

Building with Nature

The role of the built environment
in connecting with, protecting
and enhancing nature.

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Foreword

Our connection to nature is fundamental to life in Aotearoa. It shapes our wellbeing, our communities, our economy and the places we call home. Yet we also know that nature is under increasing pressure, and everyone has a role to play in considering how we better protect nature and biodiversity.

Since its inception, the New Zealand Green Building Council (NZGBC) has sought to reflect, amplify and support the issues our members care about. From energy efficiency and healthier homes to operational and embodied carbon, electrification and better-performing buildings, progress has been made because industry has been willing to engage, share knowledge and take action together.

It is with that same spirit we launch this discussion paper. It is not intended to provide all the answers, but we hope it will spark a wider conversation about what building with nature could mean for Aotearoa, what good practice might look like, and how NZGBC can best support industry as this work develops.

There is already momentum to build on with a range of initiatives and frameworks to support nature becoming more established in Aotearoa. Across the country, Green Star certified and registered projects are showing what is possible when project teams protect and enhance nature on site, select more responsible materials, embrace reuse and circularity, and think more carefully about the long-term impacts of design and construction decisions.

We look forward to hearing from our members and the wider sector as we explore what it means to build with nature.

A handwritten signature in black ink, appearing to read 'A. Eagles'.

Andrew Eagles

Chief Executive,
New Zealand Green Building Council

About NZGBC

The New Zealand Green Building Council (NZGBC) is a for-purpose organisation working to create healthier, more efficient and lower-carbon homes and buildings. Established in 2005, NZGBC brings together more than 600 organisations from across the property and construction sector to drive positive change through certification, advocacy, research, education and industry collaboration. NZGBC administers Green Star, Homestar and NABERSNZ in New Zealand.

Executive summary

Nature is central to our economic prosperity, wellbeing and long-term resilience, and indeed, our very existence. However, in the global race for economic progress, we are failing to protect and value nature and biodiversity, and we're missing out on the benefits of building with nature.

With this discussion paper, NZGBC seeks to advance the conversation about the role our sector can play in the shift from a 'nature negative' trajectory toward a 'nature positive' future. New Zealand has adopted the Kunming-Montreal Global Biodiversity Framework which sets an overarching goal to 'halt and reverse nature loss by 2030 on a 2020 baseline and achieve full recovery by 2050'. The built environment has a critical role to play if we are to fulfil this commitment.

Construction and development contribute to biodiversity decline both here in New Zealand and around the world through land-use change, habitat fragmentation, and the impacts of resource extraction amplified by a take-make-waste approach to material consumption. Regulation and legislation have an important role to play, but we don't need to wait for regulatory perfection to make a difference.

Project teams can take action by adopting rating tools like Green Star and Homestar, which reward enhancing nature, circularity, and responsible procurement. Other practical strategies include incorporating biophilic design, prioritising nature-based solutions, investing in natural infrastructure, and aligning organisations with frameworks like the Taskforce on Nature-related Financial Disclosures (TNFD).

The paper identifies some of the opportunities for developers, professionals, and built environment professionals to protect and enhance nature through planning, design, construction, procurement and investment, and highlights examples of great leadership already underway in New Zealand.

Scaling up efforts to protect and enhance nature both in New Zealand and around the world will take a shared vision and collective effort. We invite you to read this report and to share your thoughts and insights by responding to the discussion questions in the survey released alongside this paper. We look forward to working with a range of stakeholders to envision the built environment's role in a nature positive future.

Introduction

'Clean and green' is part of Aotearoa New Zealand's global brand, and our relationship with Te Taiao/the natural world is one of our defining characteristics as a nation. Nature is central to our economic prosperity, our wellbeing and our long-term resilience, but in the global race for economic progress, we are failing to protect and value nature.

In Te Ao Māori, Te Taiao is the natural world that contains and surrounds us - the land, water, climate and living beings. Ko au Te Taiao, ko Te Taiao ko au (I am nature, and nature is me), refers to the interconnection of people and nature¹.

New Zealand's built environment is where we live, work, play and learn. It shapes our lives and is a major driving force in our economy. While we have made significant steps in our understanding of energy performance and decarbonisation of buildings as part of climate change mitigation, the built environment also has a significant role to play in ensuring the health of the very natural systems it relies on, both here in New Zealand and globally.

New Zealand currently has a 'nature negative' economy - our economic activities are degrading and depleting nature at unprecedented rates. Biodiversity, a key indicator for nature change, continues to decline, with 63% of New Zealand ecosystems currently threatened². More than 75% of indigenous species in reptile, bird, bat, and freshwater fish species groups are threatened with extinction or are at risk of becoming threatened³.

This paper discusses some of the impacts that the built environment has on nature - from site-level to far-reaching impacts along global supply chains - and considers actions we can take to move from nature negative towards a nature positive future.

Building with nature can mean well-considered landscaping and planting which contributes to local biodiversity, offers a refuge to native fauna, plays a role in stormwater management, provides shade to buildings, helps to reduce heat island effect, and offers building users a connection to nature. But it's also much more than that. While many projects have only limited opportunities to enhance nature onsite, every project can seek opportunities to reduce embodied carbon and increase circularity, minimise waste with thoughtful design and construction, and choose products and materials that can prove how they are reducing negative impacts, or contributing to positive impacts on nature along the supply chain. We can also consider how nature-based solutions can provide opportunities for investment in nature on a larger scale.

This paper explores the role of rating tools and certification in supporting nature positive outcomes and highlights some of the leadership already underway in New Zealand. We also outline some of the strategic frameworks and plans that seek to set targets and actions for achieving a nature positive future. Most importantly, we seek your input on what a nature positive future for New Zealand's built environment could look like and how we can work together to achieve it.

Section 1 – The scale of impact:

How does the built environment impact nature in New Zealand and globally?

National environmental reporting⁴ shows that development contributes to biodiversity decline through land-use change, habitat fragmentation, and soil and water degradation. These impacts are not abstract environmental concerns, they translate directly into regulatory, financial, and physical risks for the sector.

The built environment has the potential to be a powerful force for nature recovery. Work undertaken by the Green Building Council of Australia (GBCA)⁵ identifies five key areas where systemic barriers continue to lock in

¹ <https://www.taiaooran.z/te-taiao>

² <https://environment.govt.nz/publications/our-environment-2025/>

³ <https://www.stats.govt.nz/indicators/extinction-threat-to-indigenous-species/>

⁴ <https://environment.govt.nz/assets/publications/Environmental-Reporting/Our-land-2024.pdf>

⁵ <https://new.gbca.org.au/green-star/green-star-strategy/building-nature/>

nature loss across planning, delivery and investment. These barriers also apply in New Zealand, where the decisions we make for our buildings impact not just local natural environments, but also have serious consequences for global ecosystems.

