

An aerial photograph of a winding asphalt road through a dense, green forest. The road curves from the top left towards the bottom left. The surrounding area is filled with trees and some patches of grass. The lighting suggests it might be late afternoon or early morning, with soft shadows.

JASMAX

Climate Change Disclosure Report FY22

Prepared in accordance with the
recommendations of the Taskforce on
Climate-related Financial Disclosures
(TCFD)

Governance

TCFD Requirements

Describe the Board's oversight of climate-related risks and opportunities.

Describe management's role in assessing and managing climate-related risks and opportunities.

The Jasmx Manifesto states our aim “to produce work which is mutually beneficial to society and the environment”. This shapes our approach to managing climate-related risks and opportunities.

The Jasmx Executive Board is responsible for overseeing the management of risk including those related to climate change. The Board meets on a monthly basis and Jasmx's risk matrix and risk bow-tie are included in the management pack which forms part of the pre-read for that meeting. The Board schedule includes an annual formal review of the risk matrix and risk bow-tie to reflect material changes.

The Board is supported in the above by the Jasmx Knowledge and Innovation team (K&I). K&I are specialists in net zero carbon building design, building systems and products, and regenerative design.



Case Study: Jasmx has been an early adopter of climate-related design principles

Te Kura Whare provides the centre of governance and meeting place for Ngāi Tūhoe in Taneatua, near Whakatane. Designed by Jasmx, and completed in 2014, it was one of only 15 certified Living Buildings in the world at the time of certification and is Aotearoa New Zealand's most advanced sustainable building.

Risk Management

TCFD Requirements

Describe the organisation's processes for identifying and assessing climate-related risks.

Describe the organisation's processes for managing climate-related risks.

Describe how processes for identifying, assessing, and managing climate-related risks are integrated into the organisation's overall risk management.

The New Zealand Building Code requires the lifespan for new buildings to be 50 years. We note the urgency necessary to address climate change as established in the 2015 Paris Climate Accord and endorsed in industry leading advice from the Royal Institute of British Architects (RIBA).

Specifically, we agree with RIBA that the climate risk arising from the building sector must be addressed by 2030, to meet the 2050 target of net zero carbon and that the time to act is now. For this reason, we identify the risk to the climate arising from our design activities as more or less immediate. We note legislative changes are also proposed to be implemented within a two-four year horizon.

The above fits with Jasmax's overall approach to risk, concentrating on a three year horizon. Jasmax categorises risks, including climate change related risks, as "not likely", "possible but not probable" and "probable" over the timeframe.

It also categorises risk by size of net income impact on Jasmax as "low < 250k", "medium 250k < 1,000k", and large "> 1,000k".

Risks are reviewed on an annual basis to ensure they reflect material changes in our knowledge, business strategy and operating environment.



Strategy

TCFD Requirements

Describe the climate-related risks and opportunities the organisation has identified over the short, medium, and long term.

Describe the impact of climate-related risks and opportunities on the organisation's businesses, strategy, and financial planning.

Describe the resilience of the organisation's strategy, taking into consideration different climate-related scenarios, including a 2°C or lower scenario.

The impacts of climate change on the Aotearoa New Zealand built environment will be significant over time. Currently, the Executive Board has identified the following climate-related risks.

Transition Risks

- More restrictive government policy settings including building height, building products, zoning etc.
- Carbon tariffs on imported building products.
- Changes to the building code resulting in increased compliance costs and design constraints including maximum height, carbon assessment, reuse and recycling of all build materials at the end of building life.
- A move from new-build to adaptive reuse. Adaptive reuse refers to reuse and refurbishment of an existing building using its foundation and structure to give it a new lease of life instead of a complete demolish to build new.
- Design for longer life, beyond the typical legislated 50 year life span for buildings in Aotearoa New Zealand.
- Limitations on our design solutions due to supply chain, capacity, and skills shortage issues as the industry gears up to new technologies and materials.
- Increased insurance costs. Potential for some areas to become uninsurable.

Physical Risks

- More onerous building standards due to increased temperatures and the risk of extreme adverse weather events.
- Rising sea levels leading to retreat and re-configuration of existing cities.

We see equal **opportunity** in the above risks and as an organisation have strong resilience in the face of those risks, particularly in leveraging our knowledge and expertise in adaptive reuse of existing buildings, regenerative and low carbon design, and transport oriented development. Opportunities include:

- Public transport oriented and regenerative city development.
- Design for a net zero carbon footprint of new build and adaptive reuse projects.
- Design for circular economy, including end-of-life deconstruction of buildings to reuse, recover, and recycle materials and products.
- Assist clients with Post Occupancy Evaluation to establish strategies to fine-tune their buildings for optimal energy use and efficiency.

Metrics & Targets

TCFD Requirements

Disclose the metrics used by the organisation to assess climate-related risks and opportunities in line with its strategy and risk management process.

Disclose Scope 1, Scope 2, and, if appropriate, Scope 3 greenhouse gas (GHG) emissions, and related risks.

Describe the targets used by the organisation to manage climate-related risks and opportunities and performance against targets.

