

PREPARED FOR: Committee of the Whole
FROM: Carly Rimell, Senior Planner
MEETING DATE: February 20, 2024
SUBJECT: GHG and Energy Reduction in Buildings and Other Climate Action Opportunities

RECOMMENDATION(S)

THAT the report titled GHG and Energy Reduction in Buildings and Other Climate Action Opportunities, authored by Carly Rimell, Senior Planner, dated February 20, 2024, be received.

And that Council consider the following staff recommendation(s):

THAT staff prepare an amendment to the Building and Plumbing Bylaw No. 4247, 2005 for Step Code and Zero Carbon Step Code changes as per the timelines outlined for 2024 in this staff report;

AND THAT Council approve funding for up to \$10,000 from the Climate Grant operational budget for promotion of GHG energy retrofit programs for existing buildings during 2024.

AND THAT staff prepare a report regarding the feasibility and resource requirements for grant and rebate programs in addition to existing provincial and federal retrofit programs (e.g. CleanBC) as well as rebate program options for e-bikes, EV charging and electric garden equipment.

Alternatively, staff await another direction from Council.

EXECUTIVE SUMMARY OF REPORT

This staff report responds to the following Council direction:

- Council Priority Project #53 and the Community Climate Action Working Group (CCAWG) Recommendation #4 which is intended to create two separate programs and associated policies to accelerate GHG and energy reductions in new and existing buildings; and
- Council Resolution (2023-100) where Council directed staff to prepare a report on the status of the Climate Action Grant and Rebate, outlining the feasibility and the resource requirements for designing the grant program, and identifying the department and timeline recommended.

This report outlines options for Council to consider and potential next steps for these programs and associated policies.

BACKGROUND/HISTORIC CONTEXT

At the November 12, 2019, Council meeting, Council established the CCAWG. Through an approved Terms of Reference the sole mandate of the CCAWG was to serve as an advisory body to Council to develop up to five recommendations for the Community Climate Action Project for Council to consider as part of the 2020-2022 strategic planning and budget processes.

In response to recommendation #4 a new Council Priority Project was created under #53 - *Implement GHG and Energy Reduction in Buildings Program (Community Climate Action Working Group Report Implementation)* with funding of \$20,000 in the District's budget. The start of the project was delayed due to the COVID-19 pandemic and other reasons.

Related but separate from the Council Priority Project, Council also requested follow up regarding earmarked operational funding for Climate Action grants and rebates. At the March 13, 2023 Council meeting, the following resolution (2023-100) was passed:

THAT staff be directed to prepare a report on the status of the Climate Action Grant and Rebate, outlining the feasibility and the resource requirements for designing the grant program, and identifying the department and timeline recommended. (2023 - 100)

In December 2023, District staff contracted Origin Sustainable Design and Planning who has extensive working knowledge of climate action programs and policies in the Capital Region and British Columbia, having supported many local governments including the development of retrofit programs and Step-Code related projects. This contract also extended to reviewing options for designing a Climate Action Rebate and Grant program.

ANALYSIS

This staff report and the accompanying GHG and Energy Reduction in Building and Other Climate Action Opportunities report (Attachment 1) provides an overview of research and recommendations for

- a. further BC Energy Step Code (ESC) adoption and implementation of the Zero Carbon Step Code (ZSCS) for **new buildings** in Oak Bay;
- b. energy and carbon retrofit programs for **existing buildings** in Oak Bay; and
- c. other climate action **grant and rebate program** opportunities for further exploration in Oak Bay.

BC Energy Step Code

The BC Energy Step Code (ESC) is a province-wide performance standard requiring new buildings to attain higher energy performance by meeting set targets for the building envelope, mechanical system efficiency and airtightness. Energy modelling software and on-site air tightness testing is used to demonstrate ESC compliance, indicating that the building meets the required performance level at the pre-construction stage as well as project completion.

The ESC establishes progressive performance steps in energy efficiency for new buildings from the current BC Building Code level to net zero energy-ready buildings by 2032.

The ESC steps are summarized in Section 2.1.1. of Attachment 1. The ESC is divided into two main segments, steps that apply to Part 9 Residential buildings (single family dwellings, duplexes, triplexes, townhouses, and laneway homes), and steps that apply to Part 3 buildings (multi-unit, commercial, mixed use, office, and hotels). See Figure 1, ESC Summary Diagram.

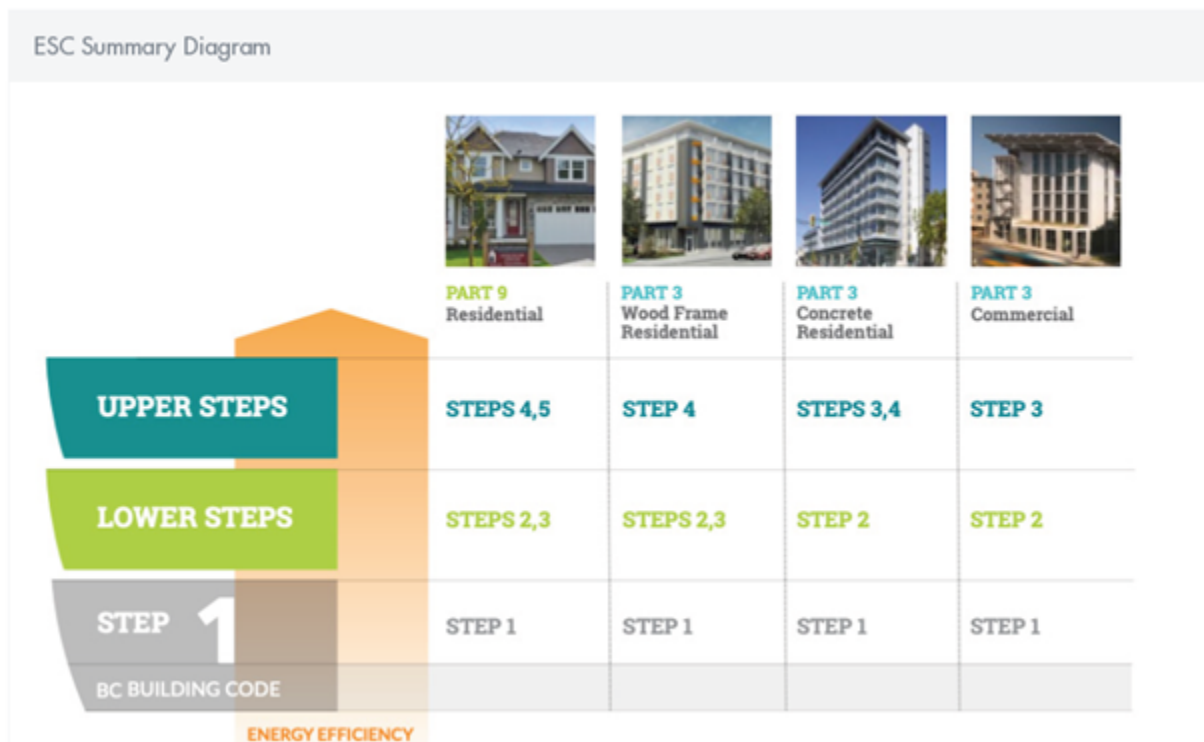


Figure 1. ESC Summary Diagram

Currently the ESC is in effect across the Province (including Oak Bay) at the following steps for different building typologies:

Building Code – Building Type	Level
Part 9 Buildings – Houses, Duplexes, Multiplexes and Townhouses	Step 3
Part 3 Buildings – Residential Buildings of six storeys or less	Step 2
All Part 3 Buildings	Step 2

No amendments to the Building and Plumbing Bylaw No. 4247 have been made since 2018 to advance the ESC.

BC Zero Carbon Step Code

The BC Zero Carbon Step Code (ZCSC) regulates the carbon emissions associated with operating buildings. How a building is heated is the primary determinant of a buildings related GHG emissions. Two common strategies that are used to achieve zero-carbon, all electric new buildings are to use high efficiency electrical heating and cooling systems (e.g. heat pumps), and cooking systems (e.g. electric or induction stoves).

The ZCSC is currently a voluntary opt in program that allows local governments to require or incentivize moderate, strong or zero carbon performance for Part 3 and Part 9 Buildings. Twenty one other local governments in BC, including several in the region such as Victoria, Saanich, View Royal, Colwood and Central Saanich have accelerated their action on carbon emissions in new construction. The Provincial government has signaled that buildings will be required to achieve the highest performance requirements of the ZCSC in 2030.

Similar to the ESC, the ZCSC consists of a series of steps, representing reduced levels of emissions, summarized as:

- EL-1 Measure only
- EL-2 Moderate carbon performance: Fossil fuel water heating and cooking allowed. Space heating must be zero carbon
- EL-3 Strong Carbon performance: Fossil fuel cooking allowed. Space and water heating systems must be zero carbon.
- EL-4 Zero Carbon Performance: No fossil fuels allowed. Space and water heating and cooking must be zero carbon.

More information on ZCSC is detailed in Section 2.1.2 of Attachment 1.

Recommendations for the ESC and ZCSC Adoption

The Project Team’s recommendation is to follow the ESC and ZCSC adoption timeline that Saanich, Victoria, View Royal and Central Saanich have adopted, to improve alignment across the region and support industry with clarity and consistency of requirements across municipal borders. The adoption timeline to support this recommendation are presented below:

Recommended ESC and ZCSC Adoption Summary Table				
BUILDING CODE - BUILDING TYPE	CURRENT STEP (OAK BAY)	2024	2027	2032
PART 9 BUILDINGS - HOUSES, DUPLEXES, MULTIPLEXES, AND TOWNHOUSES	ESC: Step 3 ZCSC: N/A	ESC: Step 3 ZCSC: EL-4 (July 1, 2024)	ESC: Step 4 ZCSC: EL-4	ESC: Step 5 ZCSC: EL-4
PART 3 BUILDINGS- RESIDENTIAL BUILDINGS OF SIX-STOREYS OR LESS	ESC: Step 2 ZCSC: N/A	ESC: Step 2 ZCSC: EL-4 (July 1, 2024)	ESC: Step 3 ZCSC: EL-4	ESC: Step 4 ZCSC: EL-4
ALL PART 3 BUILDINGS - RESIDENTIAL AND COMMERCIAL BUILDINGS	ESC: Step 2 ZCSC: N/A	ESC: Step 2 ZCSC: EL-4 (Nov 1, 2024)	ESC: Step 3 ZCSC: EL-4	ESC: Step 4 ZCSC: EL-4

Figure 2. Recommended ESC and ZCSC Adoption Summary Table

This recommendation for ESC and ZCSC responds the Council direction and CCAWG Recommendation #4 to create a program and associated policies to accelerate GHG and energy reductions for new building construction.

