



27 March 2021

ATTN: Submissions Analysis Team

He Pou a Rangi
Climate Change Commission
PO Box 24448
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RE: TE KĀHUI WHAIHANGA SUBMISSION ON HE POU A RANGI CLIMATE CHANGE COMMISSION DRAFT RECOMMENDATIONS TO GOVERNMENT

Tēnā koutou,

1 Introduction

Thank you for the opportunity offered to Te Kāhui Whaihanga New Zealand Institute of Architects to make a submission on *Climate Change Commission Draft Recommendations to government*.

2 Te Kāhui Whaihanga

The Institute has been in existence since 1905 and is the professional body representing more than 90 per cent of New Zealand's Registered Architects and many recent graduates entering the profession. In total the Institute represents more than 4,300 members. The Institute is active not only in advocating for the interests of our members, but also in promoting practices, providing education and promoting industry-wide cooperation that will improve the quality and sustainability of New Zealand's built environment.

The Institute has, through its governance structure and membership, significant professional experience in the New Zealand construction industry. That experience includes a wide variety of projects across all construction types and scales. For more than a century, the Institute has assisted its members and their clients with projects at all stages, from project establishment and concept design through to contract administration and site observation.

3 General comments

In making this submission, Te Kāhui Whaihanga is fully supportive of the objectives of the Climate Change Commission (CCC). The Commission's draft advice contains many excellent policy suggestions and we strongly support urgent action to put these into practice. We also acknowledge the openness of the Commission and its willingness to engage with the construction industry on multiple occasions. While we take a different view to the Commission on some issues, we greatly appreciate the opportunity to discuss these differences in an open and constructive manner.

We recognise the Commission's role in analysing the evidence, proposing the regulatory settings, possible incentives, behavioural shifts and educational initiatives required to inform and lead New Zealanders on the journey to zero net carbon. The Institute 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.

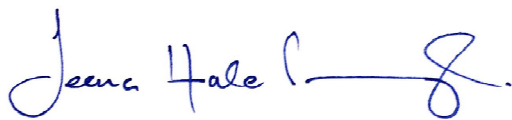
A transition to net zero carbon in the construction sector will require access to key data sets, and will require skilled people, many of whom are already in short supply, and new skill sets which may not yet exist. Development of training resources and accessible tools will be an essential part of dramatically reducing the emissions produced by our industry, the products in use and in existing buildings.

4 Ongoing assistance and support

Thank you for the opportunity to make this submission. We would be very happy to meet and discuss any aspect of it with the Commission.

For more information about Te Kāhui Whaihanga and this submission, please contact Teena Hale Pennington, Chief Executive on thalepennington@nzia.co.nz or 027 527 5273.

Ngā mihi



Teena Hale Pennington
Chief Executive

5 Our response to the six principles

- (i) **Do you agree that the emissions budgets we have proposed would put Aotearoa on course to meet the 2050 emissions targets?**

Partially Agree

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

To achieve this target, the building and construction sector must play its part in reducing emissions as the industry currently contributes 20 percent of New Zealand's overall emissions.

As currently presented, the Commission's draft advice makes it difficult to understand how the proposed budgets compare with past emissions and with international scientific recommendations. It is also very difficult for the public to understand the choices the Commission has made, the consequences of those choices, and the alternative options that are available. Given the important role the Commission has regarding public communications about the emissions targets and budgets, we would encourage the Commission to further develop its communications strategy.

Aotearoa New Zealand appears to have set reasonably ambitious international targets. These include¹:

- to reduce our emissions to 5% below 1990 levels by 2020; and
- to reduce greenhouse gas emissions to 30% below 2005 levels by 2030.

However, it has been difficult to assess our actual progress, both in terms of reducing our gross emissions and increasing our removals (forestry), due to the methodologies adopted for measuring our progress and strategies for meeting these targets.

These include:

- adopting a gross:net approach for expressing our international targets²;
- using international offsets to meet our targets as a substitute for domestic action;
- carrying over units between periods;
- use of split-gas accounting; and
- switching from GHG Inventory net to a 'modified activity-based' measure of emissions.

¹ See <https://www.mfat.govt.nz/en/environment/climate-change/meeting-our-targets/>

² That is, setting a target based on gross emissions in the base year (that is, ignoring forestry removals), but measuring progress by net emissions (that is, taking into account forestry removals).

