

24 March 2021

New Zealand Construction Industry Council (NZCIC) Feedback on Climate Change Commission's draft advice to government

Introduction

The New Zealand Construction Industry Council (NZCIC) is a not-for-profit industry association of associations in the building and construction, design, and property sectors. It is the collaborative voice of the built environment industry in New Zealand and operates at the interface between government and industry. NZCIC Members are also not-for-profit organisations and peak bodies for professions involved in the delivery of our built environment — designers and specifiers, contractors and suppliers, and a range of other building professionals. [See full Member list here.](#)


NZCIC acknowledges climate change is complex and will strongly impact every sector of the economy and our society. The built environment is a large contributor to carbon emissions in Aotearoa with one study estimating the emissions from the built environment contributing up to 20% of the country's greenhouse gases.

The building and construction sector has recently submitted on the MBIE proposed Building for Climate Change programmes, which focus on emissions consumed in New Zealand. To achieve a 1.5^o future, NZCIC believes Aotearoa must reduce emissions from consumption as well as production. A clear pathway must be developed incorporating reduced emissions from consumption and production over the first three emission budgets.

NZCIC recognises the Climate Change Commission's (CCC) role to analyse the evidence, regulatory settings, possible incentives, behavioural shifts and to educate and inform New Zealanders, leading us on the journey to zero net carbon. NZCIC believes we need both regulatory interventions and incentives to facilitate this transition. Education and knowledge sharing will be critical for a successful transition and it needs to start now.

Transition to net-zero carbon in the construction sector will require access to key data sets and require skilled people, many of whom are already in short supply, and new skills which may not even exist yet. The development of training and skilled people and the development of accessible tools will be an essential part of reducing emissions from our practices, products, and existing buildings.

NZCIC values collaboration and believes government must work in partnership with business to achieve emissions goals. It will largely be the business community that provides the



innovation and capital investment to develop and or fund the technologies to successfully transition to net carbon zero. The Construction Sector Accord, which is a partnership between government and the construction sector is an excellent example of working collaboratively to transform the sector. NZCIC encourages increased use of collaborative models to promote the confidence and certainty business requires to invest in new technologies.

In response to the six principles

1. Do you agree that the emissions budgets we have proposed would put Aotearoa on course to meet the 2050 emissions targets?

Agree

NZCIC generally agrees the proposed budgets will achieve the 2050 emissions targets. The construction sector is complex, we need to make changes to reduce emissions quickly while recognising short and long-term impacts on the construction sector and Aotearoa.

2. Do you agree we have struck a fair balance between requiring the current generation to take action, and leaving future generations to do more work to meet the 2050 target and beyond?

Agree/Neutral


NZCIC believes we must safeguard the interests and needs of future generations and this must be considered at a principal level in the decisions and actions taken by decision-makers as we seek to meet targets for 2035 and 2050. NZCIC agrees the budgets proposed are adequate. However, the rights and aspirations of future generations are not adequately articulated.

3. Do you agree with the changes we have suggested to make the NDC compatible with the 1.5°C goal?

Agree

NZCIC supports the production-based approach to enable New Zealand to achieve our NDC. However, for the design, building, operation, maintenance, and ultimate deconstruction of our buildings it is critical to also manage the consumption emissions to enable change and achieve our targets.

See our full views in questions 20 and 21



4. Do you agree with our approach to meet the 2050 target that prioritises growing new native forests to provide a long-term store of carbon?

Partially Agree

NZCIC agrees that while reducing emissions is the primary goal, there's still a need for more long-term carbon storage. We support the commitment to increasing native forests, however due consideration must be given to the negative consequences of reducing rural populations to the detriment of rural communities.

NZCIC also supports investment in the research and development of new and emerging technologies for carbon capture/sequestration.

See our full views in questions 10 and 11

5. What are the most urgent policy interventions needed to help meet our emissions budgets?

NZCIC supports the following priorities to reduce emissions from the built environment:

- The development of a “roadmap” for reductions in emissions from new and existing buildings and structures so that the sector can invest in the systems and technologies needed to transition to a thriving, climate-resilient and low-emissions future for Aotearoa.
- Government agencies must lead detailed education programmes agency by agency regarding their specific responsibilities and transition pathways.
- Improvements to energy efficiency in our buildings as well as the transition to totally renewable energy. The performance requirements of the Building Code must be progressively lifted to improve the overall performance, with a focus on energy efficiency and ventilation of buildings, along with the durability of the building and the health and comfort of occupants.
- Development and implementation of measures to prevent emissions leakage through the first three budget periods.
- Ensure the knowledge, data, tools and information required to implement changes in the building and construction sector are freely available to industry participants to ensure maximum utilisation and benefit.

