



Foreword



From the Environment Workstream Lead

Our sector has the size and scale to make an incredibly meaningful contribution to Aotearoa New Zealand's 2050 climate change targets and environmental priorities. That's where the Construction Sector Accord's Environment Workstream comes in. We have been tasked with harnessing the sector's remarkable problem-solving abilities, fostering collaboration and galvanising action across the construction sector. We've created this Roadmap for Action to show how to make this happen.

The roadmap is not a silver bullet, nor does it deliver the sector's solutions to achieving Aotearoa New Zealand's 2050 climate change targets and environmental recovery priorities. If it were that simple, we wouldn't be facing the environmental and climate crises that we are.

What it does provide is a clear, cohesive assessment of the thinking and actions the sector will be required to undertake to reimagine all aspects of the building system. It's a starting point.

The construction and building sector will not be able to truly contribute to New Zealand's climate change targets through tweaks or minor changes to how we operate today. The size and scale of what is being asked of us is HUGE. It will take determination, steadfast commitment and courage to achieve the level of change required. The first step in any radical change is the creation of a movement and the joining of forces. We need to come together to light that spark – each and every one of us has a part to play.

The construction sector is being asked to do what we have never done before – to comprehensively put the environment front and centre. We need to work together to identify what we're doing well, what needs new thinking and, in all cases, how to achieve positive change at speed and at scale.

Te ao Māori tells us that, if the natural world is healthy, so too are the people who are a part of it.

The negative impact on the environment from the building and construction system must be recognised, acknowledged and curtailed. Do no harm won't be good enough – we need to do more. Ultimately, our actions need to leave the environment in better shape than we found it.

No aspect of the building system will be left unchallenged or unchanged. No part of the building system will be able to opt out, to get others to do the heavy lifting or to wait for the rest to get on board first. We aren't starting entirely from scratch, and we can achieve quick wins in those areas where we already have good practices in place or that are simple to change. If we increase the pace of these interventions, we buy ourselves more time to develop solutions to the more gnarly, complex issues we face.

But to be clear – we can't wait for legislation and regulation to drive us to change.

We shouldn't wait for the major systems changes or an appropriately resourced and mandated authority or body to be stood up before playing our part.



In short, we can't wait for all our ducks to be neatly in a row. We need action – not perfection – right now.

At all levels – from builders on the tools to CEOs of the construction giants, from policy makers and regulators to Ministers, from individuals and their whānau to their communities – everyone needs to take action.

By acting now, we can proactively manage the effects of our transformation. Changes can be introduced over time – not all at once – ensuring a just and equitable transition from current to future state. The longer action is left, the more urgent and significant the impact on our system will be.

This roadmap lays out preliminary steps to empower us as a sector to begin working collaboratively in a coordinated way to reach the radical goals we have in sight. It is a pragmatic document that sets out a starting point for coordinated action with the expectation that the actions will require further detailed planning and the roadmap itself will grow with us. As we develop new sustainable and environment-enhancing ways of working, the roadmap will need to be reviewed, expanded and updated to ensure it remains relevant and fit for purpose.

Every sector in Aotearoa New Zealand is facing similar challenges. Some have fewer hurdles to face than we do, others have more. What the construction sector has is a rich history of being resourceful and thoughtful when it comes to problem solving and generating new ideas. This is a sound foundation upon which to build and implement a powerful movement for change.

And let's not forget why this is so important – the lives of our tamariki/children, mokopuna/grandchildren and future generations are depending on us.

Thank you to the many people across the sector and particularly the expert advisory group for your input and contribution to bringing this roadmap into existence.

Chelydra Percy

Environment Workstream Lead, Construction Sector Accord
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Introduction



While the construction sector faces many challenges, it can reasonably be argued that none are greater than responding meaningfully to environmental sustainability and climate change concerns.

Background

While the construction sector faces many challenges, it can reasonably be argued that none are greater than responding meaningfully to environmental sustainability and climate change concerns.

Myriad factors lead to this conclusion – from the advent of the United Nations Sustainable Development Goals¹ to the Climate Change Commission’s mandate² to the government’s focus on broader assessments of economic and social wellbeing.³ These determinants, coupled with increasing public concerns about degraded environments, all signal changes or strengthening in environmental attitudes and aspirations.