GBCA's Nature positive roadmap for the built environment⁶ identifies these key areas as:

- **Weak and fragmented regulation:** Inconsistent policy and enforcement undermine confidence and fail to prevent cumulative nature loss.
- **Intensifying urban development:** Growth continues to lock in permanent ecological loss where nature is treated as a constraint, not an asset.
- **Low circularity rate:** Linear material use, barriers to building reuse and barriers to increased density drive ongoing habitat loss and pollution.
- **Impacts from resource use:** Rising demand leads to increased raw material extraction and overexploitation of resources, intensifying ecosystem stress.
- **Underinvestment in nature:** Financial systems continue to reward nature-degrading activity while the importance of natural systems remains undervalued.

While New Zealand has a unique natural environment, and our own built environment and regulatory environment, most of our challenges and barriers locking in nature loss fit under similar headings:

1. Regulation failing development and the environment

Like many developed nations, New Zealand's regulatory environment can be complicated. Our primary piece of regulation relating to planning and environmental protection, the *Resource Management Act 1991*, is often criticised for creating barriers to progress and productivity and adding significant costs to projects and activities of all kinds, while all kinds of environmental metrics still slide downwards.

A new approach is proposed, with a shift to two separate pieces of legislation – one for planning and one for the environment⁷. However, regardless of legislative reform in this area, when the pressures of growth and development must be balanced with protecting our natural environment, planning and environmental processes and approvals will remain inherently controversial and complex.

There are many opportunities for leadership in the built environment, where the choices made for large greenfield developments, on individual sites in existing neighbourhoods, and product and material choices can all make a positive difference.

2. Intensifying and expanding urban development

The key pressures faced by New Zealand's land environments are changes in land use, along with adverse effects from pollution, climate change, and invasive species⁸. Intensifying urban development contributes to all four of these impacts in various ways. Several are outlined below:

⁶ <https://www.naturepositiveroadmap.gbca.au/>

⁷ <https://environment.govt.nz/publications/better-planning-for-a-better-new-zealand/>

⁸ <https://environment.govt.nz/assets/publications/Environmental-Reporting/Our-land-2024.pdf>

Land-use change from development is reducing natural habitats

The Ministry for the Environment's report, Our Land 2024⁹ shows that land development has wide-ranging effects on ecosystems and the biodiversity they support. This includes the loss of indigenous vegetation and the degradation of natural habitats. As urban areas expand, natural ecosystems, such as forests, shrublands, wetlands, and riparian margins, are cleared or fragmented. This reduces ecological connectivity and undermines the resilience of native species.

Throughout New Zealand, urban expansion continues at pace. Stats NZ reports 37,813 new homes consented in the year to March 2026¹⁰. While a proportion of these dwellings will be built in existing neighbourhoods (which also brings environmental impacts), it is an indicator for the scale of land conversion. Housing supply is essential, but we know an impact of dispersed development patterns is the steady erosion of natural areas that provide flood protection, carbon storage, soil formation, and habitat for native species. Loss of natural areas has wide-reaching impacts on ecosystems and the biodiversity they support but also contributes to long-term vulnerability for both communities and built assets¹¹.

Earthworks and construction activities intensify erosion and degrade waterways

In 2022, 182 million tonnes of eroded soil entered New Zealand waterways¹², smothering freshwater and estuarine habitats and reducing water quality. While erosion has multiple causes, construction can require significant earthworks. This is a recognised contributor because it exposes bare soil, alters drainage patterns, and removes stabilising vegetation.

Sedimentation is one of the most damaging pressures on aquatic biodiversity, and unmanaged construction runoff directly contributes to this decline.

Urban development fragments ecosystems and reduces ecological function

Urbanisation creates hard boundaries, such as roads, buildings and impermeable surfaces, that break up natural landscapes. It contributes to the loss of indigenous vegetation and the degradation of natural habitats. As urban areas expand, natural ecosystems, such as forests, shrublands, wetlands, and riparian margins, are cleared or fragmented.

Fragmentation undermines the resilience of native species, it reduces ecological connectivity and reduces the ability of ecosystems to provide essential services such as pollination, flood mitigation, and soil health. These losses have cascading effects on both biodiversity and the resilience of built environments. Without deliberately integrating biodiversity into planning and design, urban and peri-urban development can significantly reduce the ability of native species to thrive, or even survive, and often creates conditions that encourage invasive species.

Urban land cover¹³ accounts for only 1% of New Zealand's total land cover¹⁴ making fragmentation of natural habitats, landscapes and ecosystems a relatively small impact compared to others described in this discussion paper. However, New Zealand's urban land cover continues to expand, increasing by

⁹ <https://environment.govt.nz/assets/publications/Environmental-Reporting/Our-land-2024.pdf>

¹⁰ <https://www.stats.govt.nz/information-releases/building-consents-issued-march-2026/#:~:text=In%20the%20year%20ended%20March,the%20year%20ended%20March%202025>

¹¹ <https://environment.govt.nz/assets/publications/Environmental-Reporting/Our-land-2024.pdf>

¹² <https://environment.govt.nz/assets/publications/Environmental-Reporting/Our-land-2024.pdf>

¹³ Includes built-up area/settlements, urban parkland/open spaces, and artificial bare surfaces such as transport infrastructure and surface mine or landfills. <https://www.stats.govt.nz/indicators/urban-land-cover/>

¹⁴ <https://www.stats.govt.nz/indicators/urban-land-cover-data-to-2023/>

47,220 hectares between 1996 and 2023. Within urban boundaries, green space per person fell by at least 30% per person in Auckland and 20% in Hamilton between 1980 and 2016¹⁵. This is mainly due to infill housing and the shift to building larger homes on smaller sections. Opportunities to identify and mitigate fragmentation, and create refuges and corridors where possible, are important for local ecosystems, and could also deliver a range of co-benefits.

Case study – Ōtau Ridge: Metlifecare

Building connections to community and nature is at the heart of what Metlifecare set out to achieve at the Ōtau Ridge retirement village situated in the heart of Clevedon, near the banks of the Wairoa River.

Ōtau Ridge has a certified 6 Star Green Star care home and 6-Homestar-rated villas. It has recently achieved a 4 Star Green Star Communities certification which recognises the best practice sustainability of the whole village, including its landscape, infrastructure and connectivity, as well as its relationship with the surrounding natural environment and its heritage.

Iwi engagement was central to the village's development from the outset, shaping both the physical design and the cultural identity of the community. The name Ōtau itself – an ancient name gifted to the retirement village operator by Ngāi Tai ki Tāmaki – carries meaning tied to the deep history of the area and translates to a safe crossing place on the awa Te Wairoa.

Resilience considerations such as flood mitigation, stormwater management and reducing the heat island effect have been coupled with a commitment to enhance and connect to nature, contribute to biodiversity and improve connections to the community.

The 1.8km walking track that winds through the village alongside the Wairoa River offers residents a daily connection to the natural landscape and the wider Clevedon community, and reflects a partnership with a local environmental group.

Metlifecare embraced the opportunity to work with Friends of the Wairoa community group on a riparian planting project to improve biodiversity along the river corridor. More than 26,000 trees, shrubs and plants are being established along the river terrace embankment, riverbank and natural wetland areas. The plants have been eco-sourced from the local Hunua Ecological Region and were chosen to create habitats for native birds and insects, while stabilising riverbanks, filtering stormwater, and improving river health.

