

An aerial photograph showing a winding asphalt road that curves through a dense, green forest. The road is light-colored and stands out against the darker green of the trees. The forest appears to be a mix of deciduous and coniferous trees. In the lower right, a small paved area and a road junction are visible.

**JASMAX**

# Climate Change Disclosure Report FY21

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

# Governance

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## TCFD Requirements

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

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

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The Jasmox 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 Jasmox Executive Board is responsible for overseeing the management of risk including those related to climate change. The Board meets on a monthly basis and Jasmox'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 Jasmox 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: Jasmox have been early adopters 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 Jasmox, and completed in 2014, it is one of only 15 certified Living Buildings in the world at the time of certification and is New Zealand's most advanced sustainable building.

# Risk Management

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## TCFD Requirements

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

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

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

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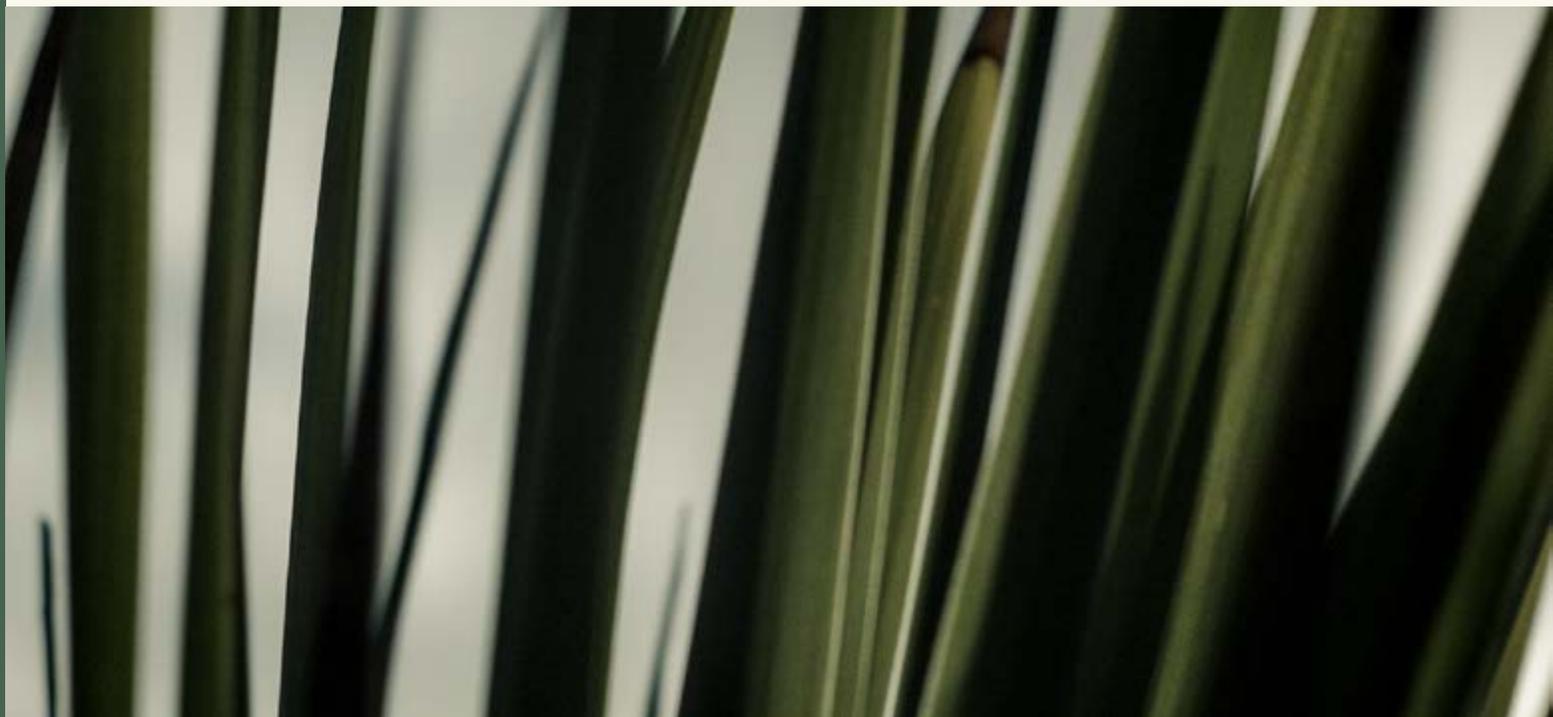
The New Zealand Building Code requires the lifespan for new buildings to be 50 years. We note the urgency necessary to address climate change as established in the 2015 Paris Climate Accord and endorsed in industry leading advice from the Royal Institute of British Architecture (RIBA).

