

Sustainable Finance Impact Report

2022/23



About this report

The Kāinga Ora Sustainable Finance Impact Report 2022/23 is for the year ended 30 June 2023.

The purpose of this report is to provide transparency to bondholders and other stakeholders on how our bond proceeds are used and the impacts they are having, in line with the requirements for green, social, and sustainability bonds established by the International Capital Markets Association (ICMA).

This document should be read in conjunction with the [Kāinga Ora Sustainable Finance Framework](#), which outlines our approach to sustainable finance in further detail.

This report, and supporting framework, are only available in electronic format on the [Kāinga Ora Investor Centre](#).

Contents

Section 1 – Summary

Foreword	01
At a glance	02

Section 2 – Sustainable Finance Framework

Framework summary	04
Eligible categories	05

Section 3 – Wellbeing Bond programme

Wellbeing Bonds	07
Issuance table	08

Section 4 – Allocation of proceeds

Allocation summary	10
Portfolio and category allocation	11

Section 5 – Sustainable outcomes

Affordable housing	13
Green buildings	18

Section 6 – External review

Sustainalytics annual review	23
------------------------------	----

Foreword



Gareth Stiven

General Manager – Strategy,
Finance and Policy

Tēnā koutou

In 2018 Kāinga Ora commenced a successful Wellbeing Bond programme, gaining access to a new and important source of financing. Building warm, dry public and supported homes for New Zealanders is a capital-intensive investment that pays back over the long term, both directly through people homed, but also through other means, such as health outcomes.

This approach provided flexibility and the ability to access the appropriate level of financing at the right time to kick-start our build programme and to deliver more homes at scale and pace. Wellbeing Bonds directly contributed to close to 10,000 new public and supported homes being delivered from the inception of the programme to the start of 2023.

The Wellbeing Bond programme gave investors access to contribute to improving New Zealander's lives, while giving Kāinga Ora access to the much-

needed capital to deliver new public housing, the of retrofitting existing homes, and developing new neighbourhoods. It also enabled innovation such as building to minimum green building standards, which now sets the standard for green financing in New Zealand.

Over five years, a total \$7.6 billion of Wellbeing Bonds were issued, making Kāinga Ora the leading sustainability issuer in New Zealand. Our mahi has been recognised by our market peers, investors and participants in gaining a number of awards, including KangaNews issuer of the year four years running.

While Kāinga Ora has made tremendous progress in transforming the sector and building new homes, there is still more to be done and significant investment required over coming years. Under this context, the Wellbeing Bond programme ceased from November 2022, with Kāinga Ora financing now met centrally by the New Zealand Government. This provides greater certainty of financing for Kāinga Ora and allows us to focus on delivering the necessary homes in a timely manner, and a continuation of our wellbeing and sustainability outcomes. It is fitting that groundbreaking and innovative projects like the Te Mātāwai development (Greys Avenue) that featured in our inaugural Impact Report reached delivery alongside the Wellbeing Bond programme's completion.

We thank and acknowledge all investors and market participants that have supported Kāinga Ora in its journey. The partnerships formed have made a real and meaningful difference to the wellbeing of New Zealanders. ■

FY2022/23 at a glance

Proceeds raised and remaining for allocation – \$1.52 billion



AFFORDABLE HOUSING

+5,553
people housed



SOCIOECONOMIC ADVANCEMENT

58
apprenticeships
started



GREEN BUILDINGS

+275
homes delivered
to minimum
6 Homestar rating



POLLUTION PREVENTION

84%
waste diversion
percentage
(Auckland Region)

Outcomes represent allocation to Wellbeing Bond proceeds only.

Impact presents period covering Use of Proceeds being fully allocated as at January 2023.

Homes delivered represents the number of units that have completed the certification process, and subject to revision.

Sustainable Finance Framework

Every day, Kāinga Ora works to provide public housing and contribute to the wellbeing of more than 185,000 customers living in Kāinga Ora homes. We provide our customers with warm, dry and safe homes, but we also work with our customers to help them live well in our homes, with dignity and stability, in connected communities.

The Kāinga Ora–Homes and Communities Act 2019 outlines the two key roles for our organisation:

Being a world-class public housing landlord

Partnering with the development community, Māori, local and central government and others on urban development projects


Our success in those roles can be defined by our six outcomes:

 Customer wellbeing

 Thriving communities

 Environmental wellbeing

 Housing access

 System transformation

 Māori aspirations

Framework summary

In order to achieve our six outcomes, Kainga Ora has raised Wellbeing Bonds to fund eligible portfolios of sustainable activities, focused on delivering housing and urban development projects.

