New Zealand Construction Industry Council

The cohesive voice driving industry well-being and performance for a better built environment for New Zealand.

9 October 2020

New Zealand Construction Industry Council (NZCIC) submission on Building for Climate Change Programme

*This submission is in response to the MBIE **Whole-of-Life Embodied Carbon Emissions Reduction framework** and **Transforming Operational Efficiency** discussion documents.*

About NZCIC

The New Zealand Construction Industry Council (NZCIC) is a not-for-profit peak industry association representing around 35 membership organisations involved in the delivery of our built environment. Our members include designers and specifiers (architects, engineers, etc.), contractors and suppliers (manufacturers, distributors, builders, etc.) and a range of other building professionals (compliance, research, surveyors, developers, etc.).

NZCIC and its members support New Zealand's commitment to achieve net zero carbon emissions by 2050. We would like to work alongside the Building for Climate Change team to bring the sector on the journey.

We have consulted with our members to prepare this submission. A full list of our members can be found on our website. This submission represents a general overview of NZCIC members' views on key parts of BfCC. Some of our members have provided their own specific feedback on this programme.

Introduction

NZCIC recommends the Building for Climate Change team be bold when developing its vision, given the magnitude of the challenge (reducing emissions from all buildings to zero). A bold vision accompanied by a comprehensive roadmap and the detailed strategies will help ensure New Zealand achieves this goal.

NZCIC proposes BfCC takes a systematic approach to reduce carbon emissions in the built environment including:

- how building/development locations impact on transport emissions
- whole-of-life approach (cradle-to-cradle) based on total life cycle analysis (as detailed on pages 4/5 of the discussion documents) for both
    - new buildings
    - existing buildings.

New Zealand will not achieve the goal if we take a piecemeal approach. We need to work backward from the vision, identify the waypoints on the journey, and agree on a way to measure progress that can address the overall emissions profile of all of our buildings. A whole-of-life approach example is provided in the final section of the document.

Context

NZCIC proposes that Building for Climate Change be more explicit as to where it fits within the Building Act and the Building Code Clauses.

The 2004 Building Act sets out the rules for the construction, alteration, demolition and maintenance of new and existing buildings in New Zealand.

It is the primary legislation governing the building industry. It functions to ensure that:

- People can use buildings safely and without endangering their health
- Buildings have attributes that contribute appropriately to the health, physical independence and wellbeing of the people who use them
- People who use a building can escape from the building if it is on fire
- Buildings are designed, constructed and able to be used in ways that promote sustainable development.

NZCIC suggests the BfCC programme of work should:

- give effect to the fourth purpose in the Act and should cover the complete context of "the construction, alteration, demolition and maintenance of new and existing buildings in New Zealand" and to include the operation of the building
- Provide a "map" as to how Building for Climate change sits within the context of the current Code Clauses.

In addition MBIE, with responsibility for economic development needs to develop the policy responses which enable New Zealand product manufacturers to transition to the zero emission environment – for example Research, Development and Implementation strategies to ensure that decarbonization strategies don't destroy New Zealand's capability and capacity to provide appropriate material solutions which continue to deliver resilient buildings challenged by fire, seismic and other natural events bought on by climate change.

The BfCC discussion document (pages 3,4,5) and Objectives (New Build/Material/ Carbon Efficiency) provides most of the context required for whole-of-life carbon analysis.

NZCIC encourages BfCC to be more explicit in respect to the transition required for existing buildings (given that 60–70% of them will still be here in 2050 – barring large scale natural disasters).

Vision

The Vision will be critical, given the scale of the challenge. We would encourage BfCC to expand their Vision/horizons beyond ZERO. As New Zealand needs to get all buildings to zero by 2050, we would like to be part of the solution. We envisage BfCC utilising the collective knowledge and resources of NZCIC and other sector leaders when setting targets for new buildings as net positive to offset emissions from existing our buildings which will be harder to move.

New Zealand can be bold and aspire to net positive buildings and government needs to align its policy settings to enable all the stakeholders to successfully transition – from designers, local manufacturers, trades to adopt new work practices and to develop the technologies to transition. We currently have the technology to deliver zero emission buildings from a whole of life perspective.

Achieving successful outcomes is dependent on how we collaborate. In the year 2000, who would have thought that New Zealand would be launching satellites into space within two decades? The seemingly unachievable became achieved quite quickly.

What NZCIC members would like to see and invite the BfCC team to work collaboratively with the sector to achieve

Roadmap to zero emissions. We propose that BfCC and the construction sector collaborate to develop a roadmap to 2050, on the basis of what we currently know then what are likely to be the programmes of work required, intermediate targets and the ways we will measure progress on the journey. BRANZ has already commenced this process - BRANZ Transition to a Zero Carbon Built environment research[1] and we would encourage BfCC to utilise this programme of work

A systems approach with better links to other Code clauses and builds resilience in New Zealand's building stock to the challenge of climate change and natural hazards – for example what the risks are likely to be and specifying some standards that have to be met – like seismic resistance, non-combustible materials. We also need to factor in New Zealand's transition to a circular economy, designing for deconstruction, repurpose, reuse and recycle.

An approach that is referenced to international best practice which will New Zealand learn from others journey in the transition to a low emission circular economy.