Internationally, there are also calls for the construction sector to shift its focus from just creating the buildings to inclusion of the intergenerational social and environmental outcomes that they enable.⁴ In Aotearoa New Zealand, western perspectives of the hierarchy between people and their environment are being reimagined, with te ao Māori (Māori world views) regaining significance and influence.

Alongside every other sector, the building and construction industry is being asked to contribute to meeting Aotearoa New Zealand’s

long-term environmental and climate change goals. It is important and challenging work. There are many different views across the sector about what is needed and when, and there are potentially many pathways that can be taken.

It is clear that these targets can’t be met by one person, one organisation or one part of the sector alone. Success will only be achieved through collaborative action and a genuine commitment to change.

Work to date

The Construction Sector Accord established the Environment Workstream in late 2020. It recognised that work to address the sector’s environmental and climate change challenges was already happening across the system, within government and in the private sector. However, it was also apparent that this work was often siloed or lacked coherency and ‘joined-up’ thinking. There was no common view of how the sector could come together and work collaboratively to meet these important challenges.

In June 2021, the Construction Sector Accord Environment Workstream published a paper on the environmental challenges, opportunities and transitions for construction in Aotearoa New Zealand.⁵

¹ sdgs.un.org/goals

² mbie.govt.nz/building-and-energy/building/building-for-climate-change; climatecommission.govt.nz

³ treasury.govt.nz/information-and-services/nz-economy/higher-living-standards/our-living-standards-framework

⁴ constructioninnovationhub.org.uk/vision-for-the-built-environment

⁵ d39d3mj7qio96p.cloudfront.net/media/documents/Environmental_Challenges_Opportunities_Transitions_Paper_June_2021.pdf



Drawing on a series of interviews conducted with representatives from the sector and scanning work done by BRANZ, the paper outlined seven challenges and opportunities. While it described the adverse environmental impacts construction activities – and the built environment more generally – can have, it also identified ‘bright spots’ where new approaches are contributing to improved environmental outcomes.

Importantly, the paper considered these challenges within the broader system context, and preliminary ideas for thinking about possible solutions were identified.

The paper was shared through the Accord and BRANZ channels across the sector. Feedback was sought on three aspects in particular:

- The seven environmental challenges and opportunities identified – greenhouse gas emissions, energy, waste, water, land use, climate adaptation and regenerative construction.
- Characteristics of Aotearoa New Zealand’s future construction sector to address these challenges.
- The opportunities to align with existing work to enhance the environmental performance of the sector.

At the same time, input from an expert advisory group comprised of building and construction sector and sustainability experts was sought. This was an opportunity to delve deeper into what needs to happen in Aotearoa New Zealand to address the challenges. The group was also asked to identify where other work was happening within the sector that could be leveraged or provide ideas to support and assist with change.

The findings

The Environment Workstream’s work to date has uncovered a range of factors that prevent or slow down adoption of more environmentally sustainable construction practices.

These are some of the major roadblocks identified from interviews, workshops and feedback on the environmental issues paper:

- Lack of awareness of some of the adverse environmental impacts from construction.
- Lack of awareness of and skills for more-sustainable practices and materials.
- Lack of data to assess environmental performance and impacts.
- A narrow view of ‘the environment’ and how construction may affect it. The need to adopt a more holistic and long-term perspective involving and learning from te ao Māori approaches was mentioned frequently.



⁶ Seven environmental challenges identified were greenhouse gas emissions, energy, waste, water, land use, climate adaptation and regenerative construction.



- Limited collaboration and trust across the construction value chain so new ideas and practices are not shared.
- Lack of access to more-sustainable products.
- A cost-focused and growth-led mindset rather than a sustainability-led mindset. Upfront costs of construction usually dominate decisions rather than costs and value over the whole lifespan of the building or development.
- The scale and pace of change is overwhelming, particularly for smaller firms.
- Small and medium-sized enterprises (SMEs) are feeling excluded from discussions and decisions.
- Lack of clarity about what meaningful actions can be taken at a construction site level.
- Lobbying to maintain the status quo.
- A current focus (in both policies and practices) on greenhouse gas emissions, energy and waste rather than a comprehensive environmental impacts perspective.
- An inconsistent, incomplete and/or overly burdensome policy and regulatory environment.