- (ii) **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?**

Partially Agree

Te Kāhui Whaihanga believes we must safeguard the interests and needs of future generations and this must be considered at a principal level in the actions taken by decision-makers as we seek to meet targets for 2035 and 2050. The Institute agrees the budgets proposed are adequate, however, the rights and aspirations of future generations are not adequately articulated. This issue is addressed in our submission in consultation question 1.

- (iii) **Do you agree with the changes we have suggested to make the NDC compatible with the 1.5°C goal?**

Agree

The Institute 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.

- (iv) **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

The Institute agrees that while reducing emissions is the primary goal, there is still a need for more long-term carbon storage. We also support investment in research and development of new and emerging technologies for carbon capture/sequestration.

- (v) **What are the most urgent policy interventions needed to help meet our emissions budgets?**

Te Kāhui Whaihanga supports the following priorities to reduce emissions from the built environment:

- The development of a “roadmap” for reductions in new and existing buildings and structures, so 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 that step each agency through their specific responsibilities and transition pathways.
- Improvements to energy efficiency in our buildings and a clear transition to totally renewable energy. The performance requirements of the Building Code must be lifted to improve overall performance, align with our emissions budget targets, and focus on

energy efficiency and ventilation of buildings, in addition to the durability of buildings 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 use and benefit.

(vi) 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?

Te Kāhui Whaihanga generally supports the proposed emissions budgets. However, targets for the built environment and the construction industry could be more ambitious and achieved sooner.

The Institute believes it is essential to consider carbon emissions from consumption as well as production.

Consultation answers

Consultation question 1

Principles to guide our advice

Do you support the principles we have used to guide our analysis? Is there anything we should change, and why?

Te Kāhui Whaihanga supports the guiding principles used in the CCC advice on the transition to a thriving, climate-resilient Aotearoa, however we believe two important principles need to be included: honouring Te Tiriti o Waitangi and 'intergenerational solidarity'.

Suggested new principles.

Te Tiriti o Waitangi

It is Te Kāhui Whaihanga's view that this should be included as a guiding principle, rather than an enabling recommendation.

The *Climate Change Response (Zero Carbon) Amendment Act 2019* recognises the Crown's responsibility to give effect to the principles of Te Tiriti o Waitangi in s 3A but it does not specifically require the Commission or the Minister to refer to Te Tiriti in recommending and adopting emissions budgets or the NDC.

Consideration of how Te Tiriti applies in any situation will require the applicability of all articles to be considered, along with their interrelationships. As a set of guiding principles, the inclusion of Te Tiriti will assist the Commission to achieve its stated objectives by,

- Reflecting the Te Tiriti o Waitangi as a founding document of government in New Zealand and [be] informed by an appropriate understanding of Treaty / Māori interests;
- Aligning with current expectations about how to apply the terms and concepts in the texts of the Treaty; and
- Demonstrating an appreciation of kawanatanga and rangatiratanga, and their application to the Commission’s policy work.

Intergenerational solidarity³

Te Kāhui Whaihanga strongly recommends the inclusion of a principle recognising and safeguarding the interests and needs of future generations. This principle has variously been described as ‘intergenerational solidarity’, ‘generational equality’ and ‘intergenerational equity’. Future generations do not have voice or power now, so must be uppermost in the decisions made today to meet Aotearoa’s targets for 2035 and 2050.

Principle 1: Align with the 2050 targets.

Fully support - **Partially support** - Neutral - Do not support - Do not know

Te Kāhui Whaihanga agrees that meeting the 2030 and 2050 targets requires a long-term view of investments and infrastructure developments. Assets and investments with long lifetimes will need to be transformed. Planning for and developing new low-emissions infrastructure will take time.

Buildings are long-lived assets, generating long-lived gases. It is critical to ensure that we are making buildings as energy efficient as possible and not locking high embodied carbon into our new buildings. We already know how the construction industry can be transformed, but now we need to accelerate and sustain transformation.

Principle 2: Focus on decarbonising the economy.

