



THE CORPORATION OF THE CITY OF COURTENAY

## STAFF REPORT

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**To:** Council  
**From:** Chief Administrative Officer  
**Subject:** British Columbia Energy Step Code Adoption

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**File No.:** 3800-00  
**Date:** January 20<sup>th</sup>, 2020

### PURPOSE:

The purpose of this report is to bring forward to Council information resulting from the BC Energy Step Code industry consultation process and seek direction regarding the adoption of the Energy Step Code for simple and complex buildings within the City of Courtenay.

### CAO RECOMMENDATIONS:

That based on the January 20th Staff report "British Columbia Energy Step Code Adoption", Council approve OPTION 1 and direct staff to include provisions in the forthcoming building bylaw that will require all newly constructed Part 9 (simple) and Part 3 (complex) buildings to be constructed to Step 2 of the BC Energy step Code upon adoption of the bylaw and subsequently require Step 3 for newly constructed simple buildings effective January 1<sup>st</sup> 2021.

Respectfully submitted,

David Allen, BES, CLGEM, SCLGM  
Chief Administrative Officer

### BACKGROUND:

At the November 4<sup>th</sup> Regular Council meeting, Council passed a resolution directing staff to consult with local industry stakeholders on the implementation of the Energy Step Code and to consider energy efficiency measures in the new building bylaw, currently under development.

On November 14<sup>th</sup> 2019 the City collaborated with the Community Energy Association and BCIT to provide a day of instruction for our local builders interested in learning how to construct to the BC Energy Step Code. The session was presented by one of the Comox Valley Certified Energy Advisor and was well attended and received.

Approximately two weeks after the training session, on November 27<sup>th</sup> the City hosted a drop in style open house, to gather feedback from the building community. The open house was very well attended with over 45 builders, developers and designers stopping in to provide feedback, as well as gain knowledge respecting moving forward with the implementation of the Energy Step Code. To complement the local designers and builders attending the open house, 4 Certified Energy Advisors, RDH Building Science Inc. (building envelope specialists) and a representative from Fortis BC were also in attendance to provide

support and information on best practices for building to the Step Code and rebate programs that are currently available.

Questionnaire feedback results from both sessions is available for review on the City's website (<https://www.courtenay.ca/EN/main/departments/development-services/building-division/bc-energy-step-code.html>).

#### **DISCUSSION:**

Staff at the Town of Comox and the City of Courtenay are proposing a coordinated approach that would see both municipalities implementing the Energy Step Code with similar schedules. The proposal for consideration would include the following bylaw provisions:

- Require compliance with Step 2 of the BC Energy Step Code for all building permit applications of newly constructed simple (single family and small multi-family dwellings) and complex (large multi-family and commercial) buildings, received immediately after adoption of the building bylaw. (anticipated March 2020);
- Require compliance with Step 3 of the BC Energy Step Code for all building permit applications for simple buildings received on or after January 1<sup>st</sup> 2021;
- Require mid construction blower door tests, for Part 9 (simple) building permits required to comply with the Energy Step Code;
- Include wording that would allow the City to rely on the Certified Energy Advisor modelling, reports, blower door tests etc. to ensure buildings comply with the relevant Step. This would be similar to how we currently rely on registered professionals such as engineers, for confirmation of Building Code compliance, in certain situations:
- For projects that fall short of the required Step, include wording that would permit a building to receive occupancy, provided every reasonable effort has been made, by the builder to bring the project into compliance but not issue a final inspection and register an encumbrance on title notifying any potential purchasers that the building does not fully comply with the Building Code.

Energy Step Code Step 2 is proposed for both simple and complex buildings, as an introductory level for approximately the first nine months of implementation. This is seen by staff as a level of construction that is being achieved by most simple buildings within the City today, and evidenced by the energy modelling results submitted for dwellings completed in a few current subdivisions. Initially implementing Step 2 for simple buildings also allows local builders unfamiliar with building performance testing, the time to adapt to new processes, without having to make dramatic changes to existing construction methods. Add to this the requirement for a mid-construction air leakage (blower door) test, will show how well a building is performing, at a time when corrections to the building envelope can still be rectified. These are anticipated as two key steps in facilitating a smooth transition towards performance construction.

Complex buildings are being proposed with Step 2 for the initial implementation and continued unchanged at this Step past January 2021. This is due to the Steps not being equal across building types. Step 3 for simple and Step 2 for complex buildings both require an increase of 20% in building performance over what is considered to be the current code minimum. Step 3 for a complex building equates to a 40% increase in performance, which is no longer considered a lower level step in the Energy Step Code, whereas Step 3 for simple buildings is a 20% increase in building performance. The Province recognizes this lack of parity between building types and is reflected in their Step Code adoption timeline. An initial requirement of Step 2 for Part 3 (complex) buildings is considered to be reasonable, as these builds are required by the building code to be overseen by Registered Professionals (Architects & Engineers) and these professionals should

have the knowledge to guide their clients in the construction techniques necessary to achieve the desired building performance.



Adoption of the Energy Step Code can provide many long term benefits for the Valley's new building stock. Benefits include improved construction practices through building testing and lower energy consumption and healthier indoor living environments through reduced air leakage and controlled ventilation. While these benefits have the potential to add to increases in construction costs, the "Energy Step Code 2018 Metrics Research Report" indicates a positive net 20 year construction cost versus energy savings return between \$17-and\$27/m<sup>2</sup> for the larger building types (multi-family, commercial, retail etc.) for Step 2 buildings. Whereas single family and row housing show negative returns between -\$7 and -\$34/m<sup>2</sup> for Step 3 buildings. In other words depending on construction practices, the upfront costs will take more than 20 years, at the currently projected utility rates, to be paid for through energy savings alone on single family homes and row housing.