In short, that paper and subsequent work enforced that the transition to environmentally positive construction won't be easy. Mindsets, practices and incentives all need to change. Systemic change is required across all facets of design and construction throughout a building's life cycle. Environmental issues need to be taken account of collectively rather than issue by issue. This will involve difficult discussions and decisions. Values and practices will be challenged.

The paths to success all require a common goal, a sense of purpose and commitment along with greater cooperation, collaboration and communication.

The Roadmap for Action seeks to enable a pragmatic response to these findings, utilising the insights, information and ideas gleaned from the Environmental Workstream and BRANZ's efforts over the past 10 months.

Roadmap for action – at a glance

IF WE DO THESE THINGS...

ACTIONS

- Develop whole-of-government as a client approach
- Learn with clients and building users
- Support sector engagement in actions
- Work with industry associations
- Improve sector skills and capability
- Enhance use of tools and certification schemes
- Improve recycling, reuse and waste minimisation
- Collaborate in research, development and innovation



ACTIONS

- Collect performance and impact data
- Develop impact assessments across the value chain and life cycle
- Establish an independent roadmap oversight body
- Support Building for Climate Change implementation
- Undertake broader regulatory and policy stocktake
- Harness economic, financial and legal levers

THEN WE SHOULD SEE

IMPACTS

More-informed clients and occupants

More-informed and skilled workforce

More-accessible and relevant information on good environmental practices, performance and impacts

Whole-of-value-chain thinking

Consistent, comprehensive and cost-effective environmental policies and regulations

Improved forward thinking and planning across the sector

Identification of the critical next steps

LEADING TO...

ROADMAP OUTCOMES (2030)

The sector is incentivised and motivated to build sustainably

The sector's workforce knows how to build sustainably

There is widespread adoption of environmentally sustainable materials and practices

Adverse environmental impacts from construction are being reversed

AS STEPS TOWARDS...

LONGER TERM GOALS (2050)

ZERO-CARBON CONSTRUCTION

CIRCULAR CONSTRUCTION ECONOMY

REGENERATIVE CONSTRUCTION

KAUPAPA

The built environment and construction sector is clear about how it can contribute to Aotearoa New Zealand's climate and environmental commitments.



Roadmap purpose



In a nutshell, while the sector knows where it needs to be by 2050, it is less sure about how to get there.

Aotearoa New Zealand's 2050 environmental goals for the building and construction sector are:

- meeting the obligations under the Climate Change Response (Zero Carbon) Amendment Act 2019
- having a circular construction sector contributing to a circular economy
- creating a regenerative construction⁷ system – one that creates new and different value so that building and construction activities help the environment and communities within that environment thrive.

The focus of this roadmap is on identifying the actions required to be implemented by 2030 that will in turn enable the building and construction sector to meet Aotearoa New Zealand's 2050 goals. It is a preliminary concept plan where some actions are well formed and clear, while others require further thought and shaping. All actions will require further detailed scoping to be implemented and resourced, and specific lead organisations identified.

By necessity, the roadmap is pragmatic. In the first instance, it is focused on actions that will help improve environmental awareness, strengthen capabilities and improve cohesion and accountability across the sector. It is not fully formed, and there is more work still

needed to bring actions to life through sustained effort, resources and focus. The roadmap is a starting point, not the end game.

The size and scale of the systemic change required is significant and requires a systematic, collective and sustained effort.

While not an explicit objective or outcome of this roadmap, one anticipated consequence will be improving affordability and access to healthy, resilient homes and buildings. It is expected that the impacts of some actions – improved policies and regulatory settings, new financing models and priorities, improved construction practices – will reduce whole-of-life costs over the longer term. Achieving this will have significant societal benefits, reaching well beyond immediate environmental and sustainability objectives.

⁷ Regenerative construction involves a focus not just on minimising adverse environmental impacts or restoration but building in ways that create new environmental (and social) value. Examples include increasing biodiversity and connecting the built environment with the natural environment rather than separating them.

Implementation principles



Implementation of the roadmap will require a collective response and collective leadership from across the sector. Actions will need to be designed and delivered according to the following principles.