Fully support - **Partially support** - Neutral - Do not support - Do not know

According to a recent study, buildings contribute up to 20% of Aotearoa’s greenhouse gas emissions. There are many opportunities to reduce emissions in the built environment, many of which can be implemented relatively quickly. There needs to be a stronger recognition of the governments’ leadership role, the implementation of government policy settings and the value and importance of design.

government leadership essential

The potential legacy of this moment in time cannot be overstated. As the main agent for reducing carbon emissions in the construction industry, the government can determine the quality not only of buildings, but the quality of the public realm, our wellbeing as a nation, and our reputation as an innovative country that cares about its people. It is therefore critical that government agencies are appropriately equipped to design, deliver and support best-case outcomes for all projects.

³ United Nations General Assembly, Sixty-eighth session, *Report of Secretary-General, Intergenerational solidarity and the needs of future generations*, 5 August 2013.

government policy settings must be implemented

The recent update of the *MBIE, government Procurement Rules 4th Edition (1 October 2019)* clearly identifies support for the transition to a net zero emissions economy and meeting the significant reduction in waste requirements (see Broader Outcome 4 and Rule 20). These tools must be implemented and monitored now if the recommended targets are to be met.

Valuing design in procurement

To achieve a reduction in carbon emissions in government agency projects, design quality needs to be valued, championed and pursued⁴. Every decision maker involved in the procurement of the government's public works has a role to play in ensuring good design outcomes and a lasting legacy for Aotearoa. It will be important to create a public record of the investment and outcomes each project makes to carbon emission reductions, given the requirements of the Public Service procurement rules.

Good design does not just happen

Good design is purposefully and carefully undertaken by skilled practitioners (e.g., architects), valued by the client, and needs to be protected through delivery of the project. The process of procurement of a well-designed building starts with the appointment of a quality design team. From there, procurement refers to the management of the construction of a building to its completion. It involves not just the contractual method used, but also the execution of a built project from idea to delivery and on to operation.

Changing the perception that design is expensive

This perception can be easily dispelled if a building's whole-life costs are understood. Well-designed buildings can cost less. Over the lifetime of a building, the construction costs are unlikely to be more than 2–3 per cent of total costs, but the operating costs will often constitute 85 per cent of the total⁵. On the same scale, the design costs are likely to be 0.3–0.5 per cent of the whole-of-life costs, and yet it is through the design process that the largest impact can be made on this 85 per cent figure⁶. A high level of rigour and oversight (akin to the better business case methodology) should characterise the planning and design phase of projects. This requires greater effort, with specialist knowledge.

Principle 3: Create options.

The Institute encourages the CCC to be bold in providing a package of both regulations and incentives to support business and individuals on their 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, the Institute believes government should support households reliant upon gas space and water heating to transition from natural gas to biogas, and off grid applications, especially in colder areas of New Zealand where heat pump systems may not operate efficiently.

⁴ 'Good Design Guide', Government of Western Australia, Department of Finance, Office of the Government Architect, p1.

⁵ Improving Standards of Design in the Procurement of Public Buildings, Office of Government Commerce and CABE, October 2002, p6.

⁶ Ibid

The Institute also believes government support may be required for the construction sector to carry out this 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.

Consultation question 2

Emissions budget levels

Do you support budget recommendation 1? Is there anything we should change, and why?

Fully support - **Partially support** - Neutral - Do not support - Do not know

Te Kāhui Whaihanga 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 consultation question 12 below.

The Institute 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.

A 2018 report commissioned by the Green Building Council about 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 emissions.

When considering levers to drive change, it is important to consider carbon emissions from consumption as well as production.

Consultation question 3

Break down of emissions budget

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?

Fully support - Partially support - Neutral - Do not support - Do not know

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

Consultation question 4

Limit on offshore mitigation for emissions budgets and circumstances justifying its use

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

Fully support - **Partially support** - Neutral - Do not support - Do not know

The Institute agrees that New Zealand should budget to achieve our emissions reduction budgets through domestic action as a priority, but appreciates that there might be a need to source offshore mitigation of emissions. These situations should be guided by clear principles as to when they are to be used.

Consultation question 5

Cross-party support for emissions budget

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

Fully support - Partially support - Neutral - Do not support - Do not know

The Institute 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. Te Kāhui Whaihanga the urges government to seek cross-party approval for a plan reaching out to at least 2050.