"Once fully established along the trail, native shrubs and trees create a green environment that will double as a sanctuary for kererū, tūi, and piwakawaka. For residents, this means every walk is a connection with nature and the story of restoration," says Metlifecare Development Manager, Cam Roberts. [KD3]

Natural infrastructure including raingardens and landscaping has been used throughout the village site to help manage stormwater. Rainwater harvesting from rooftops in the village provides practical water resilience.

Creating spaces throughout the village for people to connect with each other, nature and the heritage of the site is another feature of Ōtau Ridge. This includes pocket parks and orchards, communal vegetable gardens and a central green space, Homestead Green.

ESD engineer on the project, Carissa Garcia of Aluntia notes, "The landscaping and rain gardens, the planting along the riverbank, the places to sit outside, these provide tangible examples to the Ōtau Ridge community of how we can build places that contribute to the wellbeing of both people and nature."

¹⁵ <https://pce.parliament.nz/media/mfqcnnhs/pce-annual-report-for-the-year-ended-30-june-2023.pdf>

Metlifecare Chief Executive Earl Gasparich says that working with nature has been central to the planning and design of Ōtau Ridge from the very beginning.

“We set out to create a community that is sustainable, connected to the local environment and designed for long-term liveability and resilience. Ōtau Ridge has shown what’s possible when a commitment to sustainability and nature is embedded from day one.”

3. Impacts from resource use and a low circularity rate

In a linear economy, the products and materials we use in every aspect of our lives are usually designed and manufactured with little thought for the resources consumed in making them or what happens to them at the end of their life. In *ōhanga āmiomio* – a circular economy – an essential concept is to 'ensure we can unmake everything we make'¹⁶.

While many projects have only limited opportunities to enhance nature onsite, every project can consider the impacts of a linear approach to construction such as waste, embodied emissions and the many environmental impacts of extracting, processing and transporting resources as they relate to materials used to create the building. Aiming for greater circularity and prioritising more responsible products and materials in all procurement activities will have positive impacts all along the supply chain.

The construction sector contributes around 50% of New Zealand’s total waste produced. Much of this waste goes to landfill, contributing to pollution and land use issues, but it also represents a lost opportunity to capture the value in that waste and to improve our resource resilience¹⁷. Research undertaken in Australia¹⁸ shows that for a new-build apartment, there is approximately 142 kilograms of waste per square metre constructed. This is an average of around \$384 per m² spent on materials which go straight to landfill or recycling - more than \$50,000 per apartment. We should also note that while it has a role to play, recycling is a low value solution in the circular economy hierarchy. Diversion from landfill rates don’t tell us how much value and material is actually recovered and lost. What is collected for recycling may be documented, but information about what actually *is* recycled - and what it becomes - is scarce.

As well as sending materials (and money) straight to landfill, failing to seize circular opportunities and barriers to reusing materials - and buildings themselves - is also contributing to emissions. Approximately 20% of New Zealand's emissions are related to the building and construction sector, with half of them being embodied emissions¹⁹. A more circular approach can significantly reduce embodied emissions.

Meanwhile, upstream, an entrenched linear economy and ever-increasing demand for materials leads to increased raw material extraction and overexploitation of resources, intensifying ecosystem stress, ongoing habitat loss and pollution. The buildings and construction sector has the largest material footprint of any sector, driving nearly 50% of global material extraction²⁰ and the United Nations Environment Programme (UNEP) warns that without urgent and concerted action, total global resource extraction could be up by 60% in 2060 (from 2020 levels)²¹.

¹⁶ <https://environment.govt.nz/what-government-is-doing/areas-of-work/waste/ohanga-amiomio-circular-economy/>

¹⁷ <https://www.pwc.co.nz/services/sustainability-climate-and-nature/the-circular-economy-what-does-it-mean-for-aotearoa-new-zealand.html>

¹⁸ <https://gbca-web.s3.amazonaws.com/media/documents/australias-wasted-opportunity---2025-benchmarking-report.pdf>

¹⁹ <https://www.thinkstep-anz.com/resrc/reports/the-carbon-footprint-of-new-zealands-built-environment>

²⁰ <https://wedocs.unep.org/items/dd0a1d99-dba3-46da-93ab-ef2a26fc3c14>

²¹ <https://wedocs.unep.org/items/3ec5991f-1ab2-4d54-9000-c9d3cee81d16>

While New Zealand is a relatively small player in the construction landscape, the supply chains we rely on are vast, complex and global. The choices we make about every product, material and process has an impact - either here in New Zealand, or wherever in the world the resources we demand are extracted or processed.

Impacts on nature are overwhelmingly under-reported and undervalued all along the supply chain, though we know they can be far-reaching and severe – global environmental and climate metrics tell the story.

What is circularity?

The Ellen MacArthur Foundation²² describes a circular economy as:

A system where materials never become waste and nature is regenerated. In a circular economy, products and materials are kept in circulation through processes like maintenance, reuse, refurbishment, remanufacture, recycling, and composting. The circular economy tackles climate change and other global challenges, like biodiversity loss, waste, and pollution, by decoupling economic activity from the consumption of finite resources. The circular economy is based on three principles, driven by design and underpinned by renewable energy:

- Eliminate waste and pollution
- Circulate products and materials at their highest value
- Regenerate nature.

There is a circular economy hierarchy, based on the 10 Rs²³:



Cradle to Cradle²⁴ is another, related concept but a design philosophy rather than a systems-level economic model. Where the circular economy focuses on keeping materials and products in use to minimise waste and resource extraction, Cradle to Cradle focuses on designing products that generate positive ecological and social impacts, aiming for materials that circulate endlessly in either biological or technical cycles.

²² <https://www.ellenmacarthurfoundation.org/topics/circular-economy-introduction/overview>

²³ <https://www.tandfonline.com/doi/full/10.1080/00139157.2017.1301167#d1e136>

²⁴ <https://mcdonough.com/writings/cradle-cradle-remaking-way-make-things/>

Snapshot of key construction materials and impacts

The IEA estimates that carbon emissions from cement, steel and aluminium used in buildings alone accounted for about 9% of global emissions in 2024 (IEA 2025)²⁵.

Cement

Concrete is the most commonly used of all the building materials in the world. Producing concrete relies on aggregate and the production of 4 billion tonnes of cement worldwide every year²⁶. Cement is a fine powder made from a mixture of limestone, clay, and other minerals, which is commonly used as a binder together with aggregates to make concrete. Cement production involves quarrying and processing raw limestone and other raw materials (e.g., shale, clay, etc.). Given the complexity of the cement manufacturing process - from raw material extraction, to processing (including crushing and heating to high temperatures), to transportation to the final product - it is responsible for several significant sources of pollution. These include high CO₂ during processing emissions and sedimentation, erosion and destruction of biodiversity as a result of extraction²⁷.