Home Energy Retrofits

Home retrofits are an important tool for lowering GHG emissions and improving occupant comfort in existing buildings. Section 3 of Attachment 1, provides an overview of the existing home energy retrofit programs, input from industry stakeholder, and findings and opportunities for Oak Bay.

The incentive landscape has shifted and expanded since the CCAWG recommendation and Council direction that was given in 2020. Currently, multiple programs focus on retrofits of existing buildings across multiple building typologies (e.g. single family, multi-family) at both regional (e.g. CRD Home Energy Navigator), provincial (e.g. CleanBC) and federal (e.g. Canada Greener Homes) scales.

The Capital Regional District (CRD) Home Energy Navigator (HEN) program aims to support residents to undertake low-carbon home energy retrofits and take advantage of government and utility incentives. Participants are connected with an Energy Concierge, who is available throughout a retrofit project to answer questions, provide support, and give local, expert advice and guidance to navigate the complex world of home energy retrofits. Oak Bay is a current participant in the HEN program, and behind Saanich (236) and Victoria (110), Oak Bay (46) had the third most participants from November 2022 to October 2023.

Recommendations for Home Energy Retrofits

Due to the diversity of programs at other levels of government it may reduce the need for an Oak Bay-led retrofit program. Furthermore, the funding landscape is shifting, with potential new program being developed through CleanBC and the discontinuation of existing programs (e.g. Canada Greener Homes Grant) as such, it is difficult to determine where potential top-up opportunities may present themselves (if at all) for Oak Bay.

Staff recommend that be further review and analysis on retrofit programs and potential gaps be contemplated once the Senior Planner – Climate Action is in place and initiates work on the Community Climate Action Plan (CPP #35). At that time it is anticipated that there would be more information on new programming being developed at provincial and federal levels and inform potential gaps in home energy retrofits.

In the interim staff will allocate additional funding resources through the operational budget for marketing and communications around the HEN Program to support home retrofits specifically in Oak Bay. As with most of the participants in the HEN program who have completed upgrades, 84% completed space heating upgrades, all of which were electric heat pumps. 62.5% of those who installed heat pumps were fuel switching, representing a GHG reduction of approximately 58.1 t CO₂eq/year. Furthermore, participant satisfaction with the program is high, with 87.9% indicating they would recommend the program and 90.9% indicated they feel ready to proceed with upgrades.

This recommendation on home energy retrofits responds to the Council direction and CCAWG Recommendation #4 to create a program and associated policies to accelerate GHG and energy reductions for the retrofit and adaptation of existing buildings.

Other Climate Action Grant and Rebate Program Opportunities

While adoption of the ZCSC and support for home energy retrofits will lower emissions in new and existing buildings, other climate action grant and rebate programs can help to lower overall community emissions. These types of grant and rebate programs are where the current gap currently lies as opposed to building retrofits. Staff referred to Recommendation #3 from the CCAWG to glean further insights on what types of rebate programs should be considered such as heating systems, electric garden equipment, and e-bikes. Section 4 of Attachment 1 provides an overview of other climate action programs and opportunities for supporting low-carbon mobility and electrical gardening equipment.

Recommendations for Other Climate Action Grant and Rebate Program Opportunities

The projects recommended to be further explored include: developing an e-bike rebate program, developing or supporting existing provincial rebates for home EV charging, and consider the impact and feasibility of creating an electric garden equipment rebate program.

Staff recommend that be further review and analysis on these rebate program opportunities once the Senior Planner – Climate Action is in place.

OPTIONS

1. THAT Council receive the report for information and that Council direct staff to prepare an amendment to the Building and Plumbing Bylaw No. 4247, 2005 as per the timelines outlined for 2024; approve funding for up to \$10,000 from the Climate Grant operational budget for promotion of GHG energy retrofit programs for existing buildings during 2024; and direct further consideration of rebate programs for e-bikes, EV charging and electric garden equipment (**staff recommended**).

2. THAT Council receive the report for information and that Council direct staff to prepare an amendment to the Building and Plumbing Bylaw No. 4247, 2005 as per the timelines outlined for 2024 and direct further consideration of rebate programs for only e-bikes, EV charging **or** electric garden equipment as part of the development and implementation of the Community Climate Action Plan (CPP #35)

3. THAT Council provide alternate direction to staff.

COUNCIL PRIORITY SUPPORTED

Housing, Climate Change & Environment

FINANCIAL IMPACT

Council Priority Project #53 was approved as part of the 2021 budget with project funding of \$20,000. These funds have been allocated through the contract with Origin.

In response to recommendation #3 of the CCAWG funding for Climate Action Grants and Rebates was first allocated as part of the 2020 operating budget. This funding remains in the budget awaiting actioning. There is \$31,200 in the operating budget that has been carried over. This funding could be applied to the promotion of retrofit programs and to a grant or rebate program for the topics identified in this report.

For 2024 staff will allocate existing Community Building and Planning operational budget towards further resources for marketing and communications for the Home Energy Navigator Program. Staff anticipate \$5,000 to \$10,000 should be sufficient to support these marketing and communication efforts to increase uptake and use of the program and ultimately fuel switching retrofits.

IAP2 FRAMEWORK ENGAGEMENT

INFORM **CONSULT** **INVOLVE** **COLLABORATE**

The Project Team met with representatives and of Urban Development Institute, Canadian Home Builders Association, and FortisBC. Section 2.3 of Attachment 1 provides an overview of the feedback. The Project Team corresponded with a representative from the Victoria Residential Builders Association. A letter from the Victoria Residential Builders Association is provided as Attachment 2. A letter from the Canadian Home Builders Association is provided as Attachment 3. A letter from the Urban Development Institute is provided as Attachment 4.

These meetings were held in lieu of a broader engagement process because of the extensive industry engagement that previously occurred to inform the City of Victoria's and District of Saanich's approach to the ESC and ZCSC. This level of engagement was agreed to be reasonable by the industry representatives that the Project Team met with considering all other engagement that had occurred on this topic in the region.

In addition to meeting with development industry representatives, an email will be sent to current permit holders in Oak Bay advising them of the proposed changes to the bylaw and how to provide their input to Council.

TIMELINE/PROCESS/NEXT STEPS

This staff report and attached report responds to Council Priority Project #53 and provides an initial response to Council Resolution (2023-100) to provide further direction for a report on the use of the Climate Action Grant and Rebate funding in the operating budget.

If Council supports the staff recommendation the recommended promotion of third party grants and rebates for retrofits of existing buildings would be implemented in the spring and a follow up report on the use of the remaining funding could follow sometime this year subject to confirmation of the work plan for Climate Action planning and implementation.

Respectfully submitted,

Carly Rimell, Senior Planner

With respect to the Financial Impact described in this report, I concur with the staff recommendation.

Christopher Paine

Christopher Paine, Director of Financial Services

Reviewed and approved by the Director of Corporate Services.

Dianna Plouffe

Dianna Plouffe, Director of Corporate Services

I have read and consider staff's recommendation to be supportable for Council's consideration.

Selina Williams

Selina Williams, Chief Administrative Officer

ATTACHMENTS(S):

[Attachment](#)

[1_GHGandEnergyReductionsInBuildingsandOtherClimateActionOpportunities](#)

[Attachment 2 Letter to Oak Bay Re Zero Carbon Step Code Feb 6](#)

[Attachment3 CHBA Letter ESCandZCSC Oak Bay 2024](#)

[Attachment4 UDI Letter Oak Bay ESC and ZCSC 16FEB2024](#)



FEBRUARY 2024



DISTRICT OF OAK BAY

GHG AND ENERGY REDUCTION IN BUILDINGS AND OTHER CLIMATE ACTION OPPORTUNITIES REPORT

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1. SUMMARY

1.1. OVERVIEW AND CONTEXT

This report provides an overview of research and recommendations for [a] further BC Energy Step Code (ESC) adoption and implementation of the Zero Carbon Step Code (ZCSC) for new buildings in Oak Bay; [b] energy and carbon retrofit programs for existing buildings in Oak Bay; and [c] other climate action program opportunities for further exploration in Oak Bay.

This work is directed by Council and the Climate Action Working Group (CCAWG).

1.2. COUNCIL DIRECTION

This work is informed and directed by Council Priority Project #53 and the CCAWG Report Implementation #4 which is intended to create two separate programs and associated policies to accelerate GHG and energy reductions in new and existing buildings.

- + For new construction, it is expected that a program could include initiatives such as implementing higher levels of the BC Energy Step Code and Zero Carbon Step Code, developing an informational program to promote available rebates and incentives for homeowners, or developing an expedited building permit program.
- + For existing buildings, it is expected that a program could include financial or other incentives for homeowners to retrofit buildings and energy systems.

Additionally, staff further directed the Project Team to explore consideration for future rebate program opportunities.

1.3. RECOMMENDATIONS

1.3.1. ENERGY STEP CODE (ESC) & ZERO CARBON STEP CODE (ZCSC)

The Project Team recommendation for Oak Bay is to accelerate adoption of the Zero Carbon Step Code (ZCSC) while following the provincial timelines for the Energy Step Code (ESC). This recommendation approach follows the ESC and ZCSC adoption timeline that Saanich, Victoria, View Royal, Colwood and Central Saanich have adopted, to improve alignment across the region and support industry with clarity and consistency of requirements across municipal borders in the Capital Region. [For more information on this recommendation, see Section 2.](#)

1.3.2. HOME ENERGY RETROFITS

Currently, there are multiple existing funding and support programs focused on retrofits of existing buildings across multiple building typologies (e.g., single-family, multi-family) at both regional (e.g., CRD), provincial (e.g., CleanBC) and federal (e.g., Canada Greener Homes Grant) scales.

The Project Team recommendations for Oak Bay with regard to home energy retrofits are to

- consider allocating resources for marketing and communication around the Capital Regional District’s Home Energy Navigator (HEN) program; and
- consider top-ups to existing provincial and federal retrofit programs (e.g., CleanBC, Canada Greener Homes Grant).

For more information on this recommendation, see Section 3.

1.3.3. OTHER CLIMATE ACTION PROGRAM OPPORTUNITIES

Beyond the adoption of the ZCSC and supporting home energy retrofits, supporting other climate actions such as low-carbon mobility and electrical gardening equipment can also help lower overall community emissions.

The Project Team recommendations for Oak Bay are to explore:

- developing an E-bike rebate program similar to the recent program developed by the District of Saanich;
- developing or supporting (e.g., through financial top-ups) existing provincial rebates for home electric vehicle (EV) charging; and
- the impact and feasibility of creating an electric garden equipment rebate program for community members.

For more information on this recommendation, see Section 4.



SECTION 2

ENERGY STEP CODE & ZERO CARBON STEP CODE ADOPTION

2. ENERGY STEP CODE (ESC) & ZERO CARBON STEP CODE (ZCSC) ADOPTION

This section provides an overview of the Energy Step Code (ESC) and Zero Carbon Step Code (ZCSC), their current requirements in BC, local adoption context, and recommendations for Oak Bay.