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 2-4 year horizon.

The above fits with Jasmax's overall approach to risk, concentrating on a 3 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

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## TCFD Requirements

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

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

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

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The impacts of climate change on the New Zealand built environment will be significant over time. Currently, the Executive Board have 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 strong move from new-build to adaptive re-use. (Adaptive re-use refers to re-use and refurbishment of an existing building using its foundation and structure giving it a new lease of life instead of a complete demolish to build new.)
- Design for 150-200 year life span instead of 50-60 year life span.
- 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 re-use of existing buildings, regenerative and low carbon design, and transport oriented development;

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

# 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 carbon footprint is expressed in tonnes of CO<sub>2</sub>e, including:

- Energy use in kWh per FTE and per m<sup>2</sup>
- 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)

## 2020/21 Emissions

### Scope 1-3 – Excluding use of sold products

In the 2020-21 financial year (finishing March), Jasmax's emissions, as verified by Toitū Envirocare, were:

Scope 1	0.0 tCO <sub>2</sub> e*
Scope 2	43.7 tCO <sub>2</sub> e Mainly electricity usage
Scope 3	78.9 tCO <sub>2</sub> e Mainly business travel

\*tCO<sub>2</sub>e = tonnes of CO<sub>2</sub> 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 104.0 tCO<sub>2</sub>e with a combination of New Zealand native forest regeneration and reputable international credits with both immediate social benefit and environmental impact. Jasmax will aim to pre-purchase NZ 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 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 Architecture Sustainable Outcomes Guide has set targets to reach net zero carbon design by 2030.

Jasmax has reviewed these targets against NZ conditions, and even though the embodied carbon target is harder to achieve in NZ, Jasmax have adopted the RIBA's ambitious 2030 targets.

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 New Zealand. With our long history of developing sustainable, low energy buildings, we are very close to achieving 2030 carbon targets. Three current Jasmax projects have achieved the 2030 target for net zero embodied carbon and are close to achieving net zero operational carbon and energy.

## Jasmax Targets for Net Zero Buildings by 2030

Metrics	New NZ Building Average	2025 Target Average	2030 Target Average
<b>Operational Energy (Annual)</b> kW.hr/m <sup>2</sup> /year LCA Module B6	180	60	55
<b>Operational Carbon</b> *Estimated kgCO <sub>2</sub> e/m <sup>2</sup> 60 Year Life cycle; LCA Modules B6 & B7	3580	600	500
<b>Embodied Carbon</b> kgCO <sub>2</sub> e/m <sup>2</sup> 60 Year Life cycle; LCA Modules A, B1-B4, C, D	980	600	500

Assessed against international average for new buildings with data supplied by eTool.  
Targets per RIBA Sustainable Outcomes Guide.

## 2021/22 Targets

### Scope 1-3 – Excluding use of sold products

In the 2021-22 financial year (finishing March), Jasmax set the following emissions targets:

Scope 1	0.0 tCO <sub>2</sub> e
Scope 2	45.0 tCO <sub>2</sub> e Mainly electricity usage
Scope 3	82.0 tCO <sub>2</sub> e Mainly business travel

### Scope 3 – Use of sold products

Scope 3	<ul style="list-style-type: none"> <li>– 4-5 Jasmax sponsored eTool (or equivalent) building reviews</li> <li>– 4-5 additional client sponsored eTool (or equivalent) building reviews</li> </ul>
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Jasmax are committed to continued CarbonZero certification with Toitū Envirocare and will offset our actual emissions for the 2021-2022 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. A dramatic 4 storey timber atrium connects a new 5000m<sup>2</sup> 4 storey engineered timber building to an upgraded and adapted existing 4 storey 5000m<sup>2</sup> steel and concrete structure.

- 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.
- A1 will meet its net zero operational carbon target of 500 kgCO<sub>2</sub>/m<sup>2</sup> through building tuning over its first years of operation.

## Carbon Data for A1 Building

Metrics	AUT A1 Building	2030 Target Average
Operational Carbon* kgCO <sub>2</sub> e/m <sup>2</sup>	550	500
60 Year Life cycle; LCA Modules B6 & B7		
Embodied Carbon kgCO <sub>2</sub> e/m <sup>2</sup>	482	500
60 Year Life cycle; LCA Modules A, B1-B4, C, D		

\*Estimated

Assessed against international average for new buildings with data supplied by eTool. Targets per RIBA Sustainable Outcomes Guide.

# Ngā mihi

**JASMAX**

Climate Change Disclosure  
Report FY21

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