Concrete use can be reduced through prioritising best use of existing products, prioritising reused concrete where possible, and minimising concrete and aggregates needed through design. The amount of cement needed in concrete can be reduced with well-considered specification of biobased or reused/waste product secondary binders, but alternatives can come with their own ecological impacts.²⁸

Steel

Iron ore is a natural mineral deposit that contains iron in various concentrations and is the raw material for the production of steel²⁹. Most iron ore is extracted through open-pit mines which require the removal of topsoil and vegetation over large areas, impacting the local environment and biodiversity. Other impacts include risk to waterways and water tables through harmful tailings stored in dams, high water use, and large quantities of dust and particulate matter.

Iron ore is converted into various types of iron and then into steel through several processes.

Steel production has a number of impacts on the environment, including air emissions (CO, SO_x, NO_x, PM_{2.5}), wastewater contaminants, hazardous wastes, and solid wastes³⁰. Iron and steel production also requires huge amounts of energy. It is responsible for about 8% of global final energy demand and 7% of energy sector CO₂ emissions (including process emissions)³¹. However, there are significant opportunities to reduce energy consumption and greenhouse gas emissions through innovation, low-carbon technology deployment and resource efficiency.

Aluminium

Aluminium ore³², or bauxite, is the raw material used for the production of aluminium, which is extensively used in construction for its anti-corrosive and lightweight properties. It is extracted via open-pit mining and bauxite mines are often located close to, or even in, protected areas and indigenous lands, and often in tropical forests. Bauxite mining causes many negative impacts to surrounding areas. This includes large quantities of bauxite tailings, also known as red mud, which are stored in open-air dams, requiring huge areas of land. The alkalinity and salinity of bauxite tailings present a severe threat to wildlife and ecosystems. Dam failures have led to tailings spreading over vast areas with hazardous ecological impacts.

Aluminium can be recycled infinitely with no loss of quality. Currently, the share of secondary aluminium

²⁵ <https://wedocs.unep.org/items/dd0a1d99-dba3-46da-93ab-ef2a2fc3c14>

²⁶ <https://pmc.ncbi.nlm.nih.gov/articles/PMC12298550/>

²⁷ <https://ukgbc.org/our-work/topics/embodied-ecological-impacts/cement/>

²⁸ Also note that many of the available binders are globally constrained and should not be specified exceeding their availability. <https://ukgbc.org/our-work/topics/embodied-ecological-impacts/cement/>

²⁹ <https://ukgbc.org/our-work/topics/embodied-ecological-impacts/iron-ore/>

³⁰ <https://www.greenspec.co.uk/building-design/steel-products-and-environmental-impact/>

³¹ <https://www.iea.org/reports/iron-and-steel-technology-roadmap>

³² <https://ukgbc.org/our-work/topics/embodied-ecological-impacts/aluminium/>

production from scrap is around 35%³³. There is opportunity to improve this with global collection rates for aluminium currently over 95% for manufacturing scrap, but around 75% for end-of-life scrap³⁴. Demand for aluminium can also be reduced through optimising reuse and design solutions. The aluminium sector needs to develop and deploy near zero emission technologies to achieve deep emissions reductions from alumina refining and both primary and recycled aluminium production³⁵.

Sand

Sand is one of the world's most extracted natural resources - up to 50 billion tonnes of sand and gravel are mined each year to meet soaring demand from construction and land reclamation. This is causing extensive damage to river and coastal ecosystems around the world³⁶. In New Zealand, coastal or marine extraction of sand to meet ready-mix concrete sand demand is linked to a number of significant environmental impacts including destruction of marine and bird habitats, and accelerated coastal erosion and land loss.

Recent analysis³⁷ confirms that alternative sand sources (which includes quarry sources) could provide in excess of 1,000,000 m³/year, compared to Auckland's current ready-mix concrete sand demand of 310,000 m³/year to 610,000 m³/year. This represents a supply capacity that is 60-220% above current demand, demonstrating that consenting for additional marine sand extraction is not necessary.³⁸

Timber

Globally, logging timber for construction - especially illegal logging - contributes to a range of impacts. These include deforestation, soil erosion and compaction, habitat loss and fragmentation, biodiversity loss, disruption of the water cycle, and indigenous and local community impacts³⁹.

While timber from responsibly and sustainably managed forests represents a renewable, low emissions construction input, WWF notes that the planet's natural forests cannot sustainably meet the soaring global demand for timber products under current forest management practices. The international trade in illegal, primary wood products is estimated to account for about 15%–30% of global timber production, making it the world's third-largest transnational crime⁴⁰.

Even in New Zealand, where forestry is more carefully managed than many other countries, we have become familiar with the negative consequences of plantation forestry. These include the impacts of monoculture plantations, spread of invasive species such as wilding pines, and how forestry 'slash' can intensify the impacts of major weather events (for example, during Cyclone Gabrielle and the related flooding and damage in 2023).

While timber from sustainably managed forests is a renewable material, it should still be used carefully according to circular principals. Prioritising recycling and reuse, optimising design and procuring Programme for the Endorsement of Forest Certification (PEFC) or Forest Stewardship Council (FSC) certified timber are vital considerations⁴¹. Increasing worldwide demand for responsible forest products will provide significant incentives for growth in sustainable forest management⁴².

³³ <https://alucycle.international-aluminium.org/>

³⁴ <https://ukgbc.org/our-work/topics/embodied-ecological-impacts/aluminium/>

³⁵ <https://www.iea.org/energy-system/industry/aluminium>

³⁶ <https://www.wwf.org/en/?333451/Uncovering-sand-minings-impacts-on-the-worlds-rivers>

³⁷ https://www.endangeredspecies.org.nz/files/ugd/9e159d_25fe1fef28af466783e7e7eb25f0a153.pdf

³⁸ https://www.endangeredspecies.org.nz/files/ugd/9e159d_25fe1fef28af466783e7e7eb25f0a153.pdf

³⁹ <https://ukgbc.org/our-work/topics/embodied-ecological-impacts/timber/>

⁴⁰ <https://www.worldwildlife.org/our-work/forests/timber/>

⁴¹ <https://ukgbc.org/our-work/topics/embodied-ecological-impacts/timber/>

⁴² <https://www.worldwildlife.org/our-work/forests/timber/>

Case study - Project Ark: Mainland Capital, Russell Property Group, Dominion Constructors

A familiar and beloved landmark for Christchurch locals and visitors alike, rises above the banks of the Avon River in central Christchurch. The iconic hotel, originally known as “Noah’s”, first opened in 1975. It withstood the 2011 Canterbury earthquakes and has been empty since then. The building’s renaissance is now well underway. The redevelopment, titled Project Ark, is the product of a joint venture between Russell Property Group and constructed by Dominion Constructors. These partners are committed to creating a contemporary and stylish new hotel while embracing the opportunity to renovate with responsible and sustainable building practices.

As Carl Elefante, Former President of the American Institute of Architects once said, the greenest building is the one that is already built. Project Ark’s reuse of the structure of the 50-year-old building is delivering huge savings in embodied carbon, as well as avoiding other impacts on nature related to resource extraction.

“Retaining an existing structure is a challenge,” notes Mainland Capital Development Manager Anna Lough.