2.1 ESC & ZCSC OVERVIEW

2.1.1 BC ENERGY STEP CODE

The BC ESC (or “Step Code”) is a province-wide performance standard requiring new buildings to attain higher energy performance by meeting set targets for the building envelope, mechanical system efficiency and airtightness. Energy modelling software and on-site air tightness testing is used to demonstrate Step Code compliance, indicating that the building meets the required performance level at the pre-construction stage as well as project completion.

The Step Code establishes progressive performance steps in energy efficiency for new buildings from the current BC Building Code level to net zero energy-ready buildings by 2032. In future, new homes will need to be built better than the current BC Building Code:

- + 20 per cent more energy efficient by 2022 (current requirement)
- + 40 per cent more energy efficient by 2027
- + 80 per cent more energy efficient by 2032 which is the net-zero energy ready standard

Figure 1 – ESC Summary Diagram



Currently, the ESC is being implemented across the province (including in Oak Bay) at the following steps for different building typologies.

BUILDING CODE - BUILDING TYPE	LEVEL
PART 9 BUILDINGS - HOUSES, DUPLEXES, MULTIPLEXES, AND TOWNHOUSES	Step 3
PART 3 BUILDINGS- RESIDENTIAL BUILDINGS OF SIX-STOREYS OR LESS	Step 2
ALL PART 3 BUILDINGS - RESIDENTIAL AND COMMERCIAL BUILDINGS	Step 2

Over time, as high-performance designs, materials, and systems become increasingly available and cost-effective, the province has signaled that it will increase the base code performance level as follows:

- + **40 percent more energy efficient by 2027** (e.g., Step 4 for Part 9, Step 3 for Part 3 residential and mixed-use)
- + **80 percent more energy efficient by 2032** which is the net-zero energy-ready standard (e.g., Step 5 for Part 9, Step 4 for Part 3 residential and mixed-use).

2.1.2 BC ZERO CARBON STEP CODE (ZCSC)

The BC ZCSC regulates the carbon emission associated with operating buildings. The ZCSC is currently a voluntary opt in program that allows local governments to require or incentivize moderate, strong, or zero-carbon performance for Part 3 and Part 9 buildings.

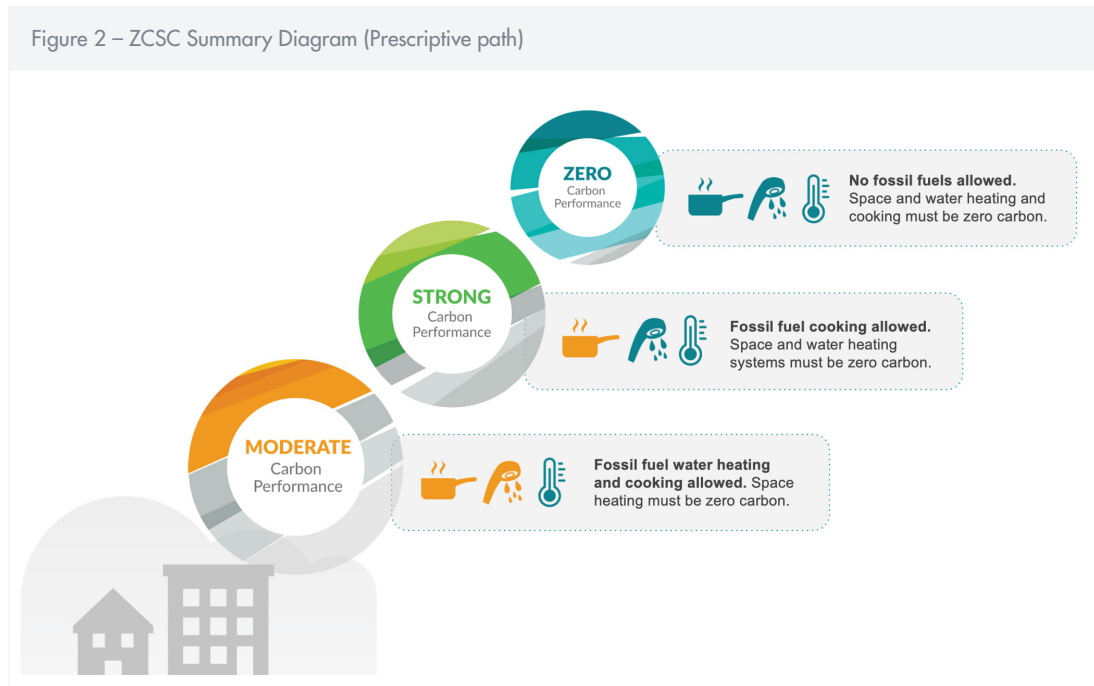
Similar to the ESC, the BC ZCSC consists of a series of steps, representing reduced levels of emissions, summarized as:

- + EL-1 = Measure Only
- + EL-2 = **Moderate** Carbon Performance
- + EL-3 = **Strong** Carbon Performance
- + EL-4 = **Zero** Carbon Performance

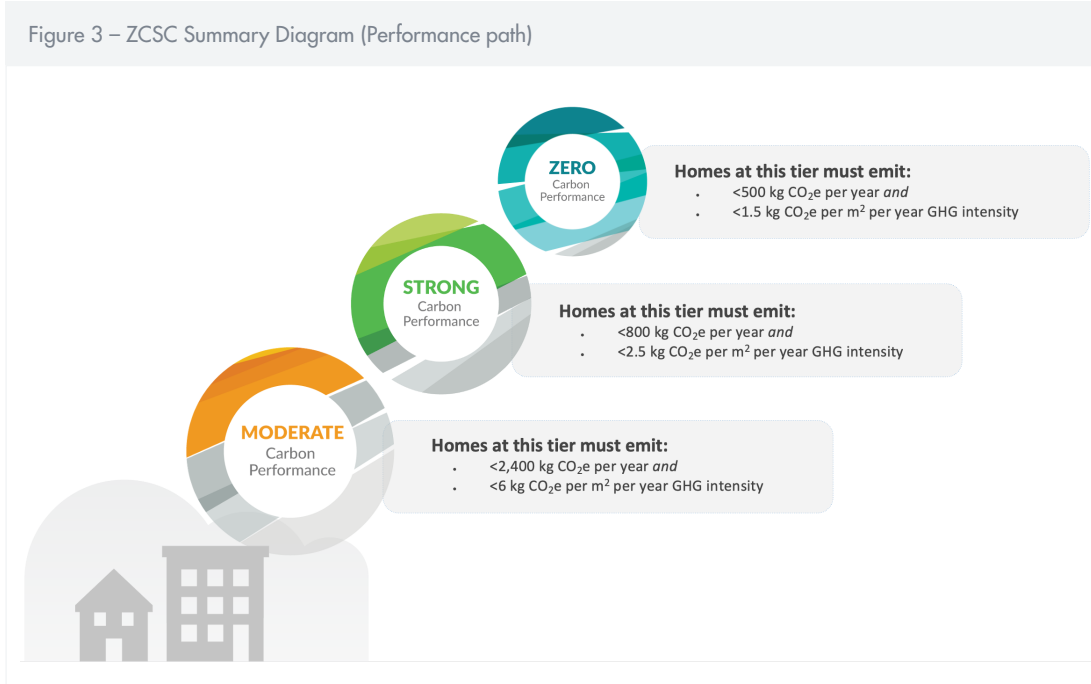
These steps, including descriptions of illustrative strategies and building systems for both the performance and prescriptive paths associated with each step, are summarized in the images below.

Homebuilders can demonstrate compliance with the ZCSC using either the [prescriptive path](#) or [performance path](#), summarized below.

- + Builders choosing to follow the [prescriptive path](#) will focus on the specific equipment allowed at each tier. This is summarized in Figure 2 below. The prescriptive path is only available to builders of smaller (Part 9) residential buildings.

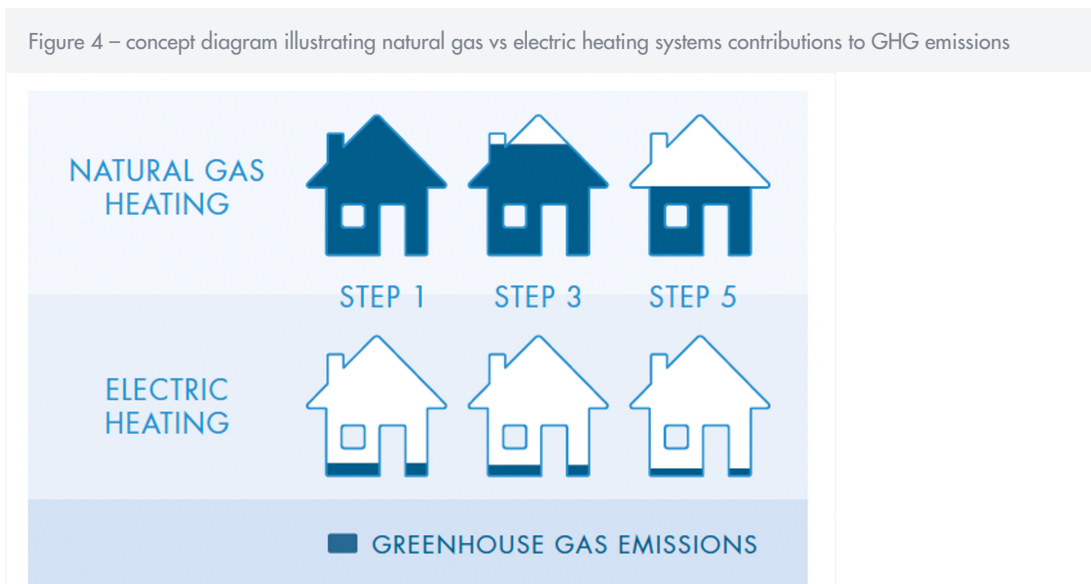


- + Builders choosing the [performance path](#) will use software to calculate how much carbon pollution the home will produce once built and operating, and disclose the values to the building official in advance to confirm compliance. If a builder opts to pursue this performance path, they may include a natural gas fireplace, cooktop, or clothes dryer and still comply with the top tier (“Zero Carbon Performance”).



2.1.3 WHY THE ZCSC?

How a building is heated is a primary determinant of building-related GHG emissions. A well-insulated and airtight new home (e.g., built to the highest Step of the Energy Step Code) that uses natural gas for heating still emits more GHG emissions than a home that is less insulated and air-sealed but uses electricity for heating (see Figure 4 below).



Two common strategies that are used to achieve zero-carbon, all-electric new buildings are to use high efficiency electric heating and cooling systems (e.g., heat pumps), and cooking systems (e.g., electric or induction stoves).