A programme that includes existing buildings, most of which we will still have in 2050.

A focus on whole of life, cradle to cradle methodology which includes accounting for
the operation/maintenance of our buildings,
end of life deconstruction, reuse/repurpose/recycle or landfill.
The BRANZ Transition to Zero Carbon programme utilises cradle to cradle methodology.[2]

The inclusion/incentivising onsite energy generation/storage and rainwater capture/reuse to reduce resource demand while creating resilience in our systems.

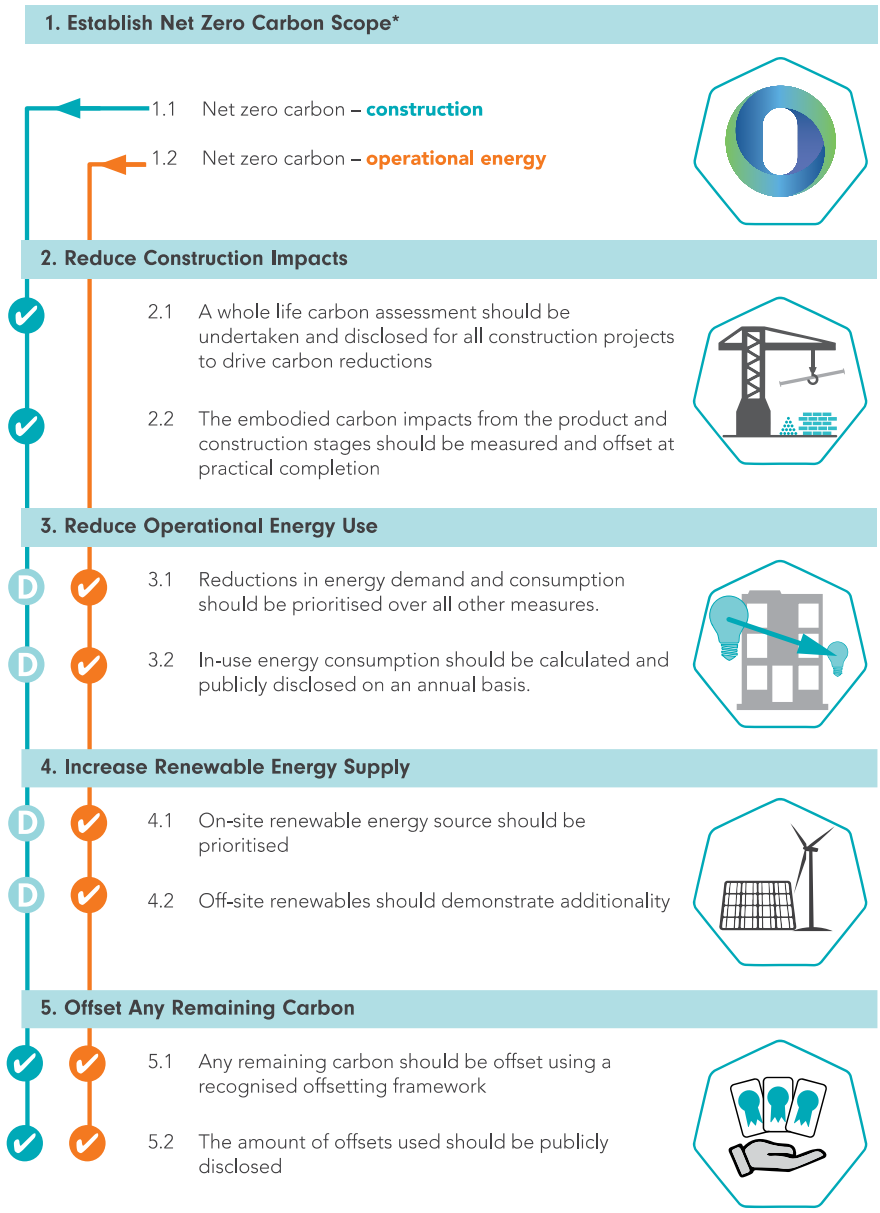
An understanding of the critical role of data, which is often not transparent for some materials, is lacking for many imported materials and for some local materials. Mandating the use of appropriate global standards would ensure data is consistent.

Given the current unaffordability of housing, and the post-COVID-19 recovery, New Zealand needs to work through how our transition to zero can be achieved without a detrimental impact upon housing affordability/accessibility.

Below is an example of a systems approach incorporating cradle to cradle/whole of life analysis to reduce built environment emissions.
The figure on the next page is sourced from UKGBC and provides a cradle to cradle framework for achieving net zero carbon buildings, providing a prioritization of reducing carbon, along with measurement frameworks and acknowledging the need to increase on site renewables and to offsite remaining carbon.

[1] https://www.branz.co.nz/environment-zero-carbon-research/framework/
[2] https://www.branz.co.nz/environment-zero-carbon-research/framework/

Steps to Achieving a Net Zero Carbon Building



Thank you for the opportunity to be part of the development of the Building for Climate Change programme. For any inquiries please contact the NZCIC Chair, Graham Burke at graham@grahamburke.co.nz or 021 249 3459 or the head of the Sustainability sub-committee, Nick Collins at nick@metals.org.nz or 021 464 252.