Wellbeing Bonds are a use-of-proceeds instrument that falls under the Kāinga Ora Sustainable Finance Framework. The Framework aligns with the International Capital Market Association (ICMA) Green and Social Bond Principles and Sustainability Bond Guidelines, the New Zealand Treasury Living Standards Framework (LSF) and the Government’s commitment to the United Nations Paris Agreement and Sustainable Development Goals (SDGs).

Each Wellbeing Bond issued aligns with five core components as set out in the Framework:









1. Use of proceeds
2. Project evaluation and selection
3. Management of proceeds
4. Reporting
5. External review



Eligible categories

In order for a portfolio to be eligible, it must contribute to at least one of the ICMA Sustainability Bond Guidelines eligible categories. At 30 June 2023, the categories relevant for Kāinga Ora include:

Kāinga Ora Sustainable Finance Framework eligible categories:

SBG eligible categories	SDG alignment	SDG target	LSF alignment
 Affordable housing Social		Target 11.1 By 2030, ensure access for all to adequate, safe and affordable housing and basic services	<ul style="list-style-type: none"> • Financial and physical capital • Social cohesion
 Socioeconomic advancement and empowerment Social		Target 10.2 By 2030, empower and promote the social, economic and political inclusion of all	<ul style="list-style-type: none"> • Human capability • Social cohesion
 Green buildings Green		Target 7.3 By 2030, double the global rate of improvement in energy efficiency	<ul style="list-style-type: none"> • Financial and physical capital • Social cohesion
 Pollution prevention and control Green		Target 12.5 By 2030, substantially reduce waste generation through prevention, reduction, recycling and reuse	<ul style="list-style-type: none"> • Human capability • Social cohesion

Further information on the Framework can be found on [our website](#).

Wellbeing Bond programme



Wellbeing Bonds

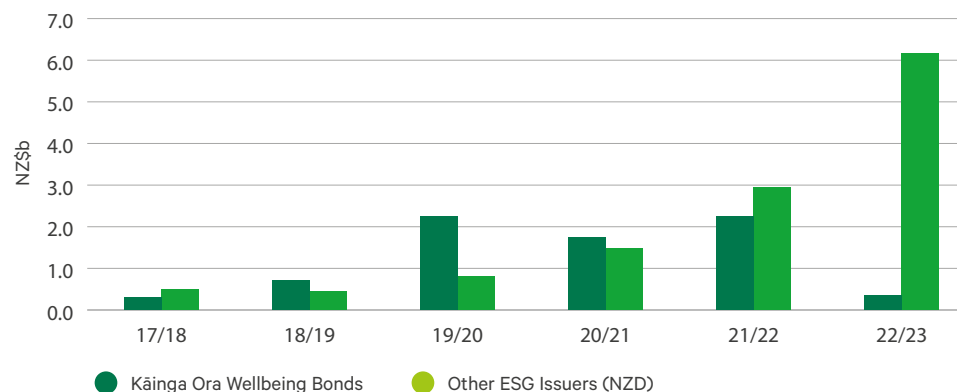
Issuance summary

Kāinga Ora issued \$350 million of Wellbeing Bonds in FY2022/23, increasing the supply of Wellbeing Bonds in the market to \$7.6 billion at the conclusion of the programme.