Consultation question 6

Coordinate efforts to address climate change across government

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

Fully support - Partially support - Neutral - Do not support - Do not know

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

government policy settings must be implemented and monitored

The recent update of the *MBIE, government Procurement Rules 4th Edition (1 October 2019)* clearly identifies support for the transition to a net zero emissions economy and meeting the significant reduction in waste requirements (see Broader Outcome 4 and Rule 20). These tools must be implemented and monitored now if the recommended targets of the Commission are to be met.

An increased level of transparency is required across government agencies on policy settings, implementation approaches, etc, such that the benefits of early thinking, co-operation and collaboration can be leveraged. Each agency should not be expected to learn independently of how to make progress towards the targets and net carbon zero ambition.

This will require earlier collaboration and co-operation 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 programme 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.). It is unclear how this will be encouraged. Given the many instances of siloed thinking within and across agencies and departments, urgent attention and resource must be directed here. One option might be a collaboration between the Commission and the Parliamentary Commissioner for the Environment to seek assurances from departments and agencies.

Consultation question 7

Genuine, active, and enduring partnership with iwi/Māori

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

Fully support - Partially support - Neutral - Do not support - Do not know

Te Kāhui Whaihanga fully supports enabling recommendation 3 and recognises the importance of Te Tiriti o Waitangi as the framework for Māori Crown partnership, ensuring and enabling adherence to kaitiakitanga, tiakitanga, manaakitanga and whanaungatanga. Given the significance of this issue, the Institute has recommended that Te Tiriti o Waitangi be recognised as a guiding principle.

The Institute supports genuine, active, and enduring partnership with iwi/Māori 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.

Consultation question 8

Central and local government working in partnership

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

Fully support - Partially support - Neutral - Do not support - Do not know

Te Kāhui Whaihanga 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.

The Institute believes the Building Act and Code need to be significantly strengthened and aligned to the targets proposed by the Commission. Local government governments are limited in their means to ensure key baseline performance expectations are either aligned to the Commission's proposed targets or to incentivise net carbon zero outcomes.

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, and this provides 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.

Consultation question 9

Establish processes for incorporating the views of all New Zealanders

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

Fully support - Partially support - Neutral - Do not support - Do not know

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

Consultation questions 10 & 11

Locking in net zero

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

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?

Fully support - Partially support - Neutral - Do not support - Do not know

Decarbonising the sources of long-lived gas emissions is feasible in the built environment. Many technologies and practices are already in place that can reduce or completely avoid gross emissions. These must be scaled up, and most could be widely adopted in a relatively short time.

Consultation questions 12

Our path to meeting the budgets

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

Fully support - **Partially support** - Neutral - Do not support - Do not know

Te Kāhui Whaihanga believes that the path proposed to meet the first three budgets could be more ambitious, particularly in relation to buildings, the built environment and the construction industry.

The draft advice acknowledges that: *Under our approach to meeting the 2050 targets, Aotearoa would need to improve the energy efficiency of buildings, alongside decarbonising the energy used for heating, hot water and cooking.*

In the case of building energy efficiency, we do not need to wait for new technology or for low-carbon choices to become cheaper. The technology is already mature, affordable, in plentiful supply, and well understood. This includes insulation, double-glazing, LED lights and using heat pumps for water and space heating as some of the most straightforward and cost-effective measures.

The ambition and path for reducing building emissions in the draft advice falls far too short, not only of what the NZ Green Building Council (NZGBC) believes is possible for buildings, but also short of the targets for buildings in MBIE's proposed BFCC programme.⁷ The BFCC programme proposed an Operational Emissions Cap and Water Use Cap set to tighten in a series of steps, reaching a final cap by 2035.

There is strong sector support for improving the standards in the Building Code. There are hundreds of buildings and thousands of homes already built or being built to higher standards than the Building Code.

The importance of existing buildings and homes

Our expectations for existing buildings and homes needs to be more ambitious. We know that energy efficiency in existing buildings can be improved using technologies and practices available now.

Improving New Zealand homes, particularly existing, sub-standard housing stock, is the single greatest opportunity to improve the health of our nation. Currently 30,000 children go to hospital per year due to unhealthy homes. New Zealand has one of the highest rates of respiratory illness among OECD countries.