It should be noted however, that even with a negative 20 year return, constructing to any step of step code will improve energy efficiency in general. As industry progresses in construction techniques the upfront construction costs are anticipated to decrease for the smaller building types. In fact, in one example from Campbell River, the builder was able to construct to Step 3 with no increased cost. Additionally, the negative cost return may be further offset by currently available rebate programs from private utilities. Some of the presently available rebate programs builders can access are providing between \$1000- \$8000 for building performance, in addition to smaller rebates relating directly to the use of energy advisors or specific product installation.

Support of the local building community should be anticipated by providing education assistance for rebate programs, collaborating on future classroom and hands on training sessions and informal builders breakfast type sessions. By combining these direct support opportunities with the phased approach and

mid-construction testing should provide for a smooth transition and ready the Valley's builders for the day the building code makes the BC Energy Step Code mandatory.

**FINANCIAL IMPLICATIONS:**

Builder support through education is anticipated and could be expected to add costs of approximately \$3500 spread throughout the year. The need for these sessions will be assessed as the implementation of step code evolves. It is expected some support will be provided through educational partnerships with the private sector where costs are offset by registration fees. Examples of this include the November 14, 2019 workshop hosted by the City but organized by the Community Energy Association and the BC Institute of Technology and an upcoming seminar hosted by the CVRD and put on by the Canadian Home Builders Association and RDH Building Science scheduled for January 31, 2020.

**ADMINISTRATIVE IMPLICATIONS:**

No additional administrative requirements are anticipated.

**ASSET MANAGEMENT IMPLICATIONS:**

N/A

**STRATEGIC PRIORITIES REFERENCE:**

**We proactively plan and invest in our natural and built environment:**

- ▲■ Support actions to address Climate Change mitigation and adaptation
- Make progress on the objectives of the BC Climate Action Charter

**We continually invest in our key relationships:**

- ▲■ Advocate and cooperate with local and senior governments on regional issues affecting our community

Updating the building bylaw is included as a “**next**” priority for the Development Services Department within Council's 2019 Strategic Priorities update.

**OFFICIAL COMMUNITY PLAN REFERENCE:**

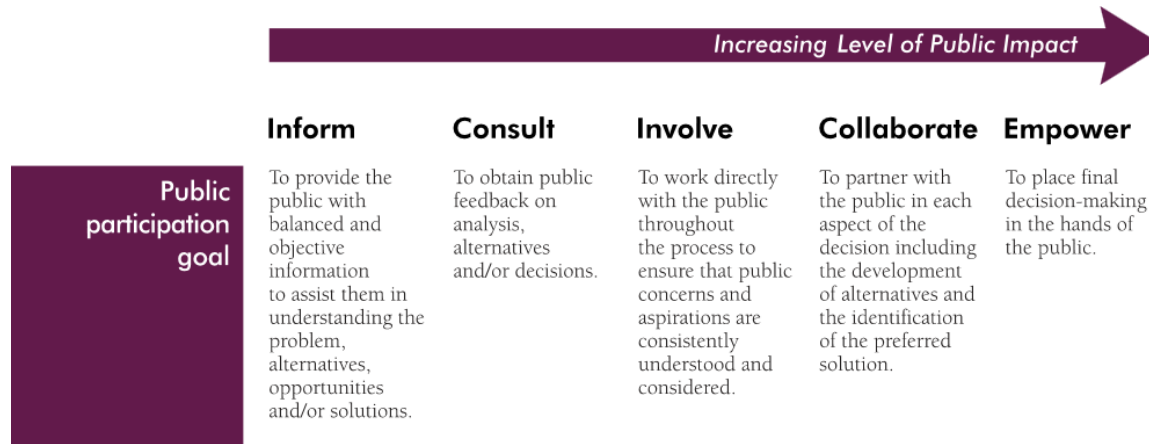
The adoption of the BC Energy Step Code is in keeping with Section 10 of the City's current OCP that identifies energy efficiency targets for buildings in addition to proposed general support for the BC Climate Action Charter.

**REGIONAL GROWTH STRATEGY REFERENCE:**

The adoption of the BC Energy Step Code is in keeping with the RGS Goal #8 to reduce Greenhouse gas emissions through the reduced energy consumption for new buildings.

**CITIZEN/PUBLIC ENGAGEMENT:**

Staff have **consulted** with the building sector based on the IAP2 Spectrum of Public Participation as noted in the Background section of this report:



**OPTIONS:**

**Option 1: (Recommended)** That based on the January 20th Staff report “British Columbia Energy Step Code Adoption”, Council approve OPTION 1 and direct staff to include provisions in the forthcoming building bylaw that will require all newly constructed Part 9 (simple) and Part 3 (complex) buildings to be constructed to Step 2 of the BC Energy step Code upon adoption of the bylaw and subsequently require Step 3 for newly constructed simple buildings effective January 1st 2021.

**Option 2:** That Council defer decision on the implementation of the British Columbia Energy Step Code, pending receipt of further information and that Council refer the “British Columbia Energy Step Code Adoption” report back to staff with a list of specific requirements.

**Option 3:** That Council not consider implementing the British Columbia Energy Step Code at this time.

Prepared by:

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