbox"/> Fire Services	_____	<input type="checkbox"/> RCMP	_____
<input type="checkbox"/> Engineering Operations	_____	<input type="checkbox"/> ITS	_____	<input type="checkbox"/> NVRC	_____
<input type="checkbox"/> Parks	_____	<input type="checkbox"/> Solicitor	_____	<input type="checkbox"/> Museum & Arch.	_____
<input type="checkbox"/> Environment	_____	<input type="checkbox"/> GIS	_____	<input type="checkbox"/> Other:	_____
<input type="checkbox"/> Facilities	_____	<input type="checkbox"/> Real Estate	_____		
<input type="checkbox"/> Human Resources	_____	<input type="checkbox"/> Bylaw Services	_____		
<input type="checkbox"/> Review and Compliance	_____	<input type="checkbox"/> Planning	_____		

ATTACHMENT A
District of North Vancouver Policies and Initiatives

Council has identified climate action as a priority issue to address during its mandate.

- **2019 Council Directions:** Prioritizes projects that raise awareness about climate change and reduce GHG emissions in the community.
- **2019 Climate Emergency Declaration:** Council passed a resolution declaring a climate and ecological emergency and calling for transformative climate action. Council directed staff to incorporate more urgent climate action and ecological protection into strategic and financial planning processes.
- **2019 Community Energy and Emissions Plan (CEEP):** provides strategies for achieving emissions reduction targets of 45% by 2030 and 100% by 2050 (below 2007 levels) and highlights buildings as a focus area for achieving these targets.
- **The Targeted OCP Review - Climate Emergency White Paper:** Input received through the Climate Emergency Stakeholder Workshop in February 2020 indicated support for prioritizing actions that reduce GHG emissions related to the building and transportation sectors.

The following initiatives support action to reduce building-related energy and GHG emissions in the District:

- **2019 Corporate Strategic Energy Management Plan (SEMP):** reduces energy and GHG emissions from corporate infrastructure.
- **2018 BC Energy Step Code (ESC):** the District has implemented the BC Energy Step Code that includes energy performance requirements for new buildings in the community. Integrating GHGI targets into the Step Code would shift the focus towards improved GHG emissions performance for new buildings, as recommended in the CEEP.
- **2012 Energy, Water, and GHG Reduction Development Permit Area:** areas in the District that require the efficient use of energy and water and reduced building-related GHG emissions. Areas include all zones and OCP designations intended for commercial, multi-family, or industrial uses.
- **2009 Climate Action Revenue Incentive Program (CARIP):** a conditional grant program that provides annual funding in the form of a carbon tax rebate for signatories to the B.C. Climate Action Charter. Through the program, the District reports on climate action including measures to reduce energy and GHG emissions from buildings.

ATTACHMENT B
District of North Vancouver: Proposed Low Carbon Approach

It is proposed that the current Energy Step Code requirements in Construction Bylaw 8271 be amended to provide a two-tier low carbon energy system option to incentivize reduction in GHG's from new buildings. The low carbon option would include specific GHGI requirements in *kgCO₂e/m²*.

The table below illustrates the proposed approach.

	Existing ESC Requirement	Proposed ESC Requirement	Proposed GHGI (<i>kgCO₂e/m²</i>)
Part 3 Residential	Step 3*	Step 4 or Step 3 + LCES	<3.0
Part 3 Commercial	Step 1	Step 3 or Step 2 + LCES	<3.0
Part 9 Residential (e.g. single family)	Step 3	Step 5 or Step 3 + LCES	< 3.0

*Step 2 where rezoning not required
LCES = Low Carbon Energy System

Staff are also proposing to introduce 2 new categories for Step Code implementation.

Firstly, staff are exploring requiring significant renovations to Part 3 Commercial buildings to meet Step 1 of the Energy Step Code. There has been some concern raised from industry as to how this will be implemented. It is worth noting that Step 1 requires modelling and testing only, with no specific building performance targets. The objective being to encourage broader use of energy modelling and testing to assist with industry readiness and energy efficiency awareness without creating undue hardship.

The second new category is what the Province referred to as 'public sector buildings'. Amendments to the BC Building Code on Dec 12, 2019, introduced Energy Step Code requirements for various assembly-type buildings such as schools, libraries, colleges, recreation centres, hospitals and care centres. These amendments introduced Energy Step Code requirements for these building types, however, the regulation contains only one step so at this time does not lend itself to a two-tier low carbon approach for these building types.