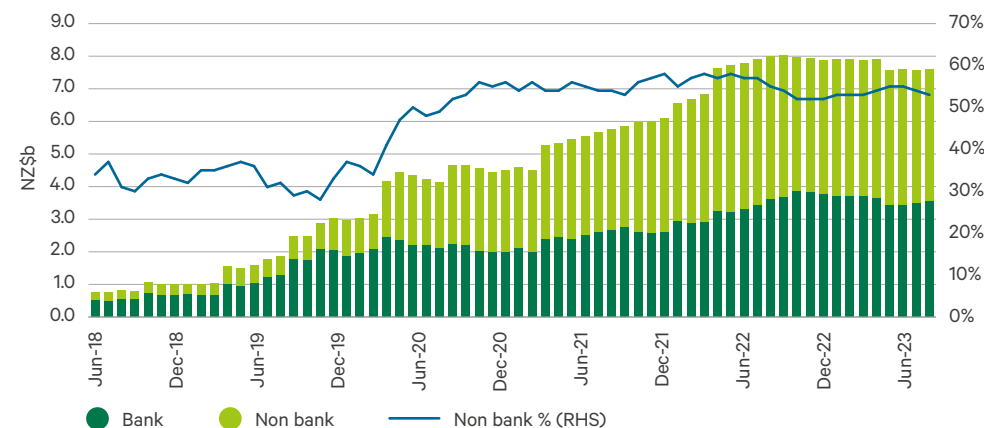
Over a shortened period, all FY2022/23 bonds were issued as part of the monthly bond tender programme. These tenders were well supported, with an average coverage ratio of 2.9 times. This was despite a pullback in general investor sentiment during this time, with investors seeking shorter maturities given both rate risk and inflation backdrop. Kāinga Ora responded to this demand by offering the 2025 line at each tender. Since its inception late 2020, twenty monthly tenders contributed to \$1.99 billion of total outstanding issuance (25%). All tenders were successfully covered with an average coverage ratio of 2.7 times.

No syndicated transactions were undertaken during FY2022/23, however total syndicated issuance represented 75% of all financing raised. Kāinga Ora exit the market with strong support from both bank balance sheets and real money accounts, with holdings evenly split between both. This profile has held relatively consistent over the past three-year period, as Wellbeing Bonds outstanding increased from below \$4.0 billion to \$7.6 billion. Syndicated issuances were used to establish new lines, and compelling to new/offshore real money accounts in the primary market given the credit.

Bond issuance by year – New Zealand Market (2017/18 – 2022/23)

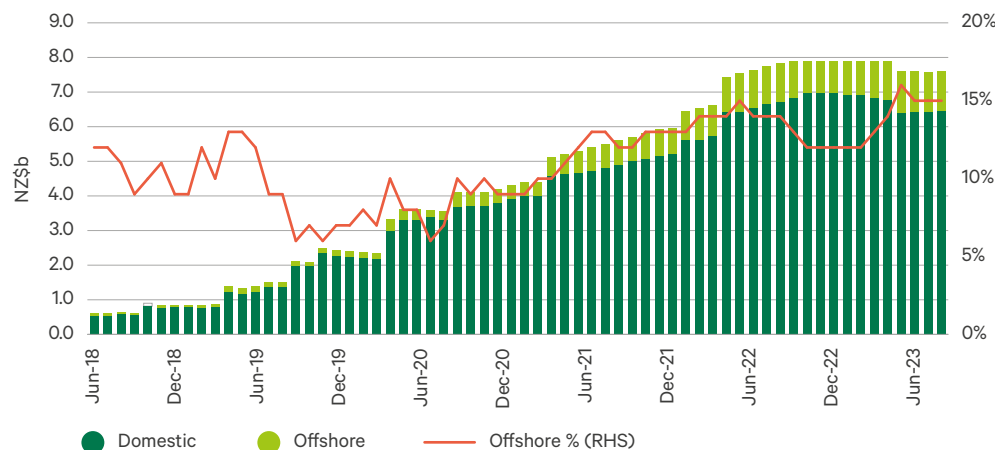


Investor holdings over time (bank vs non-bank)



Offshore investors represented around 15 percent of holdings, having gradually moved higher as liquidity developed into specific lines to a minimum NZ\$1 billion (across 4 of 6 actively issued lines). This liquidity brought much-needed new capital into the New Zealand market, also attracted by the Kāinga Ora sustainability framework/product and spread to respective NZ Government Bonds.

Domestic/offshore investor holdings over time



Issuance table

A summary table of all Wellbeing Bonds issued within FY2022/23:

Issued	Maturity	Transaction type	Volume (\$m)	Coupon	Yield	ISIN
20-Jul-22	12-Jun-25	Tender	50	3.36%	4.15%	NZHNZD0625L3
20-Jul-22	15-Oct-27	Tender	50	4.42%	4.23%	NZHNZD0008L2
24-Aug-22	12-Jun-25	Tender	50	3.36%	4.31%	NZHNZD0625L3
24-Aug-22	15-Oct-27	Tender	50	4.42%	4.34%	NZHNZD0008L2
21-Sep-22	12-Jun-25	Tender	50	3.36%	4.59%	NZHNZD0625L3
21-Sep-22	18-Oct-28	Tender	50	3.42%	4.65%	NZHNZD0628L7
19-Oct-22	12-Jun-25	Tender	50	3.36%	5.46%	NZHNZD0625L3

Term sheets are available on the [Kāinga Ora Investor Centre](#).