Jasmax has an ISO 14001 certified environmental management system (EMS). We use the EMS to manage our environmental impacts through an annual reduction plan, taking action, measuring the change and incorporating the data into the next year's plan. As part of our EMS, Jasmax's carbon footprint is expressed in tonnes of CO₂e for emission sources including:

- Energy use in kWh per FTE and per m²
- Waste to landfill in kg per FTE
- Business travel.

The Jasmax EMS also measures the number of project sustainability reviews completed during the design stage (an audited gate in our Project Quality Framework).

2021/22 Emissions

Scope 1-3 – Excluding use of sold products

In the 2021-22 financial year (finishing March), Jasmax's emissions, as verified by Toitū Envirocare, were:

| | |
|---------|--|
| Scope 1 | 0.0 tCO ₂ e* |
| Scope 2 | 44.46 tCO ₂ e Mainly electricity usage |
| Scope 3 | 106.13 tCO ₂ e Mainly business travel |
| Total | 150.60 tCO ₂ e |

*tCO₂e = tonnes of CO₂ equivalent

Jasmax has committed to managing, reducing and offsetting Scope 1-3 emissions. Jasmax will be CarbonZero certified with Toitū Envirocare through offsetting the above total of 150.60 tCO₂e with a combination of Aotearoa New Zealand native forest regeneration and reputable international credits with both immediate social and environmental benefit. Jasmax will aim to pre-purchase Aotearoa New Zealand credits to get to 50/50 for the next reporting period.

Scope 3 – Use of sold products

Part of the full Scope 3 definition is “use of sold products”. We believe both embodied carbon and operational carbon of the buildings we design fall under this scope. While we do not report these under the Scope 3 number above, and while we do not measure these currently for all buildings we design, we have set ourselves ambitious targets to reach net zero carbon design by 2030.

The building sector is currently responsible for around 20% of Aotearoa New Zealand's carbon emissions. For the building sector to get to net zero emissions by 2050, new buildings need to be at net zero emissions by 2030.

Industry bodies around the world are developing targets to reduce carbon emissions. The Royal Institute of British Architects (RIBA) Sustainable Outcomes Guide has set targets to reach net zero carbon design by 2030. Jasmax has reviewed these targets against Aotearoa New Zealand conditions, and set targets that meet or exceed them.

We know large amounts of embodied carbon are emitted before buildings are occupied and this is contributing to the climate emergency now. Reducing embodied carbon is proving more significant than operational carbon in Aotearoa New Zealand. With our long history of developing sustainable, low energy buildings, we are very close to achieving 2030 carbon targets. Current Jasmax projects have achieved the 2030 target for net zero embodied carbon and are close to achieving net zero operational carbon and energy. Refer case study example at end of report.

Jasmax Targets for Net Zero Buildings by 2030

| Metrics | Aotearoa NZ New Building Average | 2025 Target Average | 2030 Target Average |
|---|----------------------------------|---------------------|---------------------|
| Operational Energy kW.hr/m ² /year Annual LCA Module B6 | 100 | 60 | 55 |
| Operational Carbon *Estimated kgCO ₂ e/m ² 50 Year Life cycle LCA Modules B6 & B7 | 900 | 540 | 450 |
| Embodied Carbon kgCO ₂ e/m ² 50 Year Life cycle LCA Modules A, B1-B4, C, D | 950 | 570 | 475 |

Refer Jasmax website for details.

2022/23 Targets

Scope 1-3 – Excluding use of sold products

For the 2022-23 financial year (finishing March), Jasmax set the following emissions targets:

| | |
|---------|--|
| Scope 1 | 0.0 tCO ₂ e |
| Scope 2 | 42.24 tCO ₂ e Mainly electricity usage |
| Scope 3 | 100.82 tCO ₂ e Mainly business travel |

Scope 3 – Use of sold products

| | |
|---------|---|
| Scope 3 | <ul style="list-style-type: none"> – 4-5 Jasmax sponsored eTool (or equivalent) building reviews – 4-5 additional client sponsored eTool (or equivalent) building reviews |
| Total | 143.07 tCO ₂ e |

Jasmax is committed to continued CarbonZero certification with Toitū Envirocare and will offset our actual emissions for the 2022-2023 financial year once the measurement and audit is complete.



Case Study: A1 Building

A1 meets the Jasmx 2030 target for Embodied Carbon through a combination of adaptive reuse and an innovative post tensioned timber structural system which can be dismantled, and the components reused at the end of the building's life.

Operational carbon targets* will also be met through building tuning over its first years of operation.

- A dramatic 4-storey mass timber atrium connects a new 5000m² 4-storey engineered timber building to an upgraded and adapted existing 4-storey 5000m² steel and concrete structure. This results in low embodied carbon.
- Exterior glazing is oriented to the south and east to minimise the solar heat load on the new building. This results in ultra low energy demand for cooling.

Carbon Data for A1 Building

| Metrics | AUT A1 Building | 2030 Target Average |
|--|-----------------|---------------------|
| Operational Carbon* kgCO ₂ e/m ² 50 Year Life cycle; LCA Modules B6 & B7 | 490* | 450 |
| Embodied Carbon kgCO ₂ e/m ² 50 Year Life cycle; LCA Modules A, B1-B4, C, D | 448 | 475 |

*A1 will meet its 2030 net zero operational carbon target of 420 kgCO₂/m² through building tuning over its first years of operation.

Ngā mihi

JASMAX

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Report FY22

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