6. Do you think our proposed emissions budgets and path to 2035 are both ambitious and achievable considering the potential for future behaviour and technology changes in the next 15 years?

NZCIC generally supports the proposed emissions budgets, however, targets for the built environment and the construction industry could be more ambitious and achieved in shorter timeframes. *Please see our full views at Questions 2 and 12.*

NZCIC further believes it is essential to consider carbon emissions from consumption as well as production. For example, incentivising the use of low-carbon concrete or steel could significantly reduce industrial heat emissions.

Consultation answers

1. Do you support the principles we have used to guide our analysis?

Partially support

NZCIC supports the guiding principles used in CCC advice on the transition to a thriving, climate-resilient Aotearoa. But we also believe further guiding principles are required.

- Honouring Te Tiriti o Waitangi should be a guiding principle, rather than an enabling recommendation.
- A principle recognising and safeguarding the interests and needs of future generations, this has been described as ‘intergenerational solidarity’, ‘generational equality’ or ‘intergenerational equity’. Generations that don’t have a voice or power now, must be considered at a principal level in the decisions and actions taken by decision-makers as we seek to meet Aotearoa’s targets for 2035 and 2050.

Principle 1: Align with the 2050 targets.

Meeting the 2030 and 2050 targets requires a long-term view of investments and infrastructure developments. Existing buildings and infrastructure with long lifetimes will need to be transformed, and planning for and developing new low-emissions infrastructure will take time.

It is critical to ensure that new buildings are as energy-efficient as possible while minimising embodied carbon.

Principle 2: Focus on decarbonising the economy.

According to a recent study¹ produced by Thinkstep ANZ, the built environment contributes up to 20% of Aotearoa’s consumption-based greenhouse gas emissions.

There are multiple opportunities for reducing emissions in the built environment, many of which can be implemented relatively quickly.

¹ [Thinkstep ANZ Under construction Hidden emissions and untapped potential of buildings for New Zealand’s 2050 zero carbon goal](#)



Principle 3: Create options.

NZCIC encourages the CCC to be bold in providing a package of both regulations and incentives to support businesses and individuals on the journey to net-zero carbon.

Principle 4: Avoid unnecessary cost.

Some of the changes needed to reduce carbon emissions in construction and the built environment are relatively low-cost or have positive whole of life cost implications.

Principle 5: Transition in an equitable and inclusive way.

Fair transition is crucial for business and households. For example, NZCIC believes the government should support households reliant upon gas space and water heating to transition from natural gas to biogas, especially in colder areas of New Zealand where heat pump systems may not operate efficiently, and off-grid applications.

NZCIC also believes government support may be required for the construction sector to transition. For example, the technology to transition to net-zero carbon is still evolving for some traditional, resilient building materials.

Principle 6: Increase resilience to climate impacts.

Increasing the resilience of the built environment to climate impacts is critical. Buildings and infrastructure in Aotearoa face increasing risks from short- and long-term weather events, and environmental events such as wildfires.

Principle 7: Leverage co-benefits.

There are measurable benefits from sustainable buildings, infrastructure, and construction practices. Sustainable homes and buildings are healthier, more cost-effective to operate, and can be more productive.

2. Do you support the principles we have used to guide our analysis?


Partially support

NZCIC broadly supports Budget Recommendation 1, however, we believe that targets for action on the built environment and the construction industry could be more ambitious and achieved in shorter timeframes. Please see further comments at Q.12. below.

NZCIC also notes that due to international conventions in line with the Paris Agreement, calculations show the embodied emissions from building materials (such as those related to the production of steel and concrete) fall within the industrial heat category and no further detail is given, meaning these might be attributed to other relevant sectors.

The 2018 Thinkstep ANZ report commissioned by the Green Building Council on the carbon footprint of Aotearoa's built environment found the percentage of gross emissions in the built environment from a production perspective to be 13% of all New Zealand's carbon emissions².

² [Thinkstep ANZ Under construction Hidden emissions and untapped potential of buildings for New Zealand's 2050 zero carbon goal](#)



When considering levers to drive change it is important to consider carbon emissions from consumption as well as production. For example, demanding low-carbon concrete or steel could make significant contributions to reducing industrial heat emissions.

3. Do you support our proposed break down of emissions budgets between gross long-lived gases, biogenic methane and carbon removals from forestry? Is there anything we should change, and why?