HEAT PUMPS

Electric heat pump systems provide efficient heating, with extremely low associated GHG emissions due to the clean BC hydroelectricity grid. Heat pumps also provide cooling in the summer, which will become an increasingly important consideration as hotter summers are expected due to climate change. Heat pumps do have higher capital costs when compared with gas furnaces, but comparable operating costs. There is currently a wide range of provincial rebates and incentive programs for heat pumps that make the capital cost much more comparable to a gas furnace (see Section 3.2). Many heat pump users speak to their role in improving thermal comfort in both the summer and winter.

INDUCTION STOVES

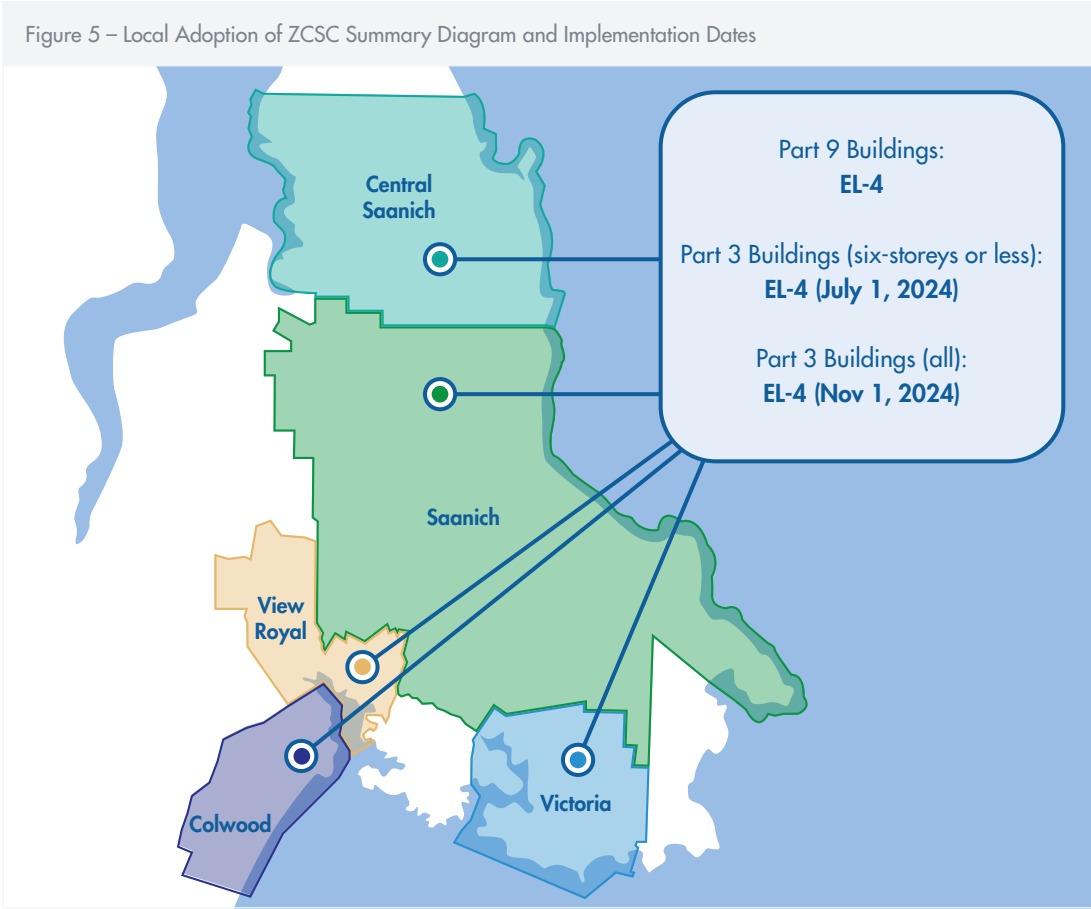
Induction stove tops are increasingly seen as a viable and superior low-carbon alternative to electric and gas stove tops in terms of performance and temperature control. They are commonly used in Europe but are gaining popularity in North America due to their superior performance.

2.1.4 RENEWABLE NATURAL GAS (RNG) AND ZCSC COMPLIANCE

There is currently no ability for municipalities to recognize RNG for compliance with carbon pollution standards set out in the ZCSC. FortisBC has submitted a BC Utilities Commission application that seeks to create a renewable gas and low carbon fuel rate class for new residential connections. What the result of that determination means with regard to RNG and compliance with ZCSC remains to be seen, and RNG is not currently a means of compliance with the ZCSC.

2.2 LOCAL ADOPTION CONTEXT

Both the ESC and ZCSC have been adopted in multiple municipalities across the CRD. Recently, the ZCSC was adopted by the City of Victoria, the District of Saanich, the District of Central Saanich, the Town of View Royal, and the City of Colwood. While each of these municipalities has followed the Provincial timelines for the ESC, they have aligned themselves with an accelerated adoption approach of the ZCSC. This adoption is summarized in Figure 5 below.



BUILDING CODE - BUILDING TYPE	EMISSION LEVEL (EL)	IMPLEMENTATION DATE
PART 9 BUILDINGS - HOUSES, DUPLEXES, MULTIPLEXES, AND TOWNHOUSES	Level 4: Zero Carbon Performance	November 1, 2023 (Colwood - March 3, 2024)
PART 3 BUILDINGS - RESIDENTIAL BUILDINGS OF SIX-STOREYS OR LESS	Level 4: Zero Carbon Performance	July 1, 2024
ALL PART 3 BUILDINGS - RESIDENTIAL AND COMMERCIAL BUILDINGS	Level 4: Zero Carbon Performance	November 1, 2024

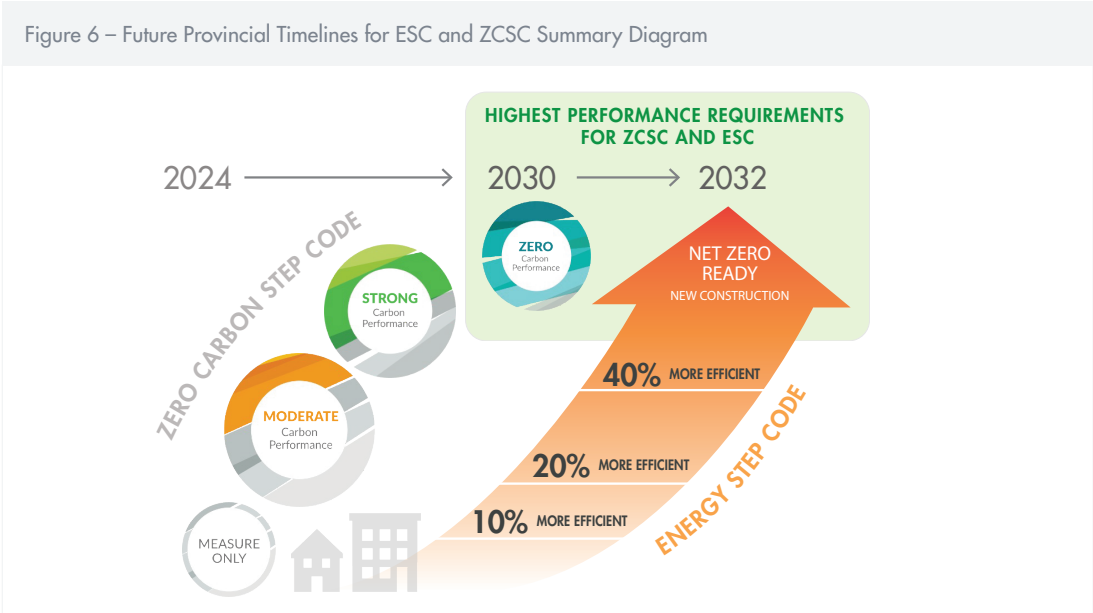
Since it was made available less than a year ago, there’s been significant increase in the number of local governments referencing BC’s Zero-Carbon Step Code (ZCSC). In late 2023, the Township of Langley, as well as Burnaby, New Westminster, Penticton, View Royal, Esquimalt, and Colwood, became some of the most recent communities to reference ZCSC.

So far, 21 local governments have new construction requirements representing a range of climate zones and population sizes throughout B.C.’s south coast, Vancouver Island, and Okanagan regions. These include:

- + Burnaby
- + Central Saanich
- + City of North Vancouver
- + Colwood
- + District of North Vancouver
- + District of West Vancouver
- + Esquimalt
- + Nanaimo
- + Nelson
- + New Westminster
- + North Cowichan
- + Richmond
- + Saanich
- + Squamish
- + Township of Langley
- + Vancouver
- + Victoria
- + View Royal
- + Whistler
- + Tsleil-Waututh Nation
- + UBC campus and neighbourhood

2.2.1 FUTURE PROVINCIAL TIMELINES

The provincial government have signaled that new buildings will be required to achieve the highest performance requirements of the ZCSC in 2030 and ESC in 2032. These provincial timelines aim to put British Columbia on a path to meet the province’s target that all new buildings must be “net-zero energy ready” by 2032. The conceptual graphic below in Figure 6 show the relationship between the forecasted ESC and ZCSC timelines in BC.



2.3 INPUT FROM STAKEHOLDERS

2.3.1 DEVELOPMENT INDUSTRY ASSOCIATIONS (UDI, CHBA, VRBA)

The Project Team met with representatives of the Urban Development Institute (UDI) and Canadian Home Builders' Association (CHBA) on January 16th, 2024.

These meetings were held in lieu of a broader engagement process (e.g., an industry event) because of the extensive industry engagement that previously occurred to inform the City of Victoria's and District of Saanich's approach to the ESC and ZCSC. This level of engagement was agreed to be reasonable by the industry representatives that the Project Team met with considering all the other engagements that had occurred on this topic in the region.

The purpose of the industry representative meetings was to:

- + Provide an overview of the Council direction that informs this work
- + Summarize the ESC and ZCSC regulatory tool
- + Outline the proposed ESC and ZCSC adoption schedule for Oak Bay
- + Gather feedback and input on the proposed ESC and ZCSC adoption schedule for Oak Bay

Feedback from these sessions is summarized below.

URBAN DEVELOPMENT INSTITUTE

UDI representatives acknowledged that there is a benefit to regional consistency on this issue, but expressed that there remain concerns regarding the cost implications of this on top of the many other regulatory changes that have been occurring in the development industry in recent years. They encouraged the Project Team to ensure that there is flexibility and choice built into the adoption schedule so that the industry can cost-effectively deliver low-carbon buildings.

UDI representatives also noted that they were working with BC Hydro to ensure that there is planning and support for the electrification of buildings on Vancouver Island, as there are concerns regarding this from UDI members.

CANADIAN HOME BUILDERS ASSOCIATION (CHBA)

CHBA representatives acknowledged that there is a benefit to regional consistency, but expressed that there were some concerns regarding the cost implications of this on top of the many other regulatory changes that have been occurring in the development industry in recent years.