Leading from the construction site

There are a variety of actions that those working in construction can adopt immediately or over the next few years. Waiting for policy and regulatory changes is not a reason to hold back from making other changes.

A learning culture

There are many positive environmental initiatives to build upon, both within construction and from other sectors. In many cases, solutions as well as problems remain to be identified. Sharing good practices and learning from others is critical for success.

Interconnections

The priorities in the roadmap shouldn't be considered in isolation. Some actions support several priorities, and all need to be addressed to ensure the sector changes in a coordinated way. Stronger connections across the construction value chain also need to be made and maintained to both learn and coordinate.

Real system change

The whole of the construction system needs to change – from planning a development to a building's end of life. There are critical questions to focus on when considering actions:

- Where will the most substantial benefits come from?
- Does the approach focus on the environment?
- What are the broader impacts from making these changes?

Continuous improvement

The four priorities and associated actions on the following pages shouldn't be considered a checklist. They are mutually reinforcing and dynamic and need to be progressed as a package.

Priorities and actions

In developing the roadmap, the Environment Workstream has identified four equally significant and inter-related priorities.



These priorities have 23 associated actions to be collectively delivered and led by different parts of the sector across two different timeframes out to 2030. These priorities and actions are detailed in the following pages.

The first timeframe or 'start now' actions can get under way now to be implemented and in operation in 2 years. The second timeframe or 'start by 2024' actions are medium term and will require some development to be implemented and in operation by the end of 2024.

Those organisations identified in the 'who' column are categorised using the types of members used for the Construction Sector Accord Network⁸, unless there is a more specific organisation identified to lead the action.

Unless otherwise noted the actions apply to all seven of the environmental issues (greenhouse gases, energy, waste, water, land use, climate resilience and regenerative construction). Ensuring construction becomes environmentally positive requires environmental issues to be considered collectively rather than individually.

⁸ www.constructionaccord.nz/get-involved/accord-network/





Priority:
Changing mindsets by improving awareness of and commitment to addressing, accounting for and improving environmental outcomes.

Why change is needed

Poor perceptions about the feasibility and value of more environmentally sustainable construction need to be overcome. Actions aim to improve demand from government, which is a significant construction client, and raise the awareness of good practices and benefits by construction firms, clients and occupiers more generally.

ACTION	START NOW	START BY 2024	WHO
1. Develop and apply a whole-of-government as a client approach to sustainable construction, leveraging existing information, standards and consistent KPIs.	●		Government clients Government Procurement Office
2. Establish and implement a programme that enables the sector's clients and consumers to learn about the value of and how to ask for improved environmental performance from construction work.	●		Construction Sector Accord Clients
3. Establish and implement an outreach programme that: <ul style="list-style-type: none"> a. monitors, scans and identifies how new practices and approaches being used by other sectors and jurisdictions can be adopted in the Aotearoa New Zealand construction context b. identifies how to support and amplify existing and new projects focused on improving environmental and sustainability performance within the sector c. supports firms to develop environmental impact plans that understand, measure and manage their greenhouse gas emissions and other environmental impacts d. shares best-practice examples of effective environmental impact plans, including use of best-practice tools e. helps firms and clients profile and tell their environmentally sustainable performance stories f. profiles opportunities for and benefits of switching to low-emissions vehicles and equipment and more-sustainable and recyclable materials, products and projects. 	●		Construction Sector Accord Sector organisation/support bodies
4. Support key industry associations to develop new or update existing environmental sustainability plans that are aligned to this roadmap.	●		Construction Sector Accord MBIE



Priority:
Scaling up the sector’s capability
 and capacity in environmentally
 sustainable construction.

Why change is needed

Organisations across the construction sector need to be enabled to adopt more environmentally sustainable construction products and practices.