Partially support

NZCIC supports the principle of separating long-lived from short-lived gases.

4. Do you support budget recommendation 4? Is there anything we should change, and why?

Neutral

NZCIC members have differing, strongly held views on this question and there is currently insufficient information available to provide a definitive answer.

NZCIC generally agrees that Aotearoa should budget to achieve our emission reduction budgets mainly through domestic action. Nevertheless, we must ensure there are no unintended negative consequences for consumers and industry in Aotearoa from prohibiting access to offshore mitigation.

5. Do you support enabling recommendation 1? Is there anything we should change, and why?

Strongly support

NZCIC believes cross-party support is critical to reaching net carbon zero. Committed cross-party planning is critical to drive consumer demand for sustainable choices and to provide business the surety it needs to invest in sustainable technology and practices. NZCIC urges government to seek cross-party approval for a plan reaching out to at least the next 30 years.

6. Do you support enabling recommendation 2? Is there anything we should change, and why?

Strongly support

NZCIC fully supports a coordinated effort to address climate change and reduce greenhouse gas emissions across all government agencies.

NZCIC recommends better communication and cooperation between departments and agencies (e.g., MBIE, Kainga Ora, MfE, MHUD, The Electricity Authority and Transpower), when setting policies and programmes (e.g., Building for Climate Change, the New Zealand Building Code, The New Zealand Waste Strategy, Warmer Kiwi Homes programmes and Healthy Home Standard). This equally applies to the development of new resource management legislation (e.g., the proposed Natural and Built Environments Act, the Strategic Planning Act and the Managed Retreat and Adaptation Act.).

NZCIC also urges improved implementation of the latest MBIE Government Procurement Rules, Rule 20: Transitioning to a net-zero emissions economy and designing waste out of the system³.

7. Do you support enabling recommendation 3? Is there anything we should change, and why?

Strongly support

NZCIC believes enabling recommendation 3 must be elevated in importance to a Guiding Principle. Te Tiriti o Waitangi is the framework for Maori Crown partnership, ensuring and enabling adherence to kaitiakitanga, tiakitanga, manaakitanga and whanaungatanga.

NZCIC supports genuine, active, and enduring partnership with iwi/Maori in honour and respect for the Te Tiriti o Waitangi principles of partnership, participation and protection, and consultation and decision-making from the perspective of Te Ao Māori.


8. Do you support enabling recommendation 4? Is there anything we should change, and why?

Strongly support

NZCIC fully supports enabling recommendation 4 and believes there are opportunities for local government to incentivise key elements of the transition to a thriving, climate-resilient and low-emissions future.

NZCIC believes the consenting process along with incentives, can be used to drive adoption of both energy and water-efficient technologies, and incentivise lower resource use.

³ [Rule 20: Transitioning to a net-zero emissions economy and designing waste out of the system](#)



Local governments throughout Aotearoa own significant infrastructure, with funding models which do not support the lowering of carbon emissions. Much of local government infrastructure requires upgrading, providing opportunity for the adoption of a systemic approach to ownership, operation, and maintenance of infrastructure, showing leadership in reducing emissions and supporting faster transition to a thriving, climate-resilient and low-emissions future.

A systemic approach to infrastructure procurement and management is exemplified by the Watercare Beacon Project supported by the Construction Sector Accord. This project spans a multi-year infrastructure development programme that explicitly links carbon reduction to reduced cost, and improved outcomes for suppliers and their workers⁴.

9. Do you support enabling recommendation 5? Is there anything we should change, and why?

Strongly support

NZCIC fully supports enabling recommendation 5 and the establishment of processes for incorporating the views of all New Zealanders. NZCIC also encourages CCC to engage meaningfully with industry to maximise opportunities for emissions reduction and minimise risks from unintended consequences from initiatives.

10. Do you support our approach to focus on decarbonising sources of long-lived gas emissions where possible? Is there anything we should change?

11. Do you support our approach to focus on growing new native forests to create a long-lived source of carbon removals? Is there anything we should change, and why?

Partially support


NZCIC supports the commitment to increasing native forests. However, consideration must be given to negative consequences from transitioning land use from pastoral farming to forestry use which can reduce rural populations and destroy rural communities.

NZCIC believes new technology for capturing carbon emissions should be investigated. Incentivising or directly investing in carbon capture/sequestration technology should be considered as part of CCC's strategy to achieve its targets. An example of this can be found in this case study⁵ from Concrete NZ.

