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Building for Climate Change
Building Performance
Ministry of Business, Innovation & Employment
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Building for Climate Change: Transforming operational efficiency and reducing whole-of-life embodied carbon

1. Recommendations

1.1 Property Council New Zealand (“Property Council”) is generally supportive of the intention of the Building for Climate Change work programme and two frameworks. However, there are certain aspects that require further consideration. In particular, we recommend the following:

Overall approach

- a. Adjust the proposed definition, rules and scope to align with current Fire and Emergency New Zealand (Fire Safety, Evacuation Procedures and Evacuation Schemes) Regulations 2018 and Building (Earthquake-prone Buildings) Amendment Act 2016, and the National Policy Statement on Urban Development 2020 (NPS-UD).
- b. Extend the building categories and adjust the caps to reflect each building category type and use of building.
- c. Provide clear guidance to local government for effective and timely consenting and Code Compliance Certificate processes.
- d. Establish a National Products Register, funded by the building levy surplus, to help streamline the consenting process and provide greater access to information of products.

Framework 1: Transforming Operational Efficiency

- e. We recommend MBIE establish an industry advisory panel to allow real world testing of targets, timelines, and implementation proposals.
- f. Introduce mandatory reporting for existing buildings as a first step towards their eventual inclusion within the work programme.
- g. Investigate building types that could achieve a zero-fossil fuel target immediately, whilst ensuring manufacturing or industrial new builds have a more practicable transformative period.
- h. Clarify whether a new building on an existing campus site would be included in the sites’ overall fossil fuels, or separately analysed.

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- i. Include on-site wastewater treatment as an optional in scope credit for new builds.
- j. Amend the small and large buildings definition to one that is based on square metres and intended building use.

Framework 2: Whole-Of-Life Embodied Carbon Emissions Reduction

- k. Investigate a joined-up approach to retrofits (i.e. align with seismic strengthening standards and fire regulations being developed) with incentives in the form of carbon credits for reused materials.
- l. Introduce flexibility and exemptions for building designs which can provide evidence that although using a higher carbon material upfront, the total efficiency of the building will be better in the whole-of-life cycle.
- m. Work closely with manufacturers and suppliers to gain a better understanding of how we can extend New Zealand's market to include a range of low carbon products.

2. Introduction

- 2.1 Property Council welcomes the opportunity to provide feedback on the Building for Climate Change: Transforming operational efficiency and reducing whole-of-life embodied carbon.
- 2.2 Property Council's purpose is "Together, shaping cities where communities thrive". We believe in the creation and retention of well-designed, functional and sustainable built environments which contribute to New Zealand's overall prosperity. We support legislation that provides a framework to enhance economic growth, development, liveability and growing communities.
- 2.3 Property is currently New Zealand's largest industry with a direct contribution to GDP of \$29.8 billion (13 per cent). The property sector is a foundation of New Zealand's economy and caters for growth by developing, building and owning all types of property.
- 2.4 Property Council is the leading not-for-profit advocate for New Zealand's largest industry - property. Connecting people from throughout the country and across all property disciplines is what makes our organisation unique. We connect over 10,000 property professionals, championing the interests of over 600 member companies who have a collective \$50 billion investment in New Zealand property. Our membership is broad and includes companies that undertake large-scale residential and commercial development projects, including large commercial buildings, industrial parks and retail precincts where people live, work, shop and play across New Zealand.
- 2.5 This submission responds to the [Transforming Operational Efficiency](#) and [Whole-of-life Embodied Carbon Emissions Reduction](#) Frameworks. Comments provided are relevant to Property Council and its members.

3. Overall Approach

- 3.1 We support the intention of the Building for Climate Change work programme and two frameworks. The building and construction sector accounts for around 20 per cent of New Zealand's carbon emissions, and the property sector have an important role to play in reducing its carbon footprint.



- 3.2 Ensuring the proposed definition, rules, and scope are consistent with current guidelines is extremely important to reduce complexity of the overall process. Therefore, we recommend Ministry of Business, Innovation and Employment (“MBIE”) consider wider rules that relate to building size and height within current seismic strengthening standards, fire regulations and the NPS-UD.

Scope

- 3.3 The scope of the two frameworks is heavily focused on just two categories (residential and commercial buildings) however this does not account for building types, use, or intended building use. MBIE needs to widen the categories to include different types of usage e.g. retail, office, industrial, mixed-use, and multi-storey apartment buildings. Each building type has different levels of operational services (which may change overtime), so it is important we clarify what these are in order to successfully implement caps.
- 3.4 Furthermore, focusing solely on building types, and not looking at intended building use (operational use) will result in anomalies. For example, a data centre (such as proposed by Microsoft¹) will have a significantly greater carbon/energy use density than a light-use industrial warehouse. The proposed caps need to reflect this diversity.
- 3.5 Adjusting the proposed caps to each individual building type category and intended use will better achieve the purpose of the frameworks. Once clearer building types and use is established, more appropriate typology-based targets, caps and carve-outs can be applied. For example, residential caps would likely be much lower than a large industrial building.
- 3.6 We note that the scope of the framework does not consider the wider issues of ‘transportation of people’ and may need to be considered with the work the Climate Change Commission are undertaking.