Research commissioned by EECA⁸ found that in retrofitted houses:

- admissions to hospitals for respiratory conditions dropped by 43%
- days off school reduced by 23%
- days off work reduced by 39%.

Given the health benefits and a just and equitable transition to a zero-carbon economy, we must do much, much better than a 6% improvement by 2035.

The main challenges for built environment professionals, such as architects:

Embedded Carbon database:

In New Zealand, very little information is available on the life cycle for construction products. If this basic information is not available, it will be very difficult to calculate the embodied carbon footprint of a building or make material selections based on a material's carbon footprint.

Tools for Assessment:

At present, very few professionals or construction industry participants have the experience, skills, or the tools to assess the embodied carbon footprint of buildings. The tools need to be simple to ensure all professionals, clients and contractors can make informed decisions that help achieve the government's aims.

⁷ MBIE. 2020. *Building for Climate Change programme* <https://www.mbie.govt.nz/building-and-energy/building/building-for-climate-change/>

⁸ The impact of retrofitted insulation and new heaters on health services utilisation and costs, and pharmaceutical costs. Evaluation of the New Zealand Insulation Fund. <http://motu.org.nz/assets/Documents/our-work/urban-and-regional/housing/TheImpact-of-Retrofitted-Insulation-and-New-Heaters-on-Health-Services-Utilisationand-Costs-Pharmaceutical-Costs-and-Mortality-Evaluation-of-Warm-Up-NewZealand-Heat-Smart.pdf>

Building Code:

When compared to similar countries, The New Zealand Building Code is poor, and homes built to the code often perform poorly. A house that meets the Building Code is, in effect, the worst home you can legally build. Rather than just meeting the minimum, it is important people understand a home has a minimum lifespan of 50 years and a home that complies with the Building Code now is likely to be cold, mouldy and unhealthy in 50 years' time. For an often-negligible price increase, a new home can significantly exceed the current low standards.

However, the cost of construction, particularly construction materials, has soared in New Zealand over the past 10 years, and is rising year on year. Any changes to the Building Code may further put pressure on building costs. The compliance process for buildings that are not 'standard' should be kept simple, in order to avoid stifling innovation.

A case study highlighting the challenges (text courtesy of a Te Kāhui Whaihanga architect member):

"Our business is engaged in a number of projects where we are looking at carbon, both operational and embodied, but the going is still hard. We have been using BRANZ's LCA quick for about 3 years and it is very useful but complicated. We have just commissioned Etool for an LCA on a large project but are finding carbon data on materials is hard; we currently have 50 EPDs but they are hard to get, vary in breadth and have issues with how to compare them. So, we are pushing through the barriers, but I cannot see how other companies will do this. Others who are maybe not as interested and do not want to/cannot put the resources that we have into this learning will be slow to change. A key barrier can be broken down by making carbon information understandable, from a consistent source and easier to obtain".

Consultation questions 13

An equitable, inclusive and well-planned climate transition

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?

Fully support - **Partially support** - Neutral - Do not support - Do not know

The Institute supports an equitable, inclusive, and well-planned climate transition to a thriving, climate-resilient and low-emissions future. government agencies must lead detailed education programmes agency by agency regarding their specific responsibilities and transition pathways.

Te Kāhui Whaihanga supports improvements to energy efficiency in our buildings as well as the transition to totally renewable energy.

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, and innovation are all critical factors for a successful transition to a thriving, climate-resilient and low-emissions future for the building and construction sector.

1. Quality data that is easily accessible
2. A tool for calculating embodied carbon that is universally accepted and used
3. A reporting process that is standard and universally accepted and used
4. A process for manufacturers and suppliers to get their products rated
5. Good educational material for the public, professions, and trades
6. Easy access to advice and associated services
7. Robust incentives for the construction sector to provide low-carbon options.

Consultation question 14

Transport

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

Fully support - **Partially support** - Neutral - Do not support - Do not know

The Institute agrees there is a strong relationship between transport and urban form. Master-planned communities promote alternative transport methods such as walking, cycling, using public transport, and carpooling, supporting the reduction of greenhouse gas emissions.

In our view, the recommendations are not ambitious enough and are too focused on EVs rather than cutting transport demand, mode shift and the role of the built environment.