A small number of industries that consume high levels of energy and emit high levels of greenhouse gases (one steel producer, one cement manufacturer, and one plasterboard manufacturer) produce essential supplies to the building construction and infrastructure sector. These industries are exposed to high carbon prices, making them vulnerable to

⁴ [Beacon Project: Watercare – partnering for carbon reduction](#)

⁵ [Concrete NZ – Carbon uptake](#)



competition from imports, which don't currently carry a carbon-cost and may have higher levels of embodied carbon.

12. Do you support the overall path that we have proposed to meet the first three budgets? Is there anything we should change, and why?

Partially support

NZCIC supports the overall path across the first three budget periods; however, we believe the targets for buildings should be more ambitious. NZCIC believes the proposed reduction of 30% by 2035 could be achieved by 2025. Evidence from the EU and UK demonstrates that introducing energy performance targets drives change quicker than that anticipated by CCC.

NZCIC suggests that CCC should be working closely with the MBIE Building for Climate change team to align targets and to accelerate the introduction of improvements to existing building stock. Research recently published in BUILD magazine⁶ demonstrates the need to prioritise the retrofitting and refurbishment of our existing homes, where operational energy use is the largest contributor of the total carbon footprint of residential buildings (59%), followed by the materials and products used in the construction of the buildings (16%).

13. Do you support the package of recommendations and actions we have proposed to increase the likelihood of an equitable, inclusive and well-planned climate transition? Is there anything we should change, and why?

Partially support


NZCIC supports an equitable, inclusive, and well-planned climate transition to a thriving, climate-resilient and low-emissions future. Government agencies must lead through the provision of:

- transparent performance data
- clear metrics in commissioning projects
- an investment in project evaluations and
- an equitable and consistent platform for information and knowledge exchange across agencies and with industry.

One suggestion would be for Agencies or the Infrastructure Commission to publish annually each agency's specific responsibilities, transition pathways and performance to-date.

NZCIC supports improvements to energy efficiency in our buildings as well as the transition to totally renewable energy. The performance requirements of the Building Code must be progressively lifted to meet the recommended targets and improve the energy efficiency of buildings, along with the health and comfort of occupants.

⁶ [BUILD magazine Carbon budget for NZ housing](#)



CCC identifies emissions leakage (5.5.4) as a risk but provides no specific guidance as to how this can be managed in the first three budget periods. This potentially disadvantages local manufacturers competing against imported products and should be addressed by CCC immediately.

Improving productivity, education, skills, available tools, access to data, knowledge and innovation are all critical factors for a successful transition to a thriving, climate-resilient and low-emissions future for Aotearoa. The knowledge and information required to achieve this in the building and construction sector must be freely available to industry participants to ensure maximum utilisation and benefit.

14. Do you support the package of recommendations and actions for the transport sector? Is there anything we should change, and why?

Neutral

There is strong relationship between transport and urban form. Master-planned, denser communities promote alternative transport methods such as walking, cycling, using public transport, and carpooling, supporting the reduction of greenhouse gas emissions. NZCIC believes government should apply incentives (and regulatory pressure if necessary) to ensure the benefits of well-designed built environments are prioritised and achieved. Consideration of transport emissions in isolation to built form is unlikely to achieve the carbon emission budgets identified.

Making provision for electric vehicles will reduce operational carbon emissions, however, large-scale transition to electric cars may require major upgrading of urban and national electricity networks and corresponding upfront embodied carbon.


Digital connectivity enables remote/flexible working arrangements and also reduces operational carbon emissions from transport, although there is an upfront embodied carbon investment in upgrading the network.

15. Do you support the package of recommendations and actions for the heat, industry and power sectors? Is there anything we should change, and why?

Neutral

NZCIC believes government should provide more certainty for businesses by taking a lead in procurement of new buildings/upgrading of existing buildings and specifying the adoption of innovations/new technologies which result in lower emissions, e.g., by specifying low-carbon concrete and steel products for government construction and infrastructure projects. Improved implementation of the latest Government Procurement Rules, Rule 20: Transitioning to a net-zero emissions economy and designing waste out of the system⁷, will enable rapid reductions of embodied carbon on government projects.

⁷ [Rule 20: Transitioning to a net-zero emissions economy and designing waste out of the system](#)



New Zealand's Standards frameworks have many outdated Standards, and review processes are slow, time-consuming and expensive. Lack of up-to-date Standards and guidance discourages innovation and uptake of new technology. The timely updating of Standards is critical to ensure the Standards framework is agile and represents the current state of knowledge. Training in the use of new products and methods of construction is also critical to ensure the appropriate uptake of new technologies.

