## City of Penticton BC Energy Step Code for Part 3 Buildings, Stakeholder Engagement Outcome

It is written in the Building Bylaw 2021-21 section 26, to reference Step 1 of the BC Energy Step Code[1] (BCESC) as of Jan 1st, 2022 for Part 3 complex buildings. (See excerpt below). However, the City of Penticton has held off implementation due to lack of industry and internal preparedness.

The intention is to now implement BCESC for the architypes listed below by March 31st, 2022. This will include all development and building permit applications submitted to the City of Penticton on or after this date.

| **Part 3 Buildings** | |
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| Group C residential, 6 stories or less and combustible construction (not including hotel and motel occupancies) | Step 1 as of Jan 1st 2022 |
| Group C residential greater than 6 stories or non-combustible construction (not including hotel and motel occupancies) | Step 1 as of Jan 1st 2022 |
| Group D business and personal service occupancies or Group E mercantile occupancies | Step 1 as of Jan 1st 2022 |

### Requirements for Permit Application:

- Step pursued on architectural drawings and documents
- Submission of most recent Part 3 Energy Design Report (pre construction) which must be completed by a Qualified Energy Modeler (QEM)
- Energy model that conforms to part 8 of NECB 2015 and the City of Vancouver Energy Modelling Guidelines
- Whole building air tightness testing which must be done and reported, but does not have to be inputted in a final model (BCBC 10.2.3.5.)
- Letters of assurance confirming the project complies with the Step required. (Schedule B's with Step Code portions 1.24, 1.25, 3.8, 3.9, 4.9, 4.10, 6.9, 6.10)[2]

[1] https://energystepcode.ca/

[2] https://www.bccodes.ca/assurance/BCBC-2018-SCHEDULE-B-20181210.pdf

**Pursuing higher steps beyond what the City of Penticton requires will need to conform to:**

- Part 3 Energy Design Report (pre and post construction)
- Thermal Energy Demand Intensity (TEDI) targets for climate zone heating degree days (BCBC Tables 10.2.3.3.)
- Total Energy Use Intensity (TEUI) targets for climate zone heating degree days (BCBC Tables 10.2.3.3.)
- Whole building air tightness testing and reporting (pre and post construction) (BCBC 10.2.3.5)
- Overheating hours limit if passively cooled as per section 4 of the Vancouver Energy Modelling Guidelines

A meeting was held on February 2nd, 2022 with key stakeholders such as industry professionals and local jurisdictions regarding the implementation of the BCESC for Part 3 complex buildings. The main focus of the event was to inform the stakeholders of the key requirements for permitting and construction process for these architypes as mentioned above.

The other intention was to gather informative feedback from stakeholders. During this process stakeholders brought forth a few items to be considered during rollout of the BCESC:

- Will there be any special requirements from planning department at the development permit stage process
- Consistency in requirements between other local jurisdictions
- Lack of industry education in meeting the requirements of the BCESC
- Permitting requirements and how this may slow the permitting process
- Lack of industry professionals such as qualified energy modelers
- Consequences of not meeting Step Code metrics (steps 2-4 once mandatory) at occupancy
- Lack of clarity on air tightness requirements and the effects on Thermal Energy Demand Intensity (TEDI) metric achievements
- GHG emissions and Step Code in BC Building Code Revisions

The City of Penticton will take into account all these items that were addressed when rolling out the BCESC for Part 3 buildings in the end of March this year. As for the permitting process, it is pretty clearly explained above and information on the process will be linked to our Greenbuild web page.[3]

One key concern is the lack of industry professionals to provide the energy modeling required for step code. This may be compounded when BCESC is mandatory across the province later this year. The one benefit to early adoption by local jurisdictions will be, stakeholders will be better positioned by having established relationships with existing qualified professionals in the province.

The City of Penticton will try to facilitate educational and training opportunities by aligning stakeholders with educators and industry organizations. This may include special events such as webinars and workshops, on site tailgate sessions and tradeshows. It will be the responsibility of the practicing Professionals to self-educate through their organizations and industry opportunities.

[3] https://www.penticton.ca/business-building/building/green-build

Consistency between local jurisdictions will be key in the transition and rollout of BCESC for all building architypes. As the City of Penticton has been at the forefront of early adoption in the area, it is the cities intensions to remain in communication with other jurisdictions regarding BCESC. The City of Penticton has always kept an open line of communication and has offered the knowledge, lessons learned and resources to neighboring jurisdictions when requested.

As the new revision of the BC Building Code is expected to take effect by the end of 2022, it is anticipated that more clarity may be addressed on certain items:

- More clarity on air leakage rates and whole building air tightness for specific architypes
- GHGI reductions in relation to BCESC
- Revised metrics for TEDI, TEUI targets for higher steps of the BCESC for architypes such as schools, colleges, libraries, care centers and hospitals
- Part 9 Group D and E buildings, currently not referenced in BCESC

At this time there are no specific requirements or incentives for projects at the development stage. This may change as updates to BC Building Code[4] and City of Penticton Building Bylaw[5] and Zoning Bylaw[6] occur. Other jurisdictions have introduced incentives and zoning bylaw amendments to include the following:

- Using Low Carbon Energy Systems (LCES) to reduce the Step of BCESC required. For example a jurisdiction may require step 3 for a Part 3 MURB, but only step 2 providing the building uses a LCES
- Reaching higher Steps of the BCESC if rezoning is required
- Amending Zoning bylaws to allow variances for setbacks or building heights for high performance buildings requiring thicker wall assemblies or on site renewables such as solar PV
- Revitalization tax exemption for deep energy retrofits

At this time the City of Penticton is not considering these or any other incentives for Part 3 buildings, but may in the future.

The City of Penticton will continue to engage in communication with local stakeholders who are currently developing or who will be building in the future. The goal is to keep everybody involved and up to date on Building code and Bylaw changes as they occur. Notice will be given when higher Steps of the BCESC are planned. Education will be a key contributor to a seamless transition and will require the self-discipline of all stakeholders to keep up to date on BC Building Code and Penticton bylaw changes.

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4 https://free.bcpublications.ca/civix/content/public/bcbc2018/?xsl=/templates/browse.xsl&xsl=/templates/browse.xsl

5 https://www.penticton.ca/sites/default/files/uploads/bylaws/2021-21%20Building%20Bylaw%20-%20searchable%20for%20website.pdf

6 https://www.penticton.ca/sites/default/files/uploads/bylaws/2021-01%20Zoning%20Bylaw%20-%20for%20website%20without%20map%20-%20December%202021.pdf

Links to available education Sources:

https://energystepcode.ca/

https://www2.gov.bc.ca/assets/gov/farming-natural-resources-and-industry/construction-industry/building-codes-and-standards/bulletins/b19-01-step1-compliance-bulletin.pdf

https://www2.gov.bc.ca/assets/gov/farming-natural-resources-and-industry/construction-industry/building-codes-and-standards/bulletins/b19-08_step_code_revision_2_bulletin_2020_01_08.pdf

https://www.penticton.ca/business-building/building/green-build

https://www.youtube.com/playlist?list=PLjAr43b-H6YY6Hh8YzdbP0jpN6QlYOVuL

https://www.egbc.ca/getmedia/8f8f0579-ca25-4cfd-a92c-e3c75900d1b6/EnergyModellingGuidelines_FINAL.pdf.aspx

https://energystepcode.ca/app/uploads/sites/257/2020/05/BC-SC-Manual-Rev-4.6.7.pdf