Barriers

- 3.7 There are a number of barriers that prevent the property sector to take actions. These range from access to a wider range of products that are low carbon through to lack of education and awareness of available tools. Furthermore, price plays a big part in what type of products are chosen, alongside the likelihood of obtaining a building consent or Code Compliance Certificate. The current consenting framework is a barrier to innovation within this space. There is also a huge concern that more regulation will result in process delays which directly inhibit the overall feasibility of a project. Therefore, we recommend clear guidance from Central to Local Government to ensure the consenting and Code Compliance Certificate processes are enabling the framework in a simplistic fashion.
- 3.8 Another proposal to alleviate our concerns around the current consenting framework being a barrier to innovation and low carbon products is for MBIE to establish a National Products Register. This could be funded through the approximate \$43m building levy surplus. All products would be registered at a national level with product information readily available. Having a

¹ <https://news.microsoft.com/en-nz/2020/05/06/aotearoa-disclosure/>



central system would provide a streamlined process for local authorities and provide a greater access to information about products for the property sector.

Incentives

- 3.9 There is no doubt, that incentives will be required to achieve the purpose of these two frameworks. The introduction of new regulation and legislation often comes with increased costs, time delays for projects, and implementation concerns.
- 3.10 One incentive could be a cap and trade system. For example, new buildings that achieve or go under the cap receive a financial incentive, whereas payment is made into the fund for those buildings who fail to achieve the cap.
- 3.11 The proposed building type scope needs to be clearer for a cap and trade system to be successful. For example, it is not currently possible to build a tall office tower or apartment building without substantial embodied carbon impacts. Yet, these types of buildings are needed to manage land-use and support Central and Local Government's intensification and growth targets. In comparison, many buildings such as schools and single storey dwellings may easily be able to meet the cap. Without any incentives (such as the proposed cap and trade system), smaller type-buildings may not be motivated to go beyond the recommended cap.

4. Framework 1: Transforming Operational Efficiency

- 4.1 We support the gradual introduction of operational efficiency requirements, using a stepped approach to achieve by 2035. However, we have noted that adjustments will need to be made to ensure the caps are appropriate and achievable targets are set (i.e. compare to a highly rated NABERSNZ building) for a wider range of building types and intended use. There are concerns that mid-term targets are too aggressive for commercial buildings and could not be met using today's solutions or for future economic solutions to be developed in time. We recommend MBIE establish an industry advisory panel to allow real world testing of targets, timelines, and implementation proposals.

Approach

- 4.2 The scope of the framework excludes existing building stock. Although we understand the reasons for this, we believe there is a missed opportunity of establishing mandatory reporting for existing buildings. This is critical data that will better inform Government and the property sector on the operational efficiency of current buildings. We recommend the operational efficiency framework introduce mandatory reporting for existing buildings as a first step towards their eventual inclusion. For example, reporting could include every five-years disclosing the average energy-use of current (and new) buildings for transparency purposes.

Fossil Fuel combustion emissions

- 4.3 Fossil fuel requirement timeframes could be more aggressive for residential new builds. For example, introducing a requirement for residential new building types to achieve a zero-fossil fuel target from step 1 would enable some quick wins. We recommend MBIE investigate buildings types that could achieve a zero-fossil fuel target almost immediately, whilst ensuring manufacturing or industrial buildings have longer transformative period.



- 4.4 There may be some unintended consequences in terms of fossil fuel caps on sites with multiple buildings (i.e. an existing campus). For example, would a new building on University Campus which still used coal or diesel for heating be included in the fuel cap? Clarification is required on whether a new building on existing campus site would be included in the sites overall fossil fuels, or separately analysed.

Electricity use

- 4.5 The total electricity use comprises of four components; thermal performance, services efficiency, plug loads and on-site renewable energy generation and storage. We are generally supportive of these categories, but have a few minor comments below:
- Different building types and usages will dictate the various total electricity usages; and
 - Although out-of-scope, on-site wastewater treatment could be included as an optional in scope credit for new builds (similar to the onsite renewable proposal).
- 4.6 It is proposed that thermal performance energy use and services use are considered during the consent application process, and when a Code Compliance Certificate is applied for. We have concerns that this will increase the overall project costs and feasibility of projects (i.e. through increased design, materials, construction, compliance costs and consenting delays). Increased costs could result in only projects of scale being (initially) developed, which would reduce the overall supply of New Zealand's building stock in the immediate future. To enable a streamlined and effective process, MBIE should provide clear and achievable guidelines, access to products and incentives.
- 4.7 We are also concerned about the definition of small buildings being three-storey's of less, as the National Policy Statement on Urban Development 2020 ("NPS-UD") encourages a minimum of six-storey developments. For example, mixed-use or apartments building size would be based on the square metre of each individual apartment, rather than the entire building. Given that plug loads are largely occupancy driven, amending this definition would alleviate our concerns that the frameworks would place a greater environmental onerous on mix-use and apartment type buildings that are merely trying to comply with the NPS-UD.
- 4.8 Given the above, we recommend removing the 3-storey aspect of the 'small building' definition and replacing it with a square metre definition that also includes building use.