The Commission's report provides specific recommendations around transport, but similar detailed findings are not offered for the built environment. The relationship between the built environment and transport are well established. The Institute would encourage the Commission to identify ambitious and specific targets for the built environment. As identified previously, design should be integral to the recommendations and solutions identified – not something left to luck.

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

Consultation question 15

Heat, industry and power sectors

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

Fully support - **Partially support** - Neutral - Do not support - Do not know

Te Kāhui Whaihanga 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.

New Zealand's standards frameworks contain many out-of-date 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 current knowledge. Training in the use of new products and methods of construction is also critical to ensuring the appropriate uptake of new technologies.

Consultation question 18

Waste

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

Te Kāhui Whaihanga supports the proposed actions for the waste sector. Consideration should be given in consultation with the waste sector to issues not only of construction site waste, but also the origin, management, recycling, and disposal of buildings' operational waste, in order 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.

Development of the 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. The Institute recommends that the Ministry for Environment's Waste Management Fund be made available 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. The Institute encourages CCC to provide guidance regarding building operational plans to reduce waste, including separation at source, which maximises the opportunity for recycling and avoiding cross contamination of product streams.

Te Kāhui Whaihanga believes the adoption of circular economy principals and practice are critical to rapidly reducing the emission of greenhouse gases.

The Circularity Gap report 2020 identifies that the world is only 8.6% circular⁹.

The report identifies that 70% of greenhouse gases result from materials 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%"*.¹⁰

Given the scale of the challenge and the potential value which can be delivered through a circular economy, the Institute encourages the CCC to direct government to focus more on the circular economy opportunity.

⁹ <https://circularity-gap.world/2020>

¹⁰ Ibid page 8.

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

Refrigerants have recently been included as a priority product in the Waste Minimisation Act. Robust product stewardship schemes for refrigerants with meaningful penalties for non-compliance must be put in place to support transition to a thriving, climate-resilient and low emissions future.

Consultation question 19

Multi-sector strategy

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

The Institute supports the package of recommendations and actions to create a multisector strategy and **supports** government to:

- develop and deliver an industry engagement strategy
- incentivise behavioural change with respect to transport and energy in buildings
- lead through what they procure through government rules of procurement
- measure and increase circularity of economy by 2025
- extend product stewardship schemes to wider range of products and prioritise products with higher emissions potential
- legislate for and fund coordinated data collection across the waste industry.

Consultation question 20

Rules for measuring progress

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

Te Kāhui Whaihanga supports of a production-based approach which 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 consumption emissions that is critical to bringing about change and achieving the proposed targets.

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.

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 materials sourced here – e.g., residential aluminum windows manufactured from NZ-produced extrusions or window extrusions from overseas suppliers with significantly higher embodied emissions and lower environmental regulations.

Co Consultation question 21

Nationally Determined Contribution (NDC)

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

Te Kāhui Whaihanga recognises that current policy initiatives will not enable New Zealand to achieve our NDCs. The Institute supports the NDC recommendation to strengthen reductions in line with the 1.5° Celsius target.

The Commission's recommendation that Aotearoa New Zealand should use offshore mitigation to bridge the gap between our Nationally Determined Contribution (NDC) under the Paris Agreement and our domestic emissions reductions, is, in our view, potentially inconsistent with the Act and with the Paris Agreement. It would leave Aotearoa New Zealand exposed to a high level of uncertainty about the cost and availability of international credits.

The Commission's view is that the gap between the draft budgets for 2021-30 (628) and a 1.5° Celsius compliant NDC for the same period (564) can be bridged by purchasing overseas credits¹¹.

As we understand, the Commission is required to recommend emission budgets which are consistent with the 1.5° Celsius objective. In particular, under s 5Z of the Act, budgets are required to be set in a way that contributes to the global effort to limit temperature increases to 1.5°C and that allows the budgets to be met domestically.

The Institute believes the Commission should not base its advice to the government on the assumption that it can rely on overseas mitigation to meet the significant gap between the NDC and the budgets. There is a significant financial risk in this approach, given that there can be no certainty about what the cost of the required international credits would be. Given these risks, it would be prudent for the Commission to recommend that the government include contingency measures to meet the gap through domestic mitigation.

¹¹ Climate Change Commission 2021 Draft Advice for Consultation p. 155