Allocation of proceeds



Allocation summary

**Unallocated
proceeds from last year
(FY2020/21)**

\$1.17b



**Proceeds raised
this year
(FY2022/23)**

\$0.35b



**Total proceeds
available for allocation
(FY2022/23)**

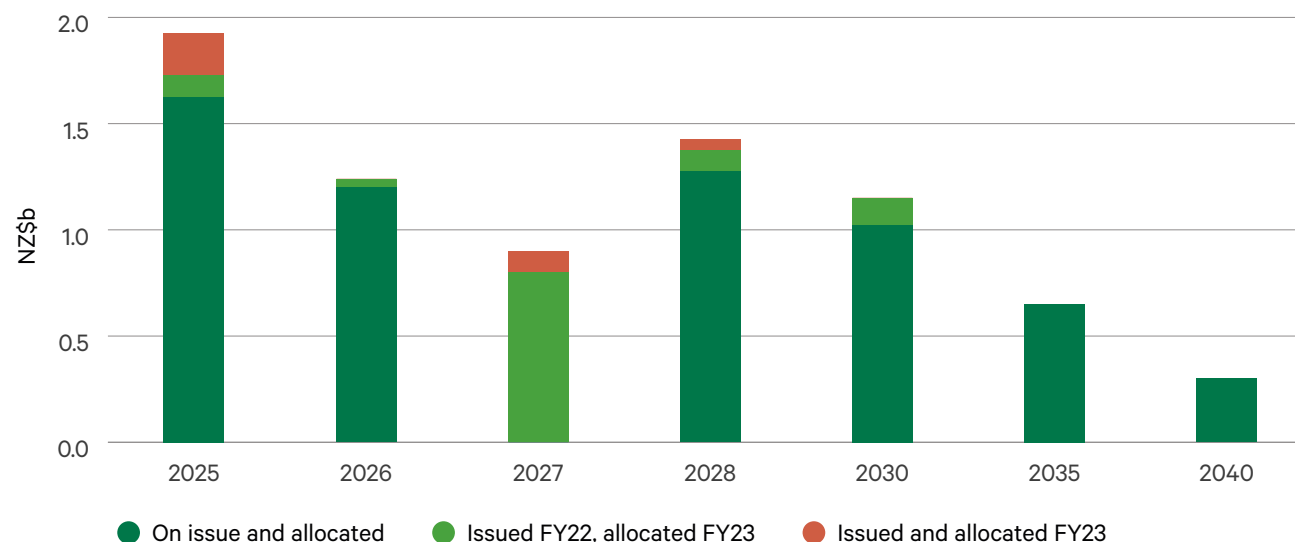
\$1.52b

A total of \$1.52 billion of proceeds were available to allocate in FY2022/23. This consisted of \$350 million of proceeds raised during the financial year and the remaining \$1.17 billion of unallocated pre-financing from FY2021/22.

Kāinga Ora was able to fully allocate all remaining and new proceeds raised under the Wellbeing Bond programme during the FY2022/23 year.

As announced in November 2022, Kāinga Ora has shifted to sourcing finance directly from the Crown via the New Zealand Debt Management function.

Wellbeing Bonds maturity profile



Portfolio and category allocation

The \$1.52 billion allocated in FY2022/23 was allocated across two of the three eligible portfolios outlined in the Framework. A complete description of the different portfolios can be found in the [Kāinga Ora Sustainable Finance Framework](#).

The cessation of issuance of Wellbeing Bonds and switch to Crown-sourced financing meant that the full allocation of remaining proceeds was completed part of the way through January 2023. The allocation for FY2022/23 was focussed on the Public and Supported housing portfolios; allocation to the Urban development and regeneration portfolio was not required.


The vast majority (\$1.45 billion, 95.6 percent) was allocated to Public housing, which primarily includes the development of new, green, public homes. This portfolio also includes retrofitting existing public homes and acquiring new housing from developers, as well as other existing homes.

\$67.2 million was allocated to Supported housing, which is focused on providing short-term housing for those in need.

Eligible portfolio	Allocation (\$b)	Allocation percentage
Public housing	1.45	95.6%
Supported housing	0.67	4.4%
Total eligible capital expenditure	1.52	

Within the total of \$1.52 billion allocated in FY2022/23, \$581.5 million (38 percent) was allocated under the Sustainability category. This category includes work across all four of our eligible categories. This spending is not easily separable to be able to allocate to any one category (see the Framework for a more complete explanation).