ACTION	START NOW	START BY 2024	WHO
Skills			
5. Ensure the design of education and training (across all education levels) raises the sector’s capability to improve environmentally sustainable performance throughout the built environment’s lifecycle.	●		Educators Sector organisations/support bodies
6. Develop guidance and training programmes that educate managers, business owners and directors on their environmental, social and governance obligations and opportunities.	●		Educators Sector organisations/support bodies
7. Develop guidance and training programmes that support the sector to design for waste minimisation in construction and to improve environmental management (including water and energy) on construction sites.	●		Educators Sector organisations/support bodies
8. Improve the skills and capacity of practitioners, industry and community organisations to assess and manage their climate risk.		●	Educators Sector organisations/support bodies
Recycling, reuse and waste minimisation			
9. Support the implementation of the Ministry for the Environment’s 2021–2023 waste reduction work programme and the Aotearoa New Zealand Waste Strategy (in development).	●		Construction contractors/specialist trades Professional services
10. Increase the capacity and capability across the system to reduce, reuse and recycle.		●	Government (MBIE, MfE)
Enhance use of tools and certification schemes for new and retrofit construction			
11. Support the use and uptake of environmental rating tools and certification schemes that support environmentally sustainable construction methods and materials.	●		Clients Sector organisations/support bodies Construction contractors/specialist trades Professional services
12. Improve environmental rating tools and certification schemes so there is consistent methodology as well as coverage of, and usability for all the environmental challenges.		●	Sector organisations/support bodies
Research, development and innovation			
13. Develop a sustainable built environment research strategy for Aotearoa New Zealand. This programme needs to identify research priorities, enhance coordination across the science and innovation system and support the implementation of te ao Māori approaches to the sustainable built environment.	●		Government (MBIE) Sector organisations/support bodies Academic and research organisations
14. Prioritise funding, accelerator programmes and collaborative projects to improve the impact of research on more environmentally sustainable materials and practices.	●		Government (MBIE) Sector organisations/support bodies Academic and research organisations
15. Support the adoption and use of modern methods of construction such as off-site manufacturing and building information modelling, sensors and network technologies that enable more environmentally sustainable buildings.	●		Sector organisations/support bodies Academic and research organisations Construction contractors/specialist trades Professional services
16. Improve locality-based mapping and modelling of climate change hazard exposure and risk to support appropriate land use and infrastructure choices.	●		Academic and research organisations





Priority:
Incentivising and aligning to ensure environmentally sustainable building practices are facilitated.

Why change is needed

To successfully position the sector to respond to significant regulatory change. The policy, regulatory, financial and legal settings must all be aligned to ensure construction and building operation decisions are focused on superior environmental outcomes.

ACTION	START NOW	START BY 2024	WHO
17. Identify how to support the industry to implement the building regulatory system changes arising from MBIE's Building for Climate Change programme. This includes the Whole-of-life Embodied Carbon Emissions Reduction Framework and Transforming Operational Efficiency Framework and adaptation framework in development.	● →		Sector organisations/support bodies MBIE
18. Consider opportunities to accelerate MBIE's Building for Climate Change programme to increase the pace of sector change or responsiveness.		● →	Sector organisations/support bodies MBIE
19. Carry out a stock take of the full regulatory and policy spectrum to ensure the construction sector is supported to deliver an environmentally sustainable built environment. From this ensure that: a. policy and regulatory needs and barriers/disincentives/gaps across the construction value chain that influence environmentally sustainable performance are identified b. policies and regulations are improved to provide better cohesion, clarity and consistency, reflect whole-of-life environmental performance and enable innovative practices.	● →		MBIE
20. Identify what economic and financial measures are needed to support the sector to lift environmentally sustainable performance by: a. assessing options for use of existing economic measures b. examining existing financial tools and insurance drivers c. reviewing existing legal mechanisms d. identifying new financial and any other incentives that would accelerate improved environmentally sustainable practices.		● →	Sector organisations/support bodies Legal services Banking, finance and insurance services



Priority:
Demonstrating impact by measuring construction sector progress in contributing to Aotearoa New Zealand's climate and environmental goals.

Why change is needed

Data and assessment requirements need to be improved so that the sector can demonstrate the changes being made. An oversight body is needed to coordinate roadmap implementation and maintain momentum to support broad change across the sector.