Their request and recommendation were to ensure that the following feedback was considered as part of the adoption schedule:

- + **Don't go too fast**, in a way that exceeds the industry's capacity to effectively deliver on low-carbon construction
- + **Be data-driven**, informed by industry experience with low-carbon construction
- + **Give ample notice**, to allow the industry time to plan for the change
- + **Ensure regional consistency**, to minimize differences in requirements across municipal borders.

VICTORIA RESIDENTIAL BUILDERS ASSOCIATION (VRBA)

The Project Team corresponded by e-mail with VRBA representative in early February 2024 to capture feedback on the proposed approach to the ESC and ZCSC in Oak Bay. A letter outlining VRBA's concerns regarding the Energy Step Code and Zero Carbon Step Code was provided for Council's consideration and will be included in the report package. Given that the letter was quite clear in communicating the VRBA's position, it was determined by both parties that a meeting was not necessary.

2.3.2 OTHER INDUSTRY ENGAGEMENT

FORTISBC

The Project Team met with a representative from FortisBC on February 7th, 2024.

The FortisBC representative expressed concern around accelerating to the highest emissions level (EL-4 - Zero Carbon Performance) from the perspective of consumer choice, affordability, and potential future implications on energy cost rates. They also stated that they view Renewable Natural Gas (RNG) as a climate solution in the region, noting the opportunities for local RNG generation from the Hartland Landfill.

2.4. RECOMMENDATIONS FOR ESC AND ZCSC ADOPTION

The Project Team’s recommendation is to follow the ESC and ZCSC adoption timeline that Saanich, Victoria, View Royal, and Central Saanich have adopted, to improve alignment across the region and support industry with clarity and consistency of requirements across municipal borders. The adoption timelines to support this recommendation are presented below.

Recommended ESC and ZCSC Adoption Summary Table

BUILDING CODE - BUILDING TYPE	CURRENT STEP (OAK BAY)	2024	2027	2032
PART 9 BUILDINGS - HOUSES, DUPLEXES, MULTIPLEXES, AND TOWNHOUSES	ESC: Step 3 ZCSC: N/A	ESC: Step 3 ZCSC: EL-4 (July 1, 2024)	ESC: Step 4 ZCSC: EL-4	ESC: Step 5 ZCSC: EL-4
PART 3 BUILDINGS- RESIDENTIAL BUILDINGS OF SIX-STOREYS OR LESS	ESC: Step 2 ZCSC: N/A	ESC: Step 2 ZCSC: EL-4 (July 1, 2024)	ESC: Step 3 ZCSC: EL-4	ESC: Step 4 ZCSC: EL-4
ALL PART 3 BUILDINGS - RESIDENTIAL AND COMMERCIAL BUILDINGS	ESC: Step 2 ZCSC: N/A	ESC: Step 2 ZCSC: EL-4 (Nov 1, 2024)	ESC: Step 3 ZCSC: EL-4	ESC: Step 4 ZCSC: EL-4



SECTION 3

HOME ENERGY RETROFIT OPPORTUNITIES

3. HOME ENERGY RETROFIT OPPORTUNITIES

Home retrofits are an important tool for lowering GHG emissions and improving occupant comfort in existing buildings. This section provides an overview of the existing home energy retrofit programs, input from industry stakeholders, and findings and opportunities for Oak Bay.

3.1. HOME ENERGY RETROFIT OVERVIEW

While the BC Energy Step Code (ESC) and Zero Carbon Step Code (ZCSC) are key strategies for improving energy efficiency and reducing carbon emissions in new buildings, home energy retrofits are important to lowering overall emissions related to the building sector.

According to the CRD Regional GHG Inventory Study, in 2022, emissions totalled 74,984 tonnes of CO₂ in Oak Bay. Of that, buildings accounted for 43% of emissions, compared to 37% for on-road transportation, and 3% for solid waste. At a regional level, buildings accounted for 33% of emissions in 2022, indicating that Oak Bay emissions from existing buildings is greater than the regional level.

3.2. EXAMPLES OF EXISTING RETROFIT PROGRAMS

This section provides an overview of existing retrofit support programs, many of which are available to Oak Bay residents. Part of the purpose of providing this overview is to note how the incentive landscape has shifted and expanded since the original Council direction was made, which may reduce the need for an Oak Bay-led retrofit program.

3.1.1. SUPPORT PROGRAMS FOR BUILDINGS



3.1.1.1 Provincial (CleanBC)

CleanBC Better Home and Home Renovation Rebate

The [CleanBC Better Homes and Home Renovation Rebate Programs](#), administered by [BC Hydro](#), [FortisBC](#) and the Province of BC, provide rebates for improving a home's energy efficiency through select upgrades. The program offers up to \$6000 for eligible expenses for home retrofits.

CleanBC Income Qualified Program

The [CleanBC Income Qualified Program](#) offers enhanced rebates to make energy-saving home upgrades more affordable. The program offers up to \$33,900 for eligible expenses. Rebate coverage is based on the combined income of all adults in the home and how many people live in the home, including adults and children.

3.1.1.2. Federal (Natural Resources Canada)



Canada Greener Homes Grant

The [Canada Greener Homes Grant](#) provides rebates for improving a home's energy efficiency through eligible home upgrades. The grant offers between \$125 to \$5000 for eligible expenses and up to \$600 for pre- and post-retrofit EnerGuide evaluations.

This Program is nearing the end of its funding availability, with the Program closing for new applicants in early 2024. It is anticipated that the Federal Government's Oil to Heat Pump Program will continue.



Canada Oil to Heat Pump Affordability Program

The Oil to Heat Pump Affordability program helps Canadian homeowners who are currently heating their homes with oil transition to electric heat by installing a cold climate air source heat pump system.

Rebates of up to \$10,000 are available per household and include the necessary electrical and mechanical upgrades, the safe removal of the existing oil tank, installation of a backup electric heating system (as required), and switching over other oil-using household systems, such as a water heater (where necessary).

3.1.1.3. Regional Government



CRD Home Energy Navigator (HEN)

The [Home Energy Navigator \(HEN\) Program](#) aims to support residents to undertake low-carbon home energy retrofits and take advantage of government and utility incentives. Participants are connected with an Energy Concierge, who is then available throughout a retrofit project to answer questions, provide support, and give local, expert advice and guidance to navigate the complex world of home energy retrofits.

The program is free, created by the CRD and local government partners in the capital region and informed by industry experts, including numerous local contractors. It is administered by City Green Solutions, a local non-profit with decades of experience helping homeowners save energy.

Oak Bay is a current participant in the HEN Program. Behind Saanich (236) and Victoria (110), Oak Bay had the third most participants (46) in the HEN Program from November 2022 to October 2023. [For more data from the HEN Annual Report specific to Oak Bay, please see the Appendix.](#)

3.1.1.4. Local Government

Vancouver Rental Apartment Retrofit Accelerator (RARA) Pilot Project

The City of Vancouver has launched the [Rental Apartment Retrofit Accelerator \(RARA\) pilot program](#) to future-proof existing rental buildings, making them more resilient to the impacts of climate change, while improving energy efficiency, increasing indoor comfort and decreasing emissions with minimal impacts to tenants.

Funded by the City in partnership with CleanBC and BC Hydro, and administered through LandlordBC, the RARA program has \$3.5 million in grant funds available for owners of market rental buildings to undertake critical energy retrofit upgrades, including building electrification and fuel-switching using new heat pump technology. Findings from the pilot program will inform future investment in Vancouver's existing rental stock while maintaining stable tenancies.

Victoria Market Rental Revitalization Study (MARRS) Tax Exemption Pilot Program

The Victoria MARRS Tax Exemption Pilot Program is intended to pilot an incentive program for rental building owners to undertake mechanical equipment electrification, energy efficiency improvements, and seismic upgrades.

The program involves five buildings — three projects focusing on equipment electrification and two focusing on seismic upgrades — to determine what would incentivize building owners to invest to make their aging buildings more efficient.

The project proposes providing a municipal property tax exemption of up to 100 percent of the total eligible cost for as long as 10 years to cover eligible upgrades. To be eligible, buildings must be market rentals built between 1960 and 1979 with three to four storeys, an elevator, and rely on natural gas for heat and hot water. The buildings must also be up to date on property taxes, must not displace tenants with the work, and undergo a seismic assessment and a full electrical capacity assessment.

Saanich and Central Saanich Property-Assessed Clean Energy (PACE) Financing Program for heat pumps

The District of Saanich and Central Saanich are currently administering a Heat Pump Financial Incentive Program, also known as a Property-Assessed Clean Energy (PACE) financing program. Both municipalities are offering up to \$12,000 in 0% interest financing to help upgrade an existing fossil fuel furnace or boiler to an efficient electric heat pump. The financing is repaid over 10 years through an additional levy on the home's property tax payments.

3.3. INPUT FROM STAKEHOLDERS ON HOME RETROFIT OPPORTUNITIES FOR OAK BAY

3.3.1. CAPITAL REGIONAL DISTRICT (HOME ENERGY NAVIGATOR PROGRAM LEADS)

The Project Team met with staff from the CRD to discuss current and past retrofit programs and ways Oak Bay could make the most meaningful impact with its available resources (e.g., top-ups). Key themes from the discussions included:

- + A pilot program for home energy retrofits is possible and support could be provided through the Home Energy Navigator (HEN) Program
- + Opportunities for Oak Bay to provide top-up funding through the Province (e.g., CleanBC)
- + Marketing the HEN program has had a large impact on its success, with the CRD allocating a marketing budget to the program each year. Oak Bay could allocate some budget promoting the Program through mail-outs (e.g., as part of property tax notices), and/or hand-outs at the Building Permit counter to spur participation in the Program.
- + The combination of the CleanBC Income Qualified Program and PACE programming has allowed lower-income households to undertake home retrofits sustainably.

3.3.2. CITY GREEN (HOME ENERGY NAVIGATOR PROGRAM ADMINISTRATORS)

The Project Team met with the City Green Solutions, who run the HEN program, to discuss energy retrofit programs generally, and the success and challenges of the HEN program. Key themes from the discussions included:

- + Canada Greener Homes Grant may be ending soon and if that is the case, this could provide new opportunities for municipalities to provide top-up funding to CleanBC Programs to make up the difference lost from the ending of that Program.
- + There is a need for HEN to be promoted more fully because as more communities are actively engaged, then the program is more cost-efficient.
- + Behind Saanich (236) and Victoria (110), Oak Bay had the third most participants (46) in the HEN program from November 2022 to October 2023.
- + Oak Bay residents who participated in the HEN program reported:
 - + [a] High energy bills (46%); [b] Top floor is too warm in the summer (46%); and [c] Heating is not consistent in the whole home (41%) as their top issues and concerns for home heating, cooling, and comfort
 - + [a] Access rebates and incentives (70%); [b] Increase home (thermal) comfort (63%); and [c] Energy bill savings (59%) as their top motivation and goals for undertaking a home energy retrofit
- + Given Oak Bay's available resources, efforts might be better spent on e-bikes or lawn and garden equipment rebates given the wide variety of building-related rebate programs available.