The remaining \$938.5 million (62 percent) was allocated solely under the Social category. More specifically, this relates to expenditure that falls only under the Affordable housing eligible category.

Category	Allocation (\$b)	Allocation percentage
Sustainability 	0.58	38%
Social 	0.94	62%

Sustainable outcomes

Measured impacts

Category	Impact	2020	2021	2022	UoP 2023 ³	Total 2023
Green buildings	Homes delivered to minimum 6 Homestar rating ¹	210	1010	838	275	808
Affordable housing	People housed	+ 13,735	+ 10,947	+ 8,767	5,553	10,505
	Supported houses added	+ 220	+ 640	+ 609	102	218
	Homes retrofitted	+ 133	+ 271	+ 288	332	751
	Mobility/accessibility modifications made	+ 181	+ 320	+ 227	69	250
Socioeconomic advancement and empowerment	Apprenticeships started	–	–	142	58	123
Pollution prevention and control	Waste diversion percentage (Auckland Region)		87%	87%	84%	86%
	Waste diversion tonnes (Auckland Region)		13,467	20,825	10,899	19,773
	Homes relocated			55	26	100
	Percentage of homes relocated ²			10%	16%	16%

1. Homes delivered represents the number of units that have completed the certification process. Figures subject to revision as the process for 6 Homestar certification can take significant time.

2. Percentage of total homes removed from redevelopment sites.

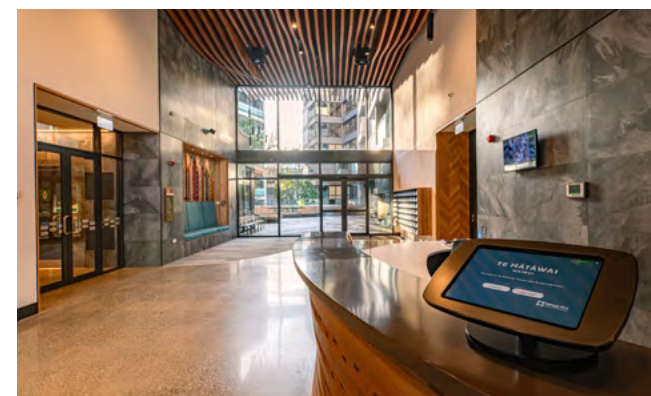
3. Impact represents period covering Use of Proceeds being fully allocated as at January 2023.

Affordable housing

Te Mātāwai (Greys Avenue)

Te Mātāwai in central Auckland is the largest single-site supported housing complex to be built in Aotearoa, bringing together a vision to provide connection, community, and well-being, all in one place – home.

Located on Auckland's iconic Greys Avenue, Te Mātāwai is an energised new village of apartments for the people of Tāmaki Makaurau. Including 276 apartments and 3000m² of shared, communal, commercial and retail spaces, the building offers opportunity for the people who live there to connect with their neighbours and local community. It is a completely new approach to public housing for Kāinga Ora that is people-focused and designed specifically to support the emotional, spiritual and cultural needs of its residents. The business case for the complex was approved in 2018 with Te Mātāwai completed by June 2023.



Te Mātāwai is a building which embraces the diversity of the different rental tenures through providing public and market rentals within the same complex. The public homes within Te Mātāwai are run under a single site supported housing model which combines permanent housing with 24/7 on-site support services. This support is provided by Kāhui Tū Kaha and is available to the 200 public housing customers within the new building as well as 50 Kāinga Ora public housing customers living next door.

Single site supported housing as a model has been successful around the world, however is new to Aotearoa, with Auckland City Mission's new home Mission HomeGround being the first building to open using this model and Te Mātāwai the second.

Te Mātāwai offers an innovative service called Hapori Kaitiaki. The Hapori Kaitiaki team is the first point of contact for the residents and visitors of Te Mātāwai. They provide 24/7 community guardianship to give a welcoming and people-centred service that support community harmony and connection in and around the complex. The mankaakitanga takes a proactive Te Ao Māori approach based on building trusted relationships and a sense of kāinga. The name Hapori Kaitiaki was gifted to the Te Mātāwai development by Ngāti Whātua Ōrākei.

