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To: "Direct to Mayor and Council - DL"

CC: "City Manager's Correspondence Group - DL"

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Subject: Memo - Policy Review of the CaGBC Zero Carbon Building Standard - RTS 12636

Attachments: Memo to Mayor and Council - RTS 12636 Review of CaGBC Zero Carbon Buildi....pdf

Greetings Mayor and Council,

The attached memo from Gil Kelley, summarizes staff response to your direction to consider recognizing the Canada Green Building Council's (CaGBC) Zero Carbon Building Standard within related City policies. In summary:

- Staff worked with the CaGBC to analyze the Standard and assess how well market responses to it would align with City policy objectives
- Staff concluded that it would be beneficial to recognize the CaGBC Standard in the Green Building Policy for Rezonings with the limitation that buildings could not be reliant upon purchases of off-site renewable energy for their carbon reductions (as the City cannot secure these purchases post-occupancy)
- The Green Building Policy for Rezonings already provides staff with discretionary authority to recognize additional standards so no Council decision is required
- Finally, staff concluded that it was not advisable to recognize the CaGBC Standard in the Higher Buildings Policy or the Zero Emissions Building Catalyst Policy as it could not be ensured that resultant buildings would meet the intent of these policies

If you have any questions, please feel free to contact Doug Smith, Director of Sustainability, at Doug.Smith@vancouver.ca or 604.829.4308.

Best,
Sadhu

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MEMORANDUM

October 18, 2018

TO: Mayor and Council

CC: Sadhu Johnston, City Manager
Paul Mochrie, Deputy City Manager
Katrina Leckovic, City Clerk
Lynda Graves, Administration Services Manager, City Manager's Office
Rena Kendall-Craden, Communications Director
Kevin Quinlan, Chief of Staff, Mayor's Office
Naveen Girn, Community Relations Director, Mayor's Office
Sean Pander, Green Building Program Manager

FROM: Gil Kelley
General Manager, Planning, Urban Design and Sustainability

SUBJECT: RTS 12636 – Policy Review of the CaGBC Zero Carbon Building Standard

Dear Mayor and Council,

In May of 2018, Council directed staff to review the Canada Green Building Council's (CaGBC) Zero Carbon Building (ZCB) Standard and report back with recommendations for recognizing it in the Zero Emissions Building Catalyst Policy, the Higher Buildings Policy, and/or the Green Buildings Policy for Rezoning as appropriate tools for achieving real and ongoing greenhouse gas (GHG) emission reductions for new buildings.

Review of the CaGBC Zero Carbon Building Standard

The CaGBC Zero Carbon Building Standard was created in 2017 and sets an innovative, Canada-wide framework for projects seeking to achieve net zero carbon. It has reinforced Vancouver's call to the North American building community to look beyond incremental energy efficiency improvements and to substantially reduce the GHG emissions of buildings.

The Zero Carbon Building Standard:

- adopts Vancouver's and BC Energy Step Code approach of setting a maximum allowed heat loss limit as a fundamental requirement for achieving real and durable GHG and energy use reduction
- requires at least 5% of building energy use is supplied by on-site renewables
- allows for emissions to be offset by additional on-site renewable energy generation or through the purchase of off-site renewable energy (eg. renewable energy credits from across Canada, renewable natural gas, etc.)

Application in City policy

City staff worked closely with the CaGBC to identify potential opportunities for recognizing the Zero Carbon Standard in City policy where it supports the policy intent.

First, given that the policies under consideration are largely limited to new construction and do not dictate how a building is operated, it is important that the low carbon outcomes are secured through the design and construction of the building and are not dependent upon ongoing operating decisions. Off-site renewable energy purchases, as allowed under ZCB Standard depend on ongoing building owner commitments; as a result, it was agreed that City policy recognition of the Standard for new construction would need to exclude the use of off-site renewable energy purchases for achieving the zero carbon outcomes. Off-site renewable energy is likely to become an important part of Vancouver's low-carbon future but recognition of these purchases requires further research into how the City might secure them over the life of the building.

Next, staff conducted a detailed analysis of potential building design responses to a ZCB Standard requirement that excluded reliance on off-site renewable energy purchases. Review of this analysis with the CaGBC indicated that meeting the Standard would be challenging but achievable for new buildings in Vancouver by using a combination of advanced energy efficiency (such as high performance building envelopes and heat recovery ventilation) and on-site renewables. Use of the standard without reliance on off-site renewable purchases could be anticipated to result in greenhouse gas emissions outcomes comparable to or better than the GHG limits established in the *Green Buildings Policy for Rezonings*. In addition, developments built to the standard would showcase on-site renewable energy.

That said, staff concluded from the analysis that recognition of the Standard would not necessarily achieve the performance and the market transformation impacts of the requirements established in *Higher Buildings* and *Zero Emissions Building Catalyst* policies.

Conclusion

The Green Building Policy for Rezonings provides the Director of Sustainability with the authority to recognize alternate standards that achieve the same or better outcomes. Under this authority, staff will update the bulletin that details the options for demonstrating Green Building Policy for Rezoning compliance to recognize CaGBC's Zero Carbon Building standard provided it is achieved without reliance upon off-site renewables.

This will allow the City, the CaGBC, and the building industry to learn from the significant use of on-site renewables, and could come to inform future City policies around renewables and buildings.

If you have any questions on this, please feel free to contact Doug Smith at 604.829.4308.



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General Manager, Planning, Urban Design and Sustainability

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