3.4 FINDINGS AND OPPORTUNITIES FOR SUPPORTING HOME ENERGY RETROFITS

Understanding that Oak Bay has limited resources and the shifting nature of home energy retrofit programs, opportunities that we would recommend exploring for future processes include:

Findings and Opportunities:

- + Currently, multiple programs focus on retrofits of existing buildings across multiple building typologies (e.g., single-family, multi-family) at both regional (e.g., CRD Home Energy Navigator), provincial (e.g., CleanBC) and federal (e.g., Canada Greener Homes) scales
- + Programs are shifting, making it hard to determine if top-ups are appropriate or needed at this time. For example, the Canada Greener Homes Grant is closing for new intake in Spring 2024, and the Federal government have indicated that a new program focused on providing support to lower income households will be launched soon. Depending on how this new Program is designed, this could present an additional opportunity for local government top-ups for CleanBC programs to account for a gap in funding.
- + Currently, there are no Provincial or Federal programs focused on multi-unit residential buildings (MURBs). It is understood that a CleanBC program focused on this typology is in development. Vancouver and Victoria are implementing pilot programs focused on these typologies, and a similar program could be developed considering how common low-rise MURBs are in Oak Bay.
- + In all cases, equity-seeking population considerations should be considered as part of the Program design (i.e., considerations for reducing barriers to access for low-income, seniors, and renters).

Initial Considerations for Allocating Resources:

- + Consider allocating resources for marketing and communications around HEN (e.g., mailouts, handouts, ads in Oak Bay News)
- + The funding landscape is shifting, with potential new programs being developed through CleanBC (e.g., rebate programs for energy efficiency and electrification of MURBs and commercial buildings) and the discontinuation of existing Programs (e.g., Canada Greener Homes Grant). As such, it is currently difficult to determine where potential top-up opportunities may present themselves (if at all) for Oak Bay.
 - o One potential scenario that could present the opportunity for Oak Bay to create a top-up program is if following the discontinuation of the Canada Greener Homes Grant, there is not a commensurate increase in funding from CleanBC to capture the difference (as most retrofit participants stack between CleanBC and Canada Greener Homes to maximize their rebate amounts).
 - o Another potential scenario is that if CleanBC programs adjust their rebate amounts, and then between those rebate amounts and other support programs available in Oak Bay such as the CRD's HEN Program, Oak Bay would not need to create a top-up program to spur uptake in retrofit activities.



SECTION 4

OTHER CLIMATE ACTION PROGRAM OPPORTUNITIES

4. OTHER CLIMATE ACTION PROGRAM OPPORTUNITIES

While adoption of the ZCSC and support for home energy retrofits will lower emissions in new and existing buildings, other climate action programs can also help to lower overall community emissions. This section provides an overview of other climate action programs and opportunities for supporting low-carbon mobility and electrical gardening equipment.

4.1. EXAMPLES OF OTHER CLIMATE ACTION PROGRAMS

4.1.1. SUPPORT PROGRAMS FOR LOW-CARBON MOBILITY

Saanich & Provincial E-bike rebates

The District of Saanich's [Community E-bike Incentive Pilot Program](#) launched on October 12, 2021. The program is now closed to new applicants. This highly popular program offered Saanich residents incentives to purchase new e-bikes for personal transportation.

In 2023 the Province launched a BC Electric Bike Rebate Program and Saanich provided \$30,000 in municipal top-up funding, for Saanich residents. This top-up funding provided incentives for additional residents (not larger incentives per person). Saanich will not run a parallel local e-bike incentive program at the same time.

Provincial e-bike incentives were available regardless of income, with larger incentives available for lower-income residents. Under the program, someone earning less than \$38,950 will qualify for a \$1,400 rebate. That amount drops to \$1,000 for those earning \$38,951 to \$51,130, and \$350 for someone who makes over \$51,131.

The Provincial program is administered by Scrap-IT and follows the successful model piloted by Saanich, although there is no requirement to scrap a vehicle to take part.



CleanBC EV Charger Rebate Program

The CleanBC Go Electric Vehicle (EV) Charger Rebate Program provides rebates for the purchase and installation of EV chargers and infrastructure to get homes and workplaces across B.C. ready for EVs.

Rebates vary but generally cover 50% of costs up to a maximum, which depends on the application (e.g., single-family homes, multi-unit buildings, workplaces). Local governments are encouraged to provide enhanced rebate offers (e.g., top-ups) for residents.

Funding is distributed on a first-come first-served basis and is limited meaning that funding can often be exhausted over the fiscal year.

4.1.2. OTHER SUPPORT PROGRAMS

Electric gardening equipment

According to a report by the US Environmental Protection Agency (EPA), a single gas-powered lawn mower [emits as much pollution in one hour as driving a car for 45 miles](#). So-called "non-road" engines, such as those used in lawn equipment, are responsible for 4 to 5 percent of total greenhouse gas emissions in the United States. Equivalent data for Canada was not able to be found as part of this report writing process.

To combat this source of emission several incentive programs have been made available throughout the US, mostly in California, to help residents and professionals purchase zero-emission lawn and garden equipment. California incentive programs are run by local air districts and the details of the programs vary.

Example: Antelope Valley Air Quality Management District Exchange "Anytime" Lawn & Garden Equipment Rebate Program

The Anytime Lawn and Garden Equipment program allows residents to exchange their working gas-powered lawn and garden equipment for an incentive on the purchase of clean battery-electric equipment. The program provides:

- + \$125 for hand-held tools (i.e. Blower, String and Hedge Trimmers, Chainsaw) with a purchase price of \$199 or more.
- + \$225 for lawnmowers with a purchase price of \$299 or more.

Participants must turn in gas-powered equivalent in operable condition to receive an incentive. Participants may exchange up to 4 units per household.

4.2. OPPORTUNITIES & RECOMMENDATIONS

Understanding that Oak Bay has limited resources and the shifting nature of rebate programs, opportunities that we would recommend exploring for future processes include:

- + Consider developing an E-bike and EV charger rebate program or supporting (e.g., through financial top-ups) provincial programs.
- + Consider developing an electric garden equipment rebate program.



SECTION 5

RECOMMENDED FUTURE WORK

5. RECOMMENDED FUTURE WORK

It is understood that a Senior Planner - Climate Action, will be joining Oak Bay shortly. Based on the findings and recommendations found in this report, the Project Team recommends the following future work be considered to be led by that role.

5.1. SUPPORT ZCSC ADMINISTRATION INTERNALLY

Supporting the administration and rollout of the ESC and ZCSC will be key to the successful mobilization of high-performance, low-carbon buildings. This can mean building the capacity of both staff and applicants (e.g., information sessions, providing resources) and ensuring available staff and other resources are properly allocated. The Project Team recommends that ZCSC administration be a key function for the new Senior Planner - Climate Action. Resources for supporting ZCSC administration, including recommended application review pathways and processes, are located in the [Appendix](#) of this report.

5.2. UPDATE ZONING BYLAW TO BETTER SUPPORT HIGH-PERFORMANCE BUILDINGS

It is recommended that Oak Bay review and update zoning bylaws and design guidelines to identify potential barriers to high-performance building design strategies that may be present. It is understood that staff are currently planning to undertake this work.

The *BC Hydro Local Government Low Carbon Building Toolkit* provides recommendations and model bylaw language for addressing barriers to high-performance buildings that may be present in existing zoning bylaws. These include:

- + Floor Area Ratio definitions that do not discourage the use of thicker wall assemblies.
- + Building Setback requirements that do not discourage thicker wall assemblies.
- + Building Setback requirements that do not limit exterior heat pump condensing unit siting.
- + Building height limits that do not discourage thicker roof assemblies.
- + Building height limits that do not discourage rooftop mechanical and renewable energy system installations.
- + Noise bylaws & interpretations that do not inappropriately penalize heat pumps.

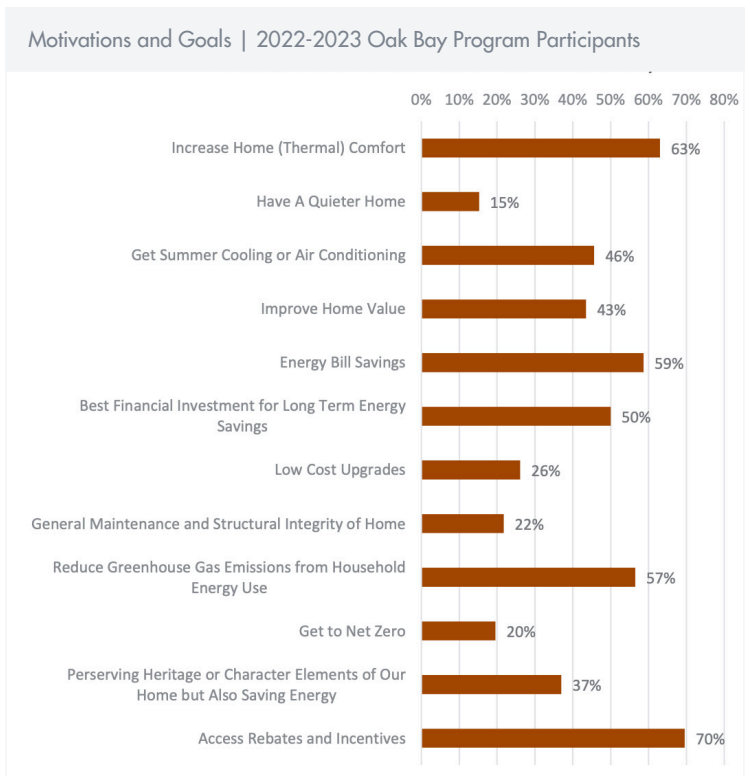
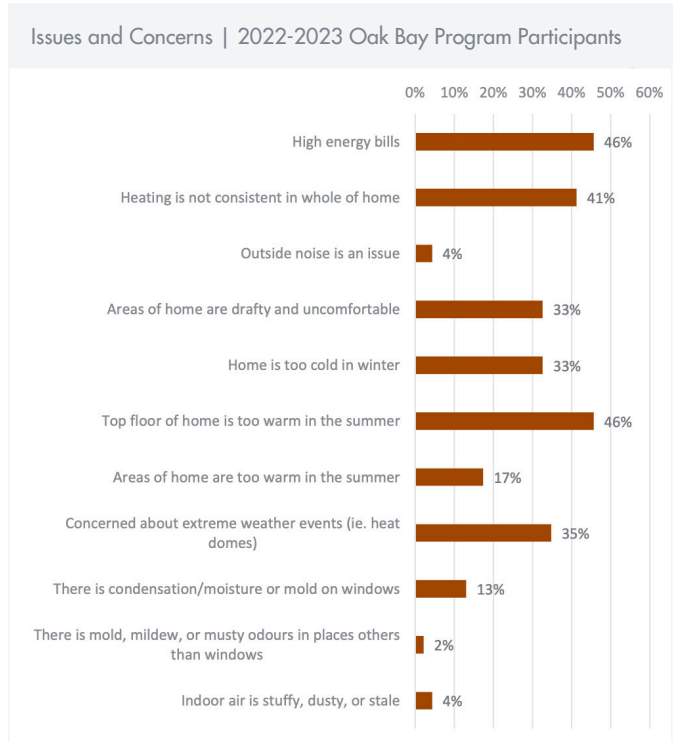
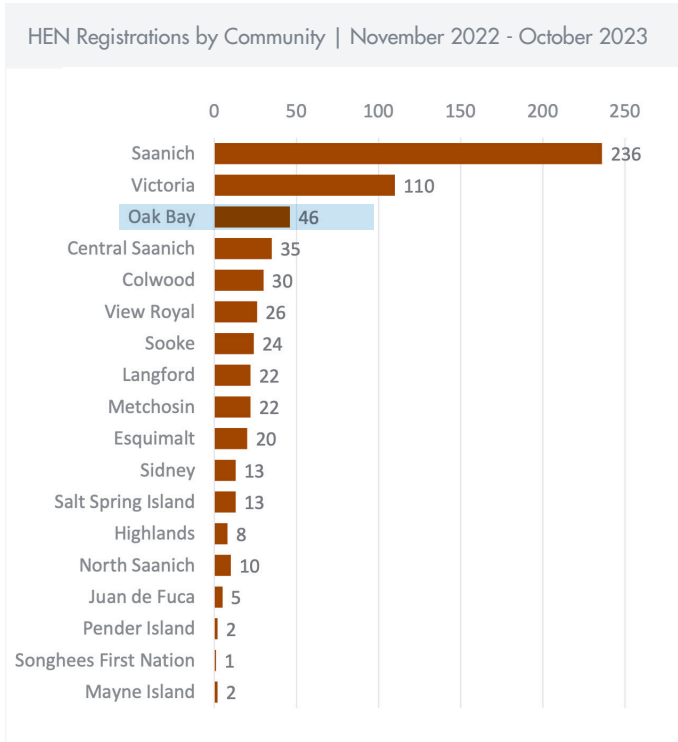
5.3. DEVELOP A CLIMATE ACTION PLAN