Background

Te Mātāwai replaces a seven storey, 87-unit apartment block built in the 1950s. At the end of its life, the block was no longer fit for purpose and not meeting the needs of customers that needed to live in the central city. There was also a focus by Kāinga Ora and other partners to support the rough sleeping community and reduce homelessness in central Auckland.

We considered what we could change to better meet the needs of the customers we house in the city, and have a positive impact on homelessness. We researched overseas models of best practice and how to best support some of the most vulnerable Aucklanders. Single site supported housing was chosen as the most suitable model and this decision informed our approach to designing and building this new central Auckland urban village.



Te Mātāwai is a building which embraces the diversity of the different rental tenures through providing public and market rentals within the same complex.

Design

Te Mātāwai has been designed with connection in mind to provide multiple spaces and meeting points so people can socialise, get to know their neighbours and have places where they can spend time with others rather than staying in their apartment on their own.

As well as the three residential towers, the shared spaces within Te Mātāwai include:

- two social lobbies for people to socialise and interact
- Hapori Kaitiaki (community guardianship) services in each of the lobby areas
- large communal spaces for residents to share, featuring a patio area and interior spaces
- recreational, arts and shared spaces for cultural events and social occasions
- communal kitchen and dining hall
- communal laundry and computer suite
- carefully considered outdoor spaces for residents and visitors to rest, connect and relax.

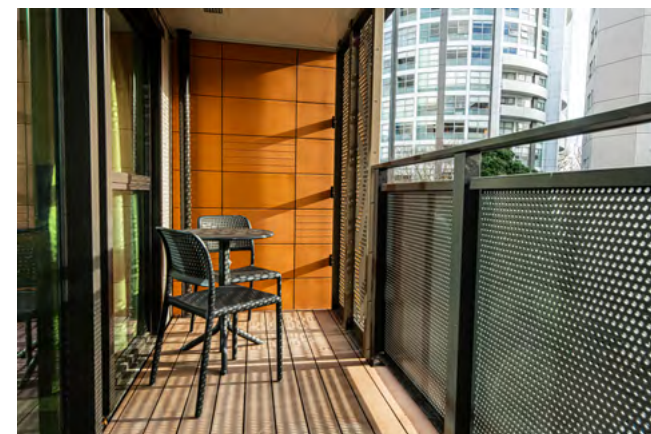
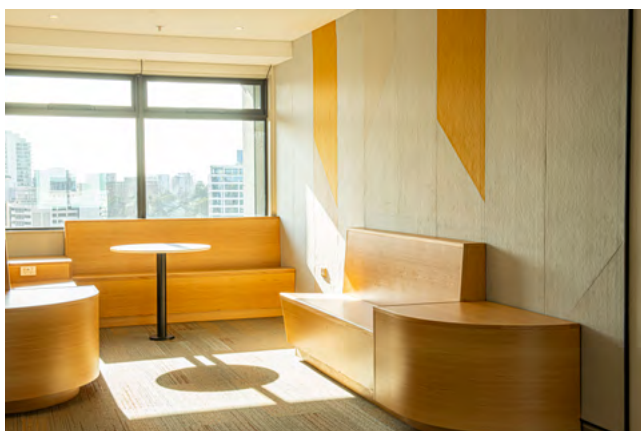
Each level of the public housing residential buildings includes a shared seating area with built in tables to encourage people who live on the same floor to mix and mingle with their neighbours even if they do not feel comfortable accessing the larger shared communal spaces.

Te Mātāwai is a 7-star Homestar rated building that ensures that the homes are warm, dry and inexpensive to heat. Around 60 percent of the units are also accessible or universally designed and have been recognised with Lifemark ratings of 3 or 4. As well as the common accessibility features such as level access, wide doors and shower rooms,

60%

of the units are also accessible or universally designed and have been recognised with Lifemark ratings of 3 or 4.

a number of the units have additional features such as benches that are able to be raised and lowered, side-opening ovens and lower shelving to allow people in wheelchairs to live independently. These accreditations recognise the changing and diverse needs of the community and allow customers to remain living in their homes as they age.



Partnerships

Ngāti Whātua Ōrākei and Kāinga Ora partnered from the very beginning of the project. Ngāti Whātua Ōrākei gifted an overarching narrative for the site which was then used as a basis to design Te Mātāwai.

Ensuring the spirit of place was woven into, throughout and beyond, Ngāti Whātua Ōrākei have had an integral role not just in the journey of the Te Mātāwai development, but in the journey of the people who will live there. The relationship is warm and strives for significant benefits for whānau.