ACTION	START NOW	START BY 2024	WHO
21. Support the collection of performance and impact data by: <ul style="list-style-type: none"> a. developing a consistent reporting framework that can be used across the sector by system players to demonstrate their commitment and accountability for performance at firm and sector level b. identifying data needs and gaps that prevent the sector from measuring and reporting on its impact c. establishing a mechanism that ensures the regular, standardised collection of performance and impact data. 	<ul style="list-style-type: none"> a. b. c. 	<ul style="list-style-type: none"> c. 	MBIE Sector organisations/support bodies Academic and research organisations
22. Develop environmental impact assessment and reporting for whole of value chain and whole of building life cycle.		<ul style="list-style-type: none"> 	Sector organisations/support bodies MBIE Clients Contractors/specialist trades Professional services Product suppliers
23. Design, establish, fund and fully resource a mandated, agile and independent body to oversee and coordinate implementation of this roadmap and connections to related work across Aotearoa New Zealand. Establishing this body will: <ul style="list-style-type: none"> a. ensure the implementation principles of the roadmap are embodied and upheld b. work in partnership with Māori to honour te Tiriti o Waitangi c. define accountabilities for the sector d. monitor, measure and report on the implementation of the Roadmap e. foster leadership, collaboration and trust across the sector f. ensure a just and equitable transition for the sector as this roadmap is implemented g. identify future actions necessary to meet the long-term goals. 	<ul style="list-style-type: none"> 		Construction Sector Accord MBIE



Leading the charge for change

Every sector actor has a part to play in implementing the actions outlined in the roadmap. This table seeks to identify the natural leader organisation(s) or types of organisations for each action given their specific mandate, relevant networks and ability to effect change. Crucially, this list is neither exhaustive nor does it imply sole responsibility by those organisations to deliver the action outcome. The expectation is that these organisations – by virtue of their role in the building system – will lead, facilitate and foster collaboration across the sector to ensure the actions can be delivered and systemic change can be achieved.

PRIORITIES	CHANGING MINDSETS				SCALING UP												INCENTIVISING AND ALIGNING				DEMONSTRATING IMPACT		
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
Central government – MBIE				●						●			●	●			●	●	●		●	●	●
Construction Sector Accord		●	●	●																			●
Government Procurement Office	●																						
Central government - MfE										●													
Government clients	●	●									●											●	
Non-government clients		●									●											●	
Construction contractors/specialist trades									●		●				●								
Professional services									●		●				●							●	
Legal services																				●			
Product suppliers																						●	
Sector organisations/support bodies			●		●	●	●	●			●	●	●	●	●		●	●	●		●	●	
Educators					●	●	●	●															
Academic and research organisations													●	●	●	●					●		
Banking, finance and insurance services																				●			

Role of the Construction Sector Accord



As the Accord shapes its post-2022 Transformation Plan, this roadmap's actions must be prioritised if the sector is to achieve Aotearoa New Zealand's ambitious 2050 environmental and sustainability goals.

Utilising its leadership platform, the Construction Sector Accord is uniquely placed to catalyse change within the sector through its ability to collaborate across government and the private construction sector. It has already begun to address many sector challenges through seven workstreams, which have formed the basis of a 3-year Transformation Plan. It has also proven to be a very effective sector sounding board for the impact of policy and regulatory change and emerging developments and issues, not least those resulting from the COVID-19 pandemic.

In the immediate term, the Accord will be instrumental in communicating and raising awareness of the roadmap to encourage the sector to start taking action or scaling up existing action for greater impact. Utilising its well-established communications channels including its newsletter, webinars and network, the Accord can share and engage with the sector and facilitate the design of the roadmap's actions in more detail. The Accord also has a major role to play in kick-starting actions associated with the *Changing mindsets* priority through support and resource allocation.

This roadmap is one key delivery action of the first phase of the Accord's Transformation Plan due for completion in June 2022. While the Accord is currently working with partners to develop a business case for a next-generation Accord beyond 2022, the outcome is not yet known. Given the scale and magnitude of the shifts that must be taken to address the sector's environmental challenges, the sector cannot afford to wait for the advent of a new mandate or post-2022 Accord.

Therefore, the roadmap has deliberately been developed to endure outside of any formal structures or organisations within Aotearoa New Zealand's construction system. The Accord has been identified to take a lead role alongside MBIE in supporting and identifying the resource required to establish the independent body needed to drive the implementation of this roadmap. This work will need to be started before June 2022.

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