On-site renewable energy generation and storage

- 4.9 We support MBIE's proposal for new builds not being required to include onsite renewable energy generation or energy storage capacity. The speed of which technology evolves means a cautionary approach is required in this space. However, incentives for new buildings who wish to comply is appreciated.

Occupant health and wellbeing

- 4.10 The proposed occupant health and wellbeing framework are geared to solving the issues as if they were generic and are residential focused, by lumping all buildings within the 'cold, damp and poorly ventilated' stereotype. Having the same requirements for a residential dwelling and an industrial building may not be appropriate. For example, limiting the relative humidity range



in commercial stock will drive up energy use (and carbon) for likely little gain. As stated earlier, MBIE should consider the type and intended use of the building to ensure that unnecessary regulations are not put in place that may work in contrary to the overall intentions of this framework.

5. Framework 2: Whole-of-Life Embodied Carbon Emissions Reduction

5.1 We are generally supportive of the whole-of-life embodied carbon emissions reduction framework and provide comments relating to this framework below.

New build efficiency

5.2 The framework proposes ways to improve new build efficiency (e.g. considering the size of the new buildings, repurposing or retrofitting existing buildings and looking at overall building performance).

5.3 In terms of the building size, it is important to note that this is mainly an issue for residential development, with new-build homes in New Zealand often much larger than their international counterparts. As reported by Stuff this year,² research suggests that smaller houses are the main 'quick win' to decrease the carbon footprint of new housing. This is less of an issue in commercial development where developers and occupiers have incentives to make efficient use of space.

5.4 The framework proposes refurbishments and demolition projects are out-of-scope initially, in order to focus efforts on new builds before extending the framework. This raises questions as to when refurbishments will be looked at and whether it will be done alongside earthquake and resilience work. We recommend a joined-up approach occurs alongside incentives to ensure that proposed changes do not inhibit retrofits. For example, these incentives could include embodied carbon already within the building being offset as a credit, as the material is being reused. Incentivising retrofits (sooner than later) will also reduce the burden on consents for when existing buildings must comply.

Material efficiency vs total efficiency

5.5 The framework also focuses on building material efficiency and reduction of construction waste. Although supportive, we believe a wider picture is required once we have sufficient data to extend the scope. In some instances, more carbon in building products upfront may increase the design life of the building, thus reducing carbon impacts over a longer time period. Building materials that can extend the design life and reduce refurbishment or maintenance required may perform better in the long run.

5.6 The proposal for embodied carbon calculation to initially include the building life cycle (i.e. products and construction) may result in unintended consequences such as; low carbon upfront to achieve a consent application, but higher carbon through the whole-of-life cycle of the building. We recommend MBIE investigate incorporating flexibility for building designs which

² <https://www.stuff.co.nz/life-style/homed/sustainable-living/118799141/new-houses-emitting-five-times-too-much-carbon--study>



can provide evidence that although using a higher carbon material, the total efficiency of the building will be better off in the long run.

- 5.7 The framework also touches on transportation of goods during the product, construction, and end of life stages. However, the proposals to reduce carbon emissions through transportation of goods may have unintended consequences. For example, a heavily urban site has fewer natural resources available than a suburban or rural site. If this is not recognised within the framework, heavy urban sites proximate to public transport links may not be able to develop to the same extent as a rural site, restricting our urban planning efforts over recent decades.

Carbon intensity

- 5.8 We support a data repository of embodied carbon from buildings. However, there is a question as to how the data will be collected and verified. The overall process should not be onerous, otherwise it will disincentivise its use. We would like to see simple and easy-to-use reporting mechanisms established.
- 5.9 One of the barriers of carbon intensity is the need for more low carbon alternatives within the New Zealand's product market. There is an important role on manufacturers and suppliers to provide alternatives of low carbon products to help reduce overall emissions. We encourage MBIE to work closely with manufacturers and suppliers to gain a better understanding of ways to extend New Zealand's product market, given that the onus is on them to deliver.

6. Conclusion

- 6.1 Property Council supports the overall intent of the Building for Climate Change frameworks. At a high level, we recommend MBIE:

- Define building types and intended use alongside clear and achievable guidelines;
- Establish an industry advisory panel to allow real world testing of targets, timelines and implementation proposals;
- Establish a simple process for Consents and Code Compliance Certificates;
- Work with the sector to enable access to low carbon products; and
- Develop incentives to encourage uptake and overall improvement.

- 6.2 Thank you for the opportunity to submit to this consultation. Any further queries do not hesitate to contact Katherine Wilson, Senior Advocacy Advisor, email: katherine@propertynz.co.nz or cell: 027 8708 150.

Yours sincerely,

A handwritten signature in black ink, appearing to read 'Leonie Freeman', written over a horizontal line.

Leonie Freeman
CEO Property Council New Zealand.