Other partners throughout the design and operationalisation of Te Mātāwai have been critical to success for Kāinga Ora. Throughout the design process Auckland City Mission were invaluable, willingly providing time and advice and working together to build an ecosystem in central Auckland. Mission HomeGround went live the year before Te Mātāwai and again the experience, wealth of information and learnings provided by Auckland City Mission has been woven into planning and design enabling a smooth transition into operation for Te Mātāwai.

Kāinga Ora were also very lucky to have wonderful support from some overseas partners including Community Solutions who also provide single-site supportive housing across the United States. Common Ground in Brisbane also helped us develop designs for the building as well as the operating model for Te Mātāwai.

Social procurement

Kāinga Ora has an important role to play in setting an example for the wider construction industry and leading the way in terms of innovation and new approaches under the Construction Sector Accord.

Te Mātāwai was the first Kāinga Ora redevelopment to include social procurement outcomes within the build contract. These six outcomes were focused on supplier diversity, community outcomes, learning and development opportunities for workers on site apprenticeship targets, site accreditation by Mates in Construction and sustainability targets.

Supplier diversity was an important target under this contract as it supported Māori- and Pasifika-owned businesses and social enterprises to enter the supply chain and get a foothold into the construction sector. The target within the contract was for at least 5-7% of total spend going to Māori- and Pasifika-owned businesses or social enterprises. Overall, our Te Mātāwai build partner Icon achieved 9.8% which was a significant success for this contract.

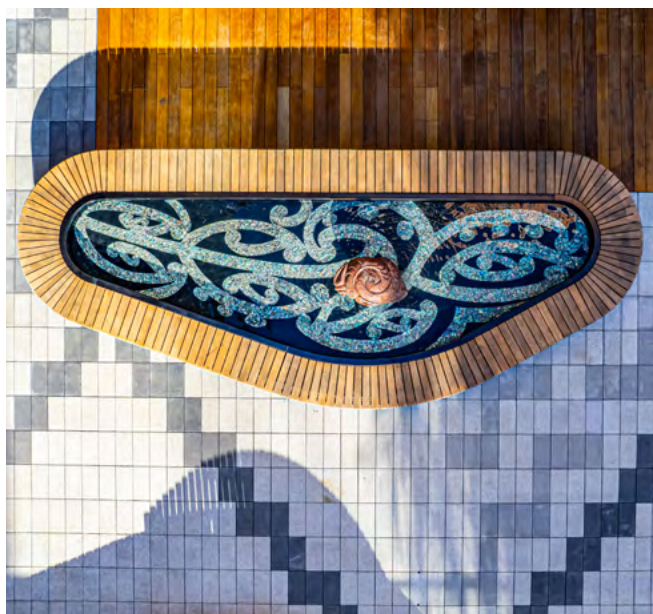
This commitment from Kāinga Ora and Icon to supplier diversity was recognised through selection as a Beacon Case Study providing information to the industry on ways to approach supplier diversity and support Māori and Pasifika businesses.

A total of 28 apprenticeships were created during the build at Te Mātāwai with one third of these apprentices being Māori or Pasifika. Two people who had been experiencing homelessness were also employed on site and eventually moved onto different roles with other organisations.

Te Mātāwai was also the first Mates in Construction accredited site for Kāinga Ora.



The gardens at Te Mātāwai have been designed to support the local biodiversity of the area including birds and insects.



Sustainability

Te Mātāwai was designed to include sustainability features. Large water retention tanks are placed under the building to enable grey water to be utilised as toilet water and watering systems for gardens.

The 7-star Homestar rating also ensures the apartments will be healthier, warmer and drier for customers and will use less power and water than a similar home.

The gardens at Te Mātāwai have been designed to support the local biodiversity of the area including birds and insects. All planting at Te Mātāwai is also native to New Zealand and plants are sourced locally with many grown by Ngāti Whātua Ōrakei at their Pourewa nursery in Ōrakei.

Due to the central location and proximity to public transport options, the decision was made to provide for extensive bike and scooter parking, rather than customer car parking. Once complete, the City Rail Link will provide stations at either end of Greys Avenue and there is regular public transport located on Greys Avenue. Many key services like health and education are within walking distance. Car sharing options are available on site and free electric bikes and scooters are also available to enable customers to move easily around the city.