“We found that the as built drawings rarely matched exactly what we had in front of us and the tolerances were different for each floor. But one of the most valuable parts of the project process has been a complete 3D point cloud scan of the building. This generated an exact model of the structure which has allowed precision engineering and resulted in reduced variations and greater efficiencies in time, costs and resources.”

Reuse and circularity are central to Project Ark’s respect for the original building and for nature. The building’s distinctive curved shape is retained with a new façade on the front and back, but the walls at either end of the building remain original. A close look will reveal the weathering of time in a nod to honouring the building as an established landmark.

Those who have visited the hotel over the years will remember the marble spiral staircase and will be delighted to see it take pride of place in the new hotel. The staircase will be a tangible link between the new hotel and its heritage, as well as a symbol of circularity and sustainability. A petrified tree found during the demolition phase has been turned into a sculpture to be featured within the new hotel, a link with nature as well as history.

“The hotel has always played an important role in the community. Many locals have memories of special occasions at the hotel, from family celebrations to glamorous events, says Anna. “We are really aware of our responsibilities in renewing this building, both for the memories it holds, and as an important symbol of how we honour the buildings that survived in 2011 and now help to tell the city’s history.”

“We are celebrating what made the old hotel so special, while delivering a project that will be iconic for at least another 50 years,” says Anna. Part of Project Ark’s legacy will be the use of innovation not just to capture the building’s history, but to reduce its impact and ensure it is ready for a more sustainable and circular future. The project is targeting Green Star certification and has implemented both onsite processes, and responsible, ethical procurement of materials to help deliver better outcomes for nature.

These include:

- Onsite waste segregation into eight streams which has diverted over 90% of construction and demolition waste from landfill
- Low carbon concrete used where possible
- Landscaping will focus on native planting
- Specification of lower emission refrigerants

A key innovation onsite has been implementing the Processed Engineered Fuel (PEF) waste stream. In the PEF waste stream, traditionally non-recyclable plastics are collected, baled and transported for processing. It is shredded into a fuel stock and used as a coal substitute at the Golden Bay Cement kiln. The ash generated is incorporated into the cement manufacturing process which is upcycled to create a low carbon concrete.

“For us, Project Ark is about more than bringing an existing building back to life. It is about showing that the buildings we already have can carry our stories forward, while helping us build in a way that is smarter, more resourceful and more respectful of the environment,” says Anna.

4. Underinvestment in nature

Our industries, services, products, and trade depend on the fundamental processes, the material goods, and the regulatory services provided by nature⁴³. But currently, we really only value nature when it's dead⁴⁴. For example, it's easy to put a value on a forest which only considers the timber we can extract. Valuing the forest for the ecosystems and biodiversity it creates and supports, the volume of air it cleans and the carbon dioxide it stores, the hillside and topsoil it holds together and the water filtered through it is much more difficult. However, when viewed through that lens, it is easy to see that the value of that forest is vast, complex and critical.

The Aotearoa Circle notes that nature may be the most undervalued infrastructure asset we have, and because we undervalue it, we underinvest in it⁴⁵.

Natural infrastructure, such as wetlands, forests, dunes, floodplains and their riparian margins, soils (including highly productive land), and urban green spaces (private and public), protects communities and assets, is crucial to our economy, and supports our wellbeing. Healthy natural infrastructure supports almost everything we do and is vital to our way of life. Degrading or developing over natural infrastructure increases vulnerability to flooding, erosion, and climate impacts. These risks translate directly into higher insurance costs, greater exposure to extreme weather events, and increased long-term maintenance and remediation costs for property owners and developers.

Almost every system we have in place in our global supply chains and economies, including financial systems, continue to reward nature-degrading activities. But nature and biodiversity loss are not only environmental and existential issues, but material business risks.

⁴³ <https://www.theaotearoacircle.nz/focus-areas/natural-capital-restoration/natural-infrastructure-plan>

⁴⁴ Quote attributed to Marco Lambertini, Convenor, Nature Positive Initiative, 19 March 2026, <https://new.gbca.org.au/news/gbca-news/ten-tipping-points-from-transform-2026/>

⁴⁵ <https://www.theaotearoacircle.nz/focus-areas/natural-capital-restoration/natural-infrastructure-plan>

Section 2 – What actions can we take?

What are the steps we can take right now to protect and enhance nature, locally and globally?

There are plenty of things that project teams, developers, owners and investors can do to reduce negative impacts on nature and biodiversity - both on-site and along the supply chain. It begins with better understanding your impacts, then taking measurable actions to protect and enhance nature.

While cohesive planning and environmental legislation, regulation and systems are some of the biggest levers we have for protecting our environment, we don't need to wait for a perfect system to have a positive impact on nature.

One of the most effective ways we can act today, is to use trusted, independent rating tools and frameworks that help us understand how our choices are impacting nature and to do measurably better. Organisations can also consider how to measure and mitigate impacts on nature more strategically, including investing in nature and committing to nature-related disclosures.

Homestar and Green Star

The Homestar and Green Star rating tools administered by NZGBC set the standard for healthy, resilient, positive homes, buildings and places. They each contain credits that recognise and reward projects that consider impacts on nature, including those outlined in the previous section. They provide guidance to develop solutions and take steps to meet or exceed best practice benchmarks and verify actions, outcomes and impacts.



Homestar v1.5⁴⁶

EF1: Resource Efficiency

Aim: To promote smaller dwellings that require fewer resources to build, operate and occupy.

EF2: Urban Density

Aim: To promote developments with smaller footprints, recognising the benefits of denser urban planning such as affordability and efficiencies in infrastructure and space utilisation.

EF3: Water Efficiency

Aim: To encourage and recognise water conservation through water efficient fittings and rainwater harvesting.

EN3: Sustainable Materials

Aim: To encourage and recognise the specification and use of responsibly sourced materials that have lower environmental impacts over their lifetime.

EN4: Construction Waste

Aim: To encourage and recognise effective strategies that reduce the environmental impact of construction waste.

EN5: Site Water and Ecology

Aim: To encourage a whole site approach that improves the ecological value of the site while reducing stormwater runoff, flooding, pollution, and erosion. (Rewards native planting)

EN6: Responsible Contracting

Aim: To encourage and recognise best environmental practice by contractors during construction and renovation.

