Vancouver's Zero Emissions Buildings Plan UK Passivhaus 2018 Leeds

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GREEN BUILDINGS

Nearly all new buildings required to emit zero emissions in their operation by 2025.



2020 ACTION PLAN PART TWO: 2015-2020



Zero Emissions Building Plan

2016

THREE EASY-TO-FOLLOW STEPS





CLEAR AND COMPELLING DESTINATION AND PATH FIND, FEED AND FOLLOW THE LEADERS BUILD INDUSTRY, GOVERNMENT CAPACITY



Step down GHG and heat loss limits in building code

Envelope and ventilation systems first

Point to Passive House





"% better" than a reference building was not working

Energy-**cost** efficiency standard:

- Not lower use
- Leads to complex mechanicals





82% new floor area is residential

50%+ energy, 70% GHGs from heating

Envelope and ventilation reliably reduce energy use, maximize health and comfort benefits

Envelopes are local





Excellence in envelope and ventilation

Research and quality control

Envelope and ventilation are (almost) forever

Resonance with designers, builders, and public

Training and network of practitioners





FIND, FEED AND FOLLOW PRIVATE SECTOR LEADERS

Build industry capacity and supply chain readiness

Identify effective solutions and barriers to adoption

Practitioners more persuasive than bureaucrats



Meaningful, personal collaboration with developers and builders

Leaders have passion; they share willingly

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Professionals want to design and build quality



Nearzero.ca \$20,000 for detached Passive House case study

5% extra floor area for Passive House multidwelling development

Landmark tall towers: design excellence; heat loss = 15kwh/m²; GHG = 3kg/m²





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Simplify regulations

Publish acceptable alternate approaches

Relax: floor space, height & setback limits Provide Flexibility: frontage, shape & balcony reqmt's













BUILD INDUSTRY AND GOVERNMENT CAPACITY

Rezonings must meet next step of code Zero Emissions Building Exchange Modelling Guidelines and Professional Practice standards

Staff and trades training

City facilities built to Passive

Compliance tools!





GHG emissions

20-24 kg/m2 2015 code typical

6 kg/m2 Updated code limit (fully effective 2021)





Net Heat Loss (TEDI)

70 kWh/m² 2015 Code (typical)

30 kWh/m² Updated code limit (fully effective 2021)





Passive House units

2015

2,590 2018 built or permitted







- Provincial Energy Code for voluntary local adoption
- 50%-65% of new buildings will be governed by end of 2019
- Accelerates code
 improvement cycles



Trust me. I'm from the government. I'm here to help.