The Project Team recommends pursuing a Climate Action Plan to guide Oak Bay in achieving its emission-reduction goals while making it more resilient to climate change. Climate Action Plans are tailored to each unique community context, and typically include (at a minimum) community energy and emissions baseline and forecast, and policy recommendations for buildings, mobility, and waste.

APPENDIX

APPENDIX

HOME ENERGY NAVIGATOR ANNUAL REPORT DATA FOR OAK BAY

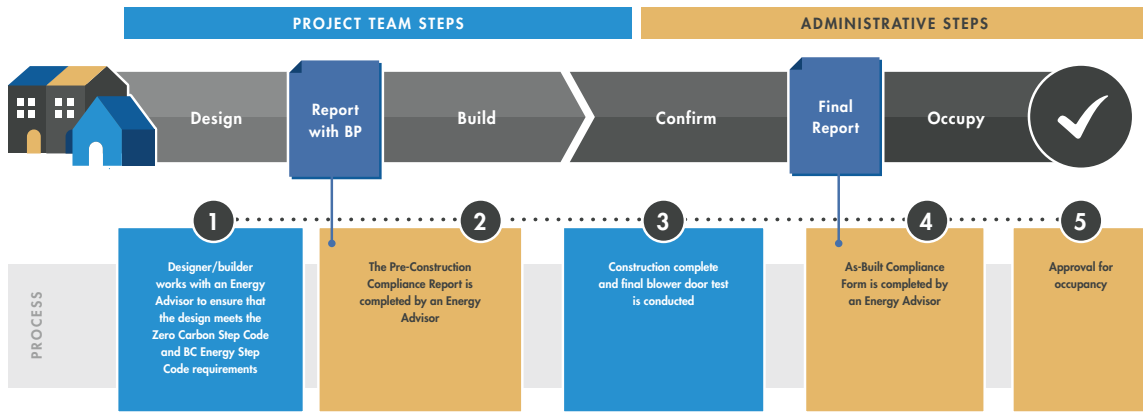


Source: HEN Annual Report, Nov 2022 - Oct 2023

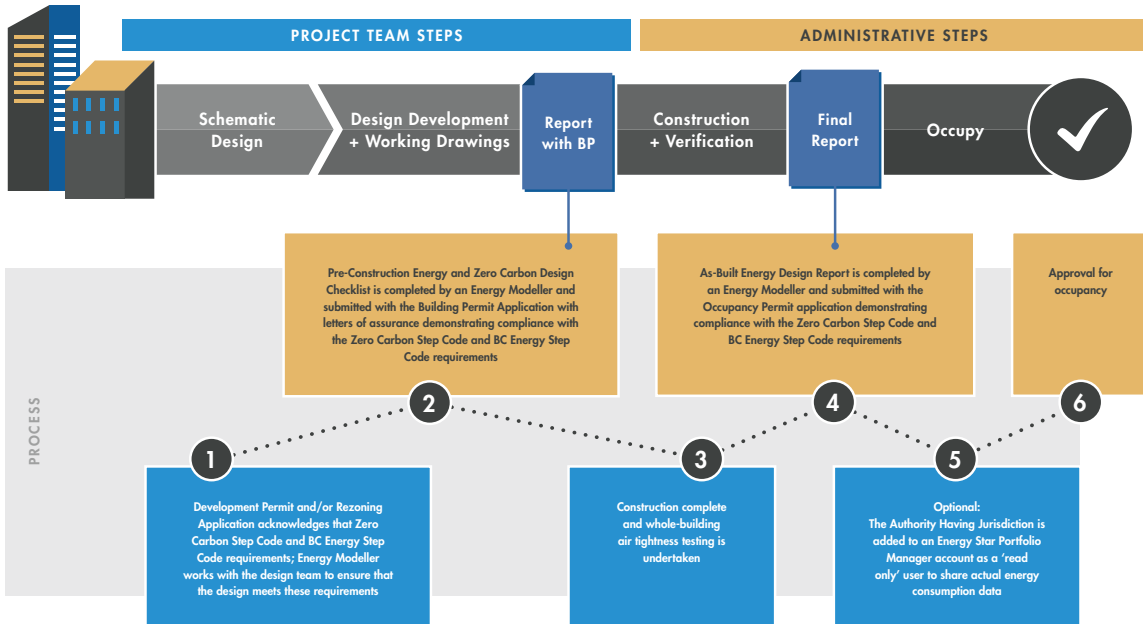
APPENDIX

ADDITIONAL RESOURCES - RECOMMENDED ESC + ZCSC APPLICATION REVIEW PROCESS

Performance Pathway Process for Part 9 Projects (e.g. single family, duplexes)



Process for Part 3 Projects (e.g. multi-unit residential, large commercial office)





February 6, 2024

Mayor Kevin Murdoch and Council
District of Oak Bay
2167 Oak Bay Ave.
Victoria, BC V8R 1G2

Dear Mayor and Council,

Re: Zero Carbon Step Code

There are many reasons to take a more balanced approach to the Zero Carbon Step Code. FortisBC says Emissions Level 3 is a viable option, which would include Renewable Natural Gas (RNG). Emissions Level 4 is not viable.

RNG is a product produced by Oak Bay and other CRD residents in the form of waste/biogas from the Hartland Landfill. Adopting EL 4 is the equivalent of banning RNG making the financial viability of distribution questionable. It's like asking FortisBC to buy your RNG, use their distribution system, then passing a bylaw preventing distribution of the RNG. The incongruity of this is obvious. The benefits of RNG are such that the Capital Regional District is mothballing its electricity plant. They say in their news release:

“A lifecycle GHG assessment of this project found that decommissioning Hartland Landfill’s current electricity plant, a facility nearing the end of its life, and building a new RNG facility at the landfill would be the most effective beneficial use of this resource from a climate change perspective. The upgrade to renewable natural gas will not increase the footprint of Hartland’s current landfill gas-to-energy plant.”

“FortisBC will purchase this RNG and inject it into the region’s local gas system. As RNG mixes seamlessly into the existing natural gas infrastructure, it decarbonizes the natural gas supply, displaces equivalent volumes of conventional natural gas and lowers overall GHG emissions.”

Oak Bay councillors are part of the CRD board that approved this project. The early adoption of EL 4/zero carbon by Saanich, Victoria and others lacks basic fairness, transparency and undermines housing affordability. The Step Code is an example of how their lack of due diligence by fast-tracking bylaws undermined the health and safety of residents.

The Energy Step Code was launched six years ago and VRBA advised against fast-tracking the code due to radon increasing in more energy efficient homes due to depressurization. In addition to lung cancer, radon is linked to lymphoma, myeloma and leukemia. Leukemia is the type of cancer most often found in children. Radon ingress in energy efficient homes was reviewed by the National Building Code and determined mandatory radon mitigation is necessary. The BC government now admits VRBA was correct and radon rough-ins will be mandatory in March. Canada’s radon maximum of 200 bq is likely unsafe over the long-term, especially for children. The World Health Organization’s maximum is 100 bq. Fast-tracking always results in unintended consequences.

RNG assists new housing supply for young families challenged by rising construction costs and high interest rates. Missing middle housing (townhomes, duplexes) declined 23% this year in the CRD. **There was zero missing middle housing constructed in Oak Bay in 2023.** On-demand hot water using gas is a more affordable and efficient way to address these costs and the limited space in townhomes.

Annual operating cost for a gas on-demand unit is half that of an electric tank. The gas unit lifespan is 20+ years vs an electric tank's 7 to 10 years. On-demand wall units free up space for the design of smaller more affordable homes vs large electric tanks. An additional electric tank would be needed for a mortgage-helper suite assisting affordability. Four electric tanks would be needed to achieve the lifespan of one gas on-demand unit that operates more efficiently. Carbon-neutral RNG should be supported in terms of housing affordability, operating costs, mortgage helper suites, and maximizing space.

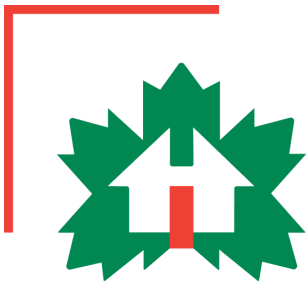
VRBA opposes fast-tracking to EL 4 zero carbon and advises Oak Bay council to support the RNG project at Hartland Landfill which they passed as part of the CRD Board.