⁴⁶ <https://nzgbc.org.nz/introduction-to-homestar>

Green Star Buildings NZ⁴⁷ - nature category

- **Impacts to Nature**
Outcome: Ecological value is conserved and protected.
- **Biodiversity Enhancement**
Outcome: The building's landscape enhances the biodiversity of the site.
- **Nature Connectivity**
Outcome: Wildlife movement is facilitated within and adjacent to the site.
- **Nature Stewardship**
Outcome: Biodiversity is restored beyond the building site.
- **Waterway protection**
Outcome: Local waterways are protected, and the impacts of flooding and drought are reduced.
- **Other credits** within the rating tool also seek to limit impacts on nature/enhance nature via reduction in impacts along the supply chain, or inclusion of nature on site to help achieve credit aims:
- **Responsible Construction**
Outcome: The builder's construction practices reduce impacts and promote opportunities for improved environmental and social outcomes (includes rewarding projects that divert construction and demolition waste from landfill).
- **Responsible Procurement**
Outcome: The procurement process for key products, materials, and services for the building's design and construction follows best practice environmental and social principles.
- **Responsible Structure**
Outcome: The building's structure is comprised of responsibly manufactured products.
- **Responsible Envelope**
Outcome: The building's envelope is comprised of responsibly manufactured products.
- **Responsible Systems**
Outcome: The building's mechanical, hydraulic, transportation and electrical systems are comprised of responsibly manufactured products.
- **Responsible Finishes**
Outcome: The building's internal finishes are comprised of responsibly manufactured products.
- **Upfront Carbon Emissions**
Outcome: The building's upfront carbon emissions from materials and products have been reduced.
- **Life Cycle Impacts**
Outcome: The building has lower environmental impacts from resource use over its lifespan than a typical building.
- **Tohu Mauri Ora**
Ngā hua: Te whakarauoratanga o te mauri o te taiao me ngā hapori.
Outcome: To regenerate and enhance the mauri of the environment and communities through partnership with and/or leadership by local hapū/iwi.
- **Connection to Nature**
Outcome: The building fosters connection to nature for building occupants.
- **Heat Resilience**
Outcome: The building reduces its impact on heat island effect.

⁴⁷ <https://nzgbc.org.nz/green-star-buildings-nz>

Circular category:

- **Maximising Reuse**
Outcome: The fitout includes reused elements.
- **Enabling Multiple Uses**
Outcome: The fitout can be changed without the need for major demolition or material replacement.
- **Enabling Long Life**
Outcome: The fitout is easy to repair and maintain.
- **Enabling Future Reuse**
Outcome: The fitout's documentation enables the recovery of materials at end of use.
- **Circularity Measurement**
Outcome: The fitout's circularity is improved through its design and material choices.

Responsible category:

- **Responsible Material Management**
Outcome: The design and construction of the fitout project reduces overall material outflows.
- **Responsible Procurement**
Outcome: The procurement process for key fitout elements follows best practice environmental and social principles.
- **Responsible Finishes and Joinery**
Outcome: The fitout's finishes and joinery are comprised of reused or responsibly manufactured products.
- **Responsible Partitions**
Outcome: The fitout's partitions are comprised of reused and/or responsibly manufactured products.
- **Responsible Furniture**
Outcome: The fitout's furniture is comprised of reused and/or responsibly manufactured products.
- **Responsible Fixtures and Equipment**
Outcome: The fitout's fixtures and equipment are comprised of reused and/or responsibly manufactured products.
- **Tohu Mauri Ora**
Outcome: To regenerate and enhance the mauri of the environment and communities through partnership with and/or leadership by local hapū/iwi.

⁴⁸ <https://nzgbc.org.nz/green-star-fitouts>

Green Star Communities⁴⁹

Environment category:

- **Integrated Water Cycle**
Aim: To encourage and recognise best practice sustainable urban water management.
- **Materials**
Aim: To reward the reduction of environmental impacts of construction materials for the site wide works over their life cycle.
- **Sustainable Sites**
Aim: To encourage projects that avoid or minimise impacts on environmentally sensitive sites while recognising projects that reuse previously developed land and reclaim contaminated land using best practice remediation.
- **Ecological value**
Aim: To encourage and recognise projects that enhance the ecological value or biodiversity of the project site.
- **Waste management**
Aim: To encourage and recognise projects that reduce the environmental impact of waste.
- **Heat Island Effect**
Aim: To encourage and recognise projects that implement measures to reduce heat island effect.
- **Light pollution**
Aim: To encourage and recognise projects that minimise the adverse impacts of light pollution.

⁴⁹ <https://nzgbc.org.nz/green-star-communities>

Leadership challenges

Green Star and Homestar have a list of leadership challenges⁵⁰ which recognise initiatives that don't currently fit within the main framework of the rating tools, but are important to encourage and recognise. They cover environmental, social and economic sustainability initiatives. These challenges include:

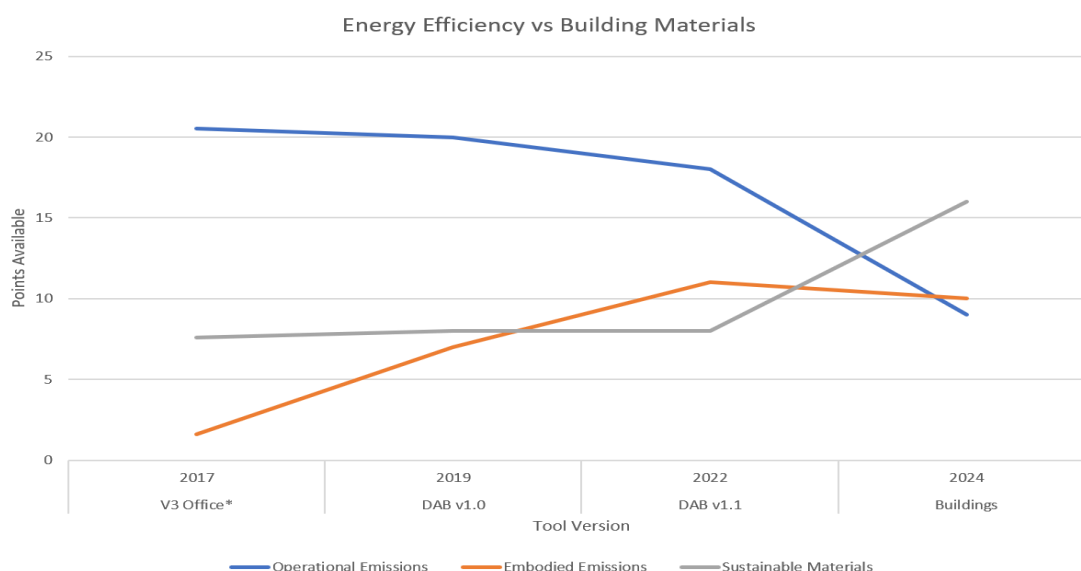
- Deconstruction (applies to Green Star Buildings NZ, Green Star – Design & As Built, Homestar)⁵¹
- Buildings as material banks (applies to Green Star Buildings NZ, Green Star – Design & As Built)⁵²
- Design for circularity (applies to Green Star rating tools).⁵³

Responsible Products Programme

In partnership with GBCA, NZGBC has introduced the [Responsible Products Programme](#)⁵⁴. The programme seeks to reward the use of products that have lower environmental impact, are transparent, and reduce carbon content among other such sustainability metrics. Such products are an active part of the solution for a better future with a more healthy, resilient, positive and circular built environment.

The Responsible Products Programme has been designed to reward products that have been recognised by an existing approved product certification scheme. The programme doesn't certify products for Green Star and Homestar directly, but instead it recognises those products that are certified by an existing product certification initiative. Initiatives complete an assessment in four key areas: Responsible, Positive, Healthy, and Circular. They are then assigned a Responsible Product Value (RPV). The greater the value, the more aligned they are with the guidelines. Project teams can receive recognition for the use of those products in their project across a range of Green Star or Homestar credits.