16. We do not have a view on this question.

17. We do not have a view on this question.

18. Do you support the package of recommendations and actions for the waste sector? Is there anything we should change, and why?

Neutral

NZCIC supports the proposed actions for the waste sector. Consideration should be given in consultation with the waste sector to issues of not only construction site waste, but also the origination, management, recycling, and disposal of buildings' operational waste to reduce waste to landfill.

There is a lack of data regarding waste and in particular building and construction waste which is "estimated" to account for 50% of waste to landfill. This figure has been generally used for two decades and fails to account for the significant initiatives to reduce construction and demolition material flows to landfill. Improved data is needed to measure progress, requiring a collaborative approach from government and industry.


NZCIC strongly supports lean design, designing out waste, and accelerating demand/uptake of modern methods of construction (also known as offsite manufacturing). The development of skills needed to reduce waste is critical for the construction sector. Adopting waste separation practices on-site and reducing the significant waste created with rework are critical to meeting waste reduction targets.

There are few recycling facilities for building materials outside of major centres in New Zealand. NZCIC believes the Ministry for Environment's Waste Management Fund should be utilised to raise awareness and provide incentives for reducing construction waste in New Zealand's smaller centres.

Operational waste from New Zealand's buildings is significant. NZCIC encourages CCC to provide guidance regarding building operational plans to reduce waste, including separation at the source which maximises the opportunity for recycling and avoiding cross-contamination of product streams.

NZCIC believes the adoption of circular economy principles and practice are critical to rapidly reduce the emission of greenhouse gases. The Circularity Gap report 2020 identifies that the world is only 8.6% circular⁸, that 70% of greenhouse gases result from materials

⁸ [Circularity gap 2020](#)



handling and use and identifies enormous opportunities in transitioning to a circular economy – *“through smart strategies and reduced material consumption, we find that the circular economy has the power to shrink global greenhouse gas emissions by 39% and cut virgin forest use by 28%”*⁹

NZCIC supports policies to further phase out fluorinated gases, including hydrofluorocarbons (HFCs) wherever possible.

Robust product stewardship schemes for all building products (including refrigerants) and associated packaging, with meaningful penalties for non-compliance, must be put in place to support the transition to a thriving, climate-resilient and low-emissions future.

19. Do you support the package of recommendations and actions to create a multisector strategy? Is there anything we should change, and why?

Support all strategies

NZCIC supports the package of recommendations and actions to create a multisector strategy and supports government to


- develop and deliver an industry engagement strategy and knowledge transfer/exchange
- incentivise behavioral change with respect to the built environment, transport, and energy in buildings
- lead through what they procure through government rules of procurement.
- establish transparent metrics for Government property and new capital projects investment
- measure and publish data on the circularity of the economy and increase circularity of the economy by 2025
- extend product stewardship schemes to a wider range of products and prioritise products with higher emissions potential
- invest in the development of assessment/calculator tools for industry and ensure equitable access
- legislate for and fund coordinated data collection across the waste industry.

20. Do you agree with Budget recommendation 5? Is there anything we should change, any why?

Neutral

NZCIC supports a production-based approach that will enable New Zealand to achieve our Nationally Determined Contributions (NDC). However, for the design, building, operation, maintenance, and ultimate deconstruction of our buildings it is managing the consumption emissions which is critical to bringing about change and achieving our targets.

⁹ [Circularity gap 2020](#)



Education and communication regarding the role of NDCs are critical as there is confusion around NDC commitments to reducing emissions produced in New Zealand, and the consumption emissions which need to be managed.

The Rules for measuring progress consider production-based greenhouse gas emissions, but New Zealand also needs to address consumption emissions, particularly with respect to embodied carbon in imported products. Failure to address emissions leakage will result in New Zealand importing emissions, which may be significantly greater than New Zealand sourced materials – e.g., residential aluminum windows manufactured from NZ produced extrusions or window extrusions from Asian suppliers with significantly higher embodied emissions and lower environmental regulations.

21. Do you support our assessment of the country's NDC? Do you support our NDC recommendation?

Partially support

NZCIC recognizes that current policy initiatives will not enable New Zealand to achieve our NDC's and supports the NDC recommendation to strengthen reductions in line with the 1.5° target.

NZCIC believes government must develop transition pathways for emission reductions for local manufacturers rather than incentivizing consumption of imported products where embodied carbon content is unknown. CCC should direct the Ministry of Foreign Affairs and Trade to ensure this issue is addressed in future Free Trade Agreements, clearly placing equivalent expectations on New Zealand's trading partners as are placed on our domestic industries.

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