Feel free to contact me for any more information.

Sincerely,

A handwritten signature in black ink, appearing to read 'Casey Edge', written in a cursive style.

Casey Edge
Executive Director



CANADIAN HOME BUILDERS' ASSOCIATION VANCOUVER ISLAND

February 15, 2024

**Oak Bay Municipal Hall
2167 Oak Bay Avenue
Victoria, BC, V8R 1G2**

RE: 7.1 GHG and Energy Reduction in Buildings and Other Climate Action Opportunities

Dear Your Worship Honorable Kevin Murdoch & Honorable Councilors,

The Canadian Home Builders' Association -Vancouver Island is writing in response to the District of Oak Bay's proposed policy direction related to the Zero Carbon Step Code.

CHBA VI provides training and support for builders who choose to reach higher levels of performance and low carbon standards. We encourage these leaders with recognition at award programs, education certifications. The CHBA Net Zero Program has certified a number of top quality homes in Oak Bay. While we celebrate these leaders the industry as a whole has a large variation in knowledge in this area. Some builders as well as many suppliers and trades who are all facing severe labour shortages have yet to complete training in higher performance building. This can make achieving these goals costly and challenging for even the best builder. For this reason the CHBA VI recommends all levels of government follow the provincial timeline for adoption. This slower pace allows time for supply chains, infrastructure improvements and upgrades, training reducing the risk of failure and costly mistakes.

CHBA VI is supportive of the importance of taking action to address climate change in order to do this we need an environment that is predictable and manageable. CHBA VI supports this advancement by offering education to ensure industry readiness in supplying attainable low carbon housing. This readiness will align with the existing Provincial timelines.

 **Phone**
250-755-1366

 **Email**
kerriann@chbavi.com

 **Address**
170 Wallace Street, Nanaimo BC,
V9R 5B1

CHBA VI would like council to consider these three guiding principles:

1. Data Driven Decisions: use the data and other information in current permit forms and other areas to gauge industry readiness. This will allow for the understanding of where the industry is today and where it needs to go tomorrow.
2. Regional cooperation: The building industry covers a wide area not just a single district having different policies in different locations makes it hard for companies to operate.
3. Measured approach: There is urgency on climate issues however moving quickly also has very high risk of unintended consequences.

CHBA VI asks Council to consider the impact accelerating the decarbonization of new building energy systems will have on new home construction and our ability to increase our housing supply. We encourage utilizing a diversified approach. We have innovative builders who are certainly paving the way towards a greener future but we do have to ensure the Industry is ready as a collective.

Sincerely,



Kerriann Coady

CEO



Phone

250-755-1366



Email

Kerriann@chbavi.com



Address

170 Wallace Street, Nanaimo BC
V9R 5B1

February 16, 2024

Mayor and Municipal Council
District of Oak Bay
2167 Oak Bay Ave
Victoria, BC V8R 1G2

RE: Energy Step Code and Zero Carbon Step Code

Dear Mayor and Municipal Council:

I am writing on behalf of the Urban Development Institute Capital Region (UDI-CR) to suggest exercising caution around the adoption of the voluntary Zero Carbon Step Code (ZCSC) alongside the mandatory Energy Step Code (ESC) in the District of Oak Bay (Oak Bay).

Here are some quick ZCSC facts from the Ministry of Environment and Climate Change Strategy:

- The ESC aims to enhance energy efficiency in new construction.
- The ZCSC focuses on emissions reductions from new construction.
- The ZCSC is a voluntary, provincial standard for reducing emissions in new buildings.
- Local governments reference the ZCSC in bylaws and programs to require or encourage lower carbon new construction in their communities.
- The ESC is a mandatory energy-efficiency requirement in the BC Building Code (BCBC) for most new buildings.
- Local governments can still encourage or require a level of energy efficiency in new construction that goes above and beyond the minimum energy-efficiency step required in the BCBC.

While we value sustainable development and aim to cut carbon emissions, integrating the voluntary ZCSC into Oak Bay's current policy framework amid intricate and unprecedented government policy changes and regulations heightens risks, affecting housing supply through delays and increased costs. UDI-CR is concerned with this additional risk that the ZCSC adoption places on developers, homeowners, and renters when Oak Bay is already meeting energy efficiency requirements through the BCBC.

No single solution can address both our climate and housing crises, but UDI-CR believes that creating an offset to help balance the objectives of reducing new development carbon footprints helps ensure the viability and delivery of new housing. Using a holistic approach can clear the way for investment in Oak Bay in a time of complex policy layering being delivered from local governments, the regional district, the

provincial government, and the federal government that together hinders investment as the development industry struggles to navigate the sea of policy transition.

This letter outlines challenges in housing delivery, particularly in electrical demands for hot water heating, and highlights concerns about potential construction delays due to infrastructure readiness, particularly in electrification. Collaboration with BC Hydro is emphasized to assess infrastructure capabilities and prevent additional crippling project costs during a time when they are increasing multi-fold.

Recommendations are provided, including prioritizing GHG reduction in older neighborhoods, assessing infrastructure readiness, evaluating energy transition options, and considering delays in ZCSC implementation. These recommendations aim to address challenges in housing delivery while promoting sustainable development.

UDI-CR appreciates the attention to these concerns and looks forward to collaborating with Oak Bay Municipal Council and staff to find solutions that advance sustainable development, support the local economy and its citizens, and meet housing supply targets. Simplifying policies through a comprehensive approach is crucial for clarity and discussion to overcome these obstacles. We advocate for supportive policies and therefore urge local governments to pause before adding new regulations amidst recent ESC changes; upcoming BCBC changes; additions and changes with Amenity Cost Charges (ACCs), Development Cost Charges (DCCs), and Community Amenity Contributions (CACs); capacity and readiness challenges with energy system infrastructure; and, many more policies that directly impact housing delivery viability.

Evaluation

In the construction of Part 9 buildings (single-family homes, townhomes), the increasing electrical demands for hot water heating, space heating, and car charging, particularly when combined with legal suites, are stretching homes to the capacity of standard 200-amp service. In some instances, achieving full electrification may necessitate upgrading to a 400-amp panel, incurring substantial costs for both on-site and off-site electrical requirements.

The energy transition from gas to electric systems for hot water and heating presents challenges and trade-offs. While baseboard electric heating is perceived as lower cost, ducted electric forced air furnaces are more expensive to install and operate compared to gas systems. On-demand electric water tanks may not be financially viable within reasonable power and cost constraints, failing to meet consumer expectations for hot water comfort (i.e. running out of water during peak demand periods). Additionally, new technology solutions are often costly and space-intensive, requiring upgrades to electrical panels and resulting in smaller living spaces. Lower upfront costs for developers translate to higher ongoing heating expenses for homeowners, potentially compromising comfort during peak demand periods.

In multi-unit Part 3 construction, the primary hurdle lies in hot water heating. Gas, including renewable natural gas (RNG), emerges as the most cost-effective and efficient system compared to electricity. Gas heats water more rapidly than electric systems. Individual electric tanks can be 1.5 to 3.0 times pricier than

gas systems, encompassing boilers or hybrid on-demand/storage setups. Domestic hot water heat pump systems can cost 4.0 to 7.0 times more than gas alternatives. These increased implementation costs could hinder accessibility for prospective homeowners or renters and deter new investments in Oak Bay.

Moreover, we express significant apprehension regarding potential construction delays stemming from inadequate infrastructure readiness in electrification. BC Hydro, a crucial stakeholder, must ensure the requisite infrastructure is in place to meet the heightened demand for electrification with no delay. Without proper planning and infrastructure upgrades, construction projects face prolonged timelines, jeopardizing the timely delivery of housing and causing frustration among developers, buyers, and renters. The combined peak electrical loads from car charging, winter heating, and summer cooling (i.e. January 12, 2024), alongside uncertainties surrounding upcoming BC Hydro tariff changes and the utility's capacity to expand its service levels, intensify the uncertainty. A single solution of complete electrification will not keep housing affordable or attainable and will not ensure a reliable and resilient energy delivery system.

We strongly encourage Oak Bay Municipal Council and staff to engage with BC Hydro to assess the capacity of their distribution network infrastructure before enacting any bylaw changes. While BC Hydro may assert its ability to meet Oak Bay's future electricity demands, it is essential that it also ensure the distribution infrastructure is adequate without imposing additional costs on individual projects. The industry perceives BC Hydro's distribution network as a potential point of failure that requires addressing alongside consolidating existing energy systems together to simplify the energy transition and create a resilient, clean system.

Recommendations

1. Prioritize GHG reduction efforts in older neighborhoods through regulations and incentives for retrofitting existing housing stock.
2. Assess infrastructure readiness, particularly in electrification, to prevent construction delays. Collaborate with BC Hydro to evaluate infrastructure capabilities, timelines, and costs.
3. Ensure BC Hydro has confirmed its infrastructure plans with Oak Bay staff.
4. Consider the carbon emission intensity of electricity in BC against the benefit of redundancy (as required in extreme weather demands) and choice with other de-carbonized systems, such as RNG and hydrogen, that have the infrastructure already in place.
5. Evaluate the necessity of creating an additional bylaw overlapping with the current ESC 3 + Low Carbon requirement.
6. Consider delaying implementation and deferring increases to the ESC if the ZCSC for new buildings (ZCSC) is implemented.
7. If the ZCSC is implemented, consider:
 - Lengthening the implementation timeline by one year to accommodate the industry's slow adaptation and lengthy permit processes.
 - Deferring any consideration of increases to the ESC beyond its current level to avoid excessive construction costs and impact on building appearance and orientation.

- Evaluate the ZCSC requirement impacts against the ESC and the upcoming changes to BCBC seismic and adaptability requirements on projects that are in-stream which may require redesign and incur additional upfront design and construction costs.

The challenges we highlight underscore only some of the complexities facing the development industry today and into the foreseeable future, particularly with infrastructure readiness and construction delays. Collaborative efforts with BC Hydro are essential to assess infrastructure capabilities and mitigate potential costs on individual projects. We have presented recommendations aimed at prioritizing GHG reduction, assessing infrastructure readiness, evaluating a resilient energy system, and considering delays in ZCSC implementation. These recommendations seek to address the challenges while promoting a holistic approach to sustainable development that supports the achievement of Oak Bay's mandated provincial housing supply targets.

UDI-CR appreciates the Oak Bay Municipal Council's attention to the concerns raised regarding the adoption of the voluntary ZCSC alongside all other policy that collectively impacts the timely, economic, and effective deliverance of housing to Oak Bay and neighbouring municipalities. Our collective commitment to the well-being of our community drives us to advocate for solutions that balance emission reduction with economic viability and housing delivery.

Sincerely,



Kathy Whitcher, Executive Director

CC: *Andre Boel, Director of Community Building and Planning Services*
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