As the Green Star rating tools have evolved over time, the focus on materials and their impacts has been increasing. Earlier versions of Green Star had a strong focus on improving energy efficiency and reducing operational emissions. While there is still work to do on these, many practices and technologies considered cutting edge a decade ago are now business as usual. More recently, industry awareness of issues such as embodied carbon, impacts on nature and biodiversity and circularity has grown. Green Star rating tools are



⁵⁰ <https://nzgbc.org.nz/green-star-buildings-nz>

⁵¹ <https://nzgbc.org.nz/hubfs/Deconstruction%20Leadership%20Challenge%20Fact%20sheet%20Final-1.pdf?hsLang=en>

⁵²

<https://nzgbc.org.nz/hubfs/Buildings%20as%20Material%20Banks%20Fact%20sheet%20Final.pdf?hsLang=en>

⁵³ <https://nzgbc.org.nz/hubfs/Circular%20Economy%20Fact%20Sheet%20Final.pdf?hsLang=en>

⁵⁴ https://nzgbc.org.nz/responsible_products_programme

updated to reflect an evolving industry as well as responding to increasingly urgent global challenges. The Green Star Buildings rating tool now places a greater focus on responsible material and product choice than ever before (with more points available) because the impacts are far-reaching and our collective impact can make a difference.

Other ways to build with nature

New Zealand Biodiversity Factor – Residential (NZBF-R)

The New Zealand Biodiversity Factor – Residential (NZBF-R)⁵⁵ has been developed specifically to evaluate biodiversity in residential developments. Typical subdivision patterns provide insufficient habitat, poor ecological connectivity, and limited support for native species. The tool educates users through embedded explanations on how various design features positively impact biodiversity and it provides tailored recommendations for effective biodiversity enhancement, enabling urban professionals to make informed landscape design decisions⁵⁶.

Biophilic design

While this paper primarily focuses on how the built environment sector can do things differently to help protect and heal nature, there are also plenty of ways we can invite nature into the built environment to heal us. Biophilic design is the intentional integration of natural elements and patterns into built spaces to enhance human health and well-being. This can include incorporating natural materials, natural light, plants and water elements into a building, as well as architecture and urban planning that mimics natural environments. There are countless examples of biophilic design in buildings and urban design⁵⁷, and the health and well-being benefits, including mental health benefits and increased healing rates in healthcare facilities, are also widely researched⁵⁸.

Nature-based solutions

UNEP defines nature-based solutions as “actions to protect, sustainably manage, and restore natural and modified ecosystems that address societal challenges effectively and adaptively, simultaneously benefiting people and nature.”⁵⁹ Nature-based solutions offer a practical approach for integrating climate and biodiversity policy⁶⁰, including making critical contributions to achieving net zero targets. They can remove carbon from the atmosphere, store carbon, and build resilience to the impacts of climate change while supporting biodiversity and wider environmental outcomes.

Nature-based solutions can be diverse in scale and can be applied to a wide range of ecosystems, from oceans to urban areas. The opportunities for financing nature-based solutions also range from strategic to local. For example, investments in, and implementation of, credible nature-based solution projects can help financial institutions and corporations mitigate strategic risks arising from nature loss and climate change. On a local

⁵⁵ <https://circhive.eu/sites/default/files/2026-02/land-14-00526-with-cover.pdf>

⁵⁶ <https://circhive.eu/circhive/beehive/circhive/green-cities/resource/the-new-zealand-biodiversity-factor%E2%80%94residential-%28nzbf-r%29>

⁵⁷ <https://www.ube.ac.uk/whats-happening/articles/biophilia-examples-built-environment/>

⁵⁸ <https://globalwellnessinstitute.org/wellnessevidence/biophilic-design/>

⁵⁹ [https://www.unepfi.org/nature/nature/nature-based-solutions/#:~:text=Nature%2Dbased%20solutions%20\(NbS\),simultaneously%20benefiting%20people%20and%20nature.](https://www.unepfi.org/nature/nature/nature-based-solutions/#:~:text=Nature%2Dbased%20solutions%20(NbS),simultaneously%20benefiting%20people%20and%20nature.)

⁶⁰ <https://environment.govt.nz/publications/aotearoa-new-zealands-first-emissions-reduction-plan/working-with-nature/>

scale, integration of water-sensitive design elements at community or site-level can treat stormwater, retain small rainfall depths, connect communities with nature and increase urban ecology⁶¹.

Investing in nature

UNEP's 2026 State of Finance for Nature report⁶² calculates that to meet global biodiversity, climate and land restoration targets, investment in nature-based solutions must increase 2.5 times to US\$571 billion annually by 2030. This is equivalent to just 0.5% of global GDP. In 2023, only US\$220 billion supported nature-based solutions, with private finance contributing just US\$23 billion.

The New Zealand Government has announced it will support the growth of trusted, privately run voluntary nature and carbon markets in New Zealand⁶³. A system for facilitating private investment in high-integrity projects offers significant opportunities for the growth of nature-based solutions around New Zealand.

Nature-related disclosures

Organisations in the built environment sector can begin embedding nature into their business practices and consider reporting against the Taskforce on Nature-related Financial Disclosures (TNFD)⁶⁴ framework.

TNFD has developed a set of disclosure recommendations and guidance that encourage and enable business and finance to assess, report and act on their nature-related dependencies, impacts, risks and opportunities.

In New Zealand, three organisations have made commitments to making TNFD disclosures. The Lyttelton Port Company Ltd⁶⁵ (an early adopter), Manaaki Kaimai Mamaku Trust⁶⁶ and Port Marlborough NZ Ltd⁶⁷.

⁶¹ <https://www.branz.co.nz/design-build/articles/nature-based-solutions-for-our-changing-cities>

⁶² <https://www.unep.org/resources/state-finance-nature-2026>

⁶³ <https://environment.govt.nz/what-government-is-doing/areas-of-work/biodiversity/voluntary-nature-and-carbon-markets-in-new-zealand/>

⁶⁴ <https://tnfd.global/>

⁶⁵ <https://www.lpc.co.nz/wp-content/uploads/2024/11/LPC0653-TNFD-Report-Final-3-interactive.pdf>

⁶⁶ <https://www.mkm.org.nz/blog/post/145331/partnering-for-nature-whats-happening-in-aotearoa/>

⁶⁷ https://portmarlborough.co.nz/wp-content/uploads/2026/02/PMNZ_Half-Year-Report.pdf

Section 3 – Shaping a nature-positive future

What should the future look like for building with nature in New Zealand?

Exciting things are happening in New Zealand, but how could we scale these up to ensure that we are heading towards a nature positive future?

NZGBC wants to start a conversation with you – our members, the wider built environment sector, mana whenua, academia, government and stakeholders from the New Zealand community – about what our vision for the future could look like and how we could work together to achieve it.

Some frameworks and plans already exist, and several are outlined below. We want to understand what the built environment sector thinks is important. What could we adopt? What would best practice look like in the New Zealand context?

Frameworks, goals and pathways

Kunming-Montreal Global Biodiversity Framework

In 2022, New Zealand joined nearly 200 parties in adopting the Kunming-Montreal Global Biodiversity Framework⁶⁸. It is an international commitment that aims to reverse biodiversity loss, restore ecosystems and protect the rights of Indigenous peoples by 2050. It establishes 23 targets that must be met by 2030 with an overarching goal to ‘halt and reverse nature loss by 2030 on a 2020 baseline, and achieve full recovery by 2050’.

UN Sustainable Development Goals

The 2030 Agenda for Sustainable Development Goals was adopted by all United Nations Members in 2015. There are 17 Sustainable Development Goals (SDGs)⁶⁹ which aim to end issues surrounding poverty, peace, and climate change. The goals that directly relate to nature and the built environment include:

Goal 11: Sustainable Cities and Communities

Goal 12: Responsible Consumption and Production

Goal 14: Life below Water

Goal 15: Life on Land

⁶⁸ <https://www.cbd.int/article/cop15-final-text-kunming-montreal-gbf-221222>

⁶⁹ <https://sdgs.un.org/goals>

Te Mana o Taiao, the Aotearoa New Zealand Biodiversity Strategy

New Zealand's biodiversity objectives are guided by Te Mana o Taiao, the Aotearoa New Zealand Biodiversity Strategy⁷⁰, which outlines ambitious goals to protect and restore the nation's unique ecosystems and native species.

GBCA's Nature positive roadmap for the built environment

After several years of consultation and development, GBCA has worked with stakeholders from across industry, academia and the community to develop the Nature positive roadmap for the built environment: Trajectories for new developments⁷¹. The Roadmap details a framework for action based around five principles and sets a series of targets for today and out to 2050 and beyond. While the Roadmap has been developed for Australia, there may be many elements that would be useful and appropriate in New Zealand. An outline is provided below and more information is available on the [Nature positive roadmap website](#) and in previous discussion papers and draft roadmaps available on the [GBCA website](#).

The five principles are:

1. Prevent nature loss

This principle sets a pathway from today's planning controls to full protection of valuable natural systems onsite by 2050.

2. Increase and connect nature

This principle sets a clear pathway from minimising impacts today to achieving at least a 10% biodiversity net gain (BNG) by 2035, with a strong emphasis on onsite gains and ecological connectivity.

3. Drive circularity

This principle outlines a shift from waste minimisation today to a measurable increase in circularity across both the sector and individual projects by 2050.

4. Choose low-impact materials

This principle focuses on shifting material choices and supply chains toward ethical, traceable, and nature regenerative outcomes

5. Invest in nature

This principle sets a path from baseline investment to consistent, outcome-driven restoration funding.

⁷⁰ <https://www.doc.govt.nz/globalassets/documents/conservation/biodiversity/anzbs-2020.pdf>

⁷¹ <https://new.gbca.org.au/green-star/green-star-strategy/building-nature/>

These are supported by system-wide enablers:

Embed culture and connection to Country

Aboriginal and Torres Strait Islander peoples possess a deep connection with Country, a term transcending physical land to encompass spiritual, cultural, and emotional ties.

Strengthen data, metrics and decision-making

Standardised, credible, decision-useful data underpins global standards that enable companies and financial institutions to report and act on nature-related risks and opportunities⁷².

Build industry capability

Nature-positive outcomes require new ways of thinking and working across the built environment. Designers, planners, engineers, developers and suppliers all play a role in integrating nature into projects and decision-making.

Nature positive roadmap – summary of the targets:



The Aotearoa Circle's Natural Infrastructure Plan

The Aotearoa Circle has developed the Natural Infrastructure Plan⁷³ through a coalition of more than 200 contributors. It provides practical actions framed against five objectives, from clear policy levers for government to significant opportunities for business, leadership and investment.

While the Natural Infrastructure Plan covers a spectrum of opportunities across the economy, as well as across the landscape and seascape, it has specific opportunities for improving the resilience of our urban areas. In particular, the opportunities in using natural infrastructure lie in the potential to unlock constrained land for

⁷² <https://tnfd.global/wp-content/uploads/2023/07/TNFD-Data-Discussion-Mar22-Up-June22-V2-1.pdf?v=1690527774>

⁷³ <https://www.theaotearoacircle.nz/focus-areas/natural-capital-restoration/natural-infrastructure-plan>

housing, improve the quality and attractiveness of urban places, strengthen supply chains, and reduce the cost and consequences of natural hazards⁷⁴.

The plan details a set of seven long-term desired outcomes with key actions to achieve these. While some will be largely government-led, there are clear opportunities for built environment sector leaders to play their role and benefit from planning for, and investing in, better outcomes for natural infrastructure. Built environment sector actions could include:

- Investing in natural capital
- Participating in the nature credit market
- Natural capital accounting
- Supporting supply chains and research & development
- Establishing credible third-party verification systems for natural infrastructure investments
- Growing collective understanding of value and opportunities.

Next steps

The purpose of this discussion paper is not to present a finished roadmap but to begin a conversation about what building with nature could mean for New Zealand and what role NZGBC can play in supporting industry to achieve it.

We invite you to share your views through the accompanying survey released with this discussion paper.

⁷⁴ <https://www.theaotearoacircle.nz/focus-areas/natural-capital-restoration/natural-infrastructure-plan>

Glossary of key terms

- **Biodiversity** - the variety of life forms that make up our natural world including animals, plants, fungi and microorganisms. In an ecosystem, each of these species and organisms work together to maintain balance and support life.
- **Biophilic design** - the intentional integration of natural elements and patterns into built spaces to enhance human health and well-being.
- **Built environment** - the human-made surroundings that provide the setting for human activity. It includes buildings, neighbourhoods and cities, and supporting infrastructure such as roads and utility networks.
- **Kaitiakitanga** - Guardianship, protection, stewardship. It is a way of managing the environment, based on the Māori world view.
- **Nature** - can be described as 'all living entities and their interactions with other living or nonliving physical entities and processes, including biodiversity, land, freshwater, oceans, and climate. It comprises biotic (living) and abiotic (non-living) aspects which interact and depend on each other as a functional unit to create ecosystems where life can flourish.
- **Nature positive** - a global societal goal defined as 'halt and reverse nature loss by 2030 on a 2020 baseline, and achieve full recovery by 2050', in line with the mission of the Kunming-Montreal Global Biodiversity Framework. It means ensuring there is more nature in the world in 2030 than in 2020 and continued recovery after that.
- **Nature-based solutions** - actions to protect, sustainably manage, and restore natural and modified ecosystems that address societal challenges effectively and adaptively, simultaneously benefiting people and nature.
- **Natural infrastructure** - fixed, long-lived natural assets and natural capital that facilitate the production of goods and services. Natural infrastructure enables vital services that drive a productive economy, safeguards communities, helps achieve broader environmental goals, and supports our wellbeing.
- **Ōhanga āmiomio** - Circular economy, an economic model where materials never become waste and nature is regenerated.
- **Te Ao Māori** - A diverse and dynamic worldview that includes language, customs and a range of perspectives and interpretations within Māori communities.
- **Te Taiao** - The natural world that contains and surrounds us. The land, water, climate and living beings. It refers to the interconnection of people and nature.