The future

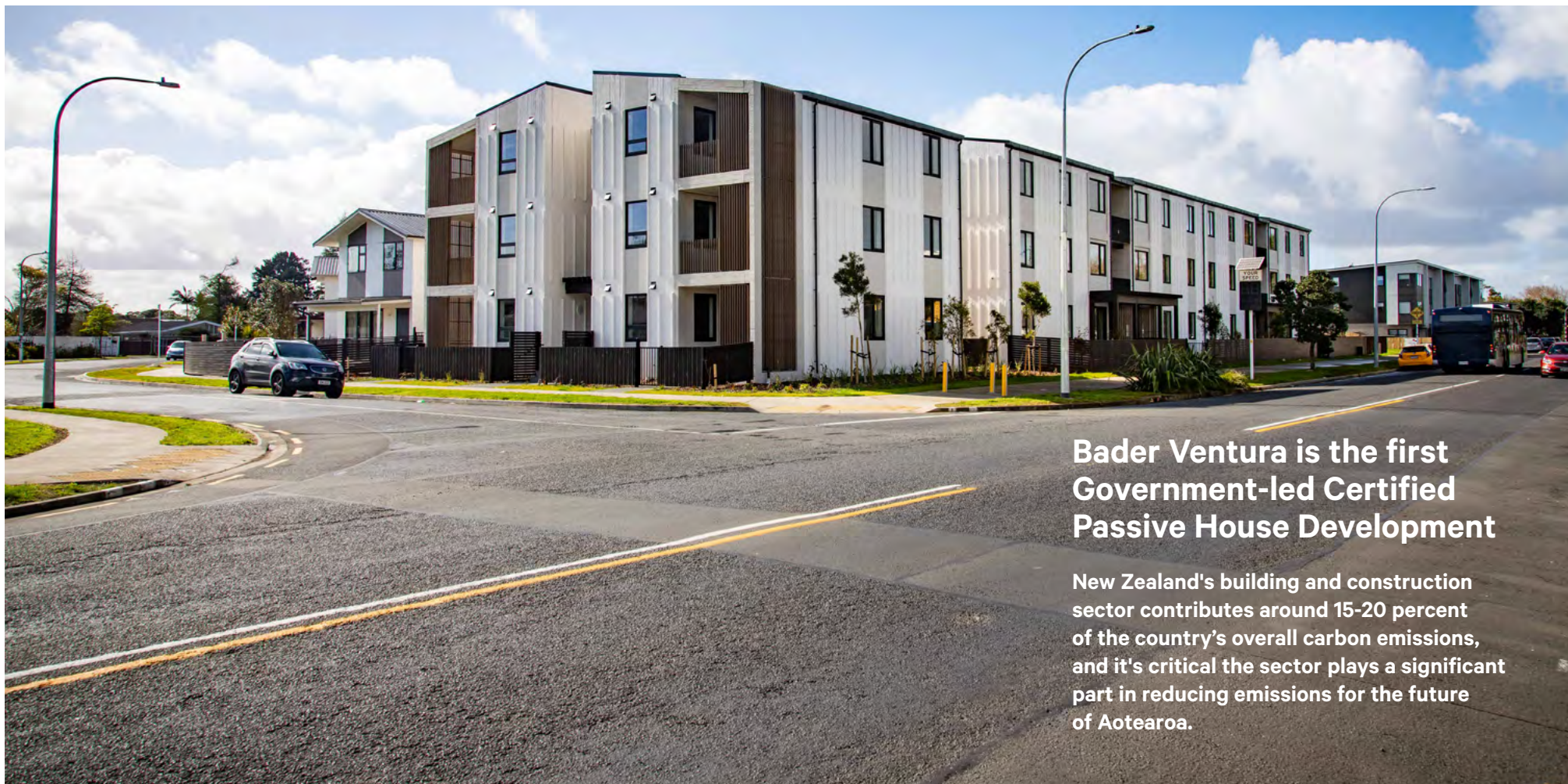
Te Mātāwai is a flagship project and has enabled Kāinga Ora to grow and develop new and innovative ways of working. Many of these innovative approaches will be used in future projects.

Te Ō, another Kāinga Ora development in Wellington is scheduled to open at the end of 2023 and will also operate under a single site supported housing model.

Learning and improving is of critical importance to understand and monitor the success of the new operating model and the many new ways of working being implanted across these homes. Both Te Mātāwai and Te Ō will be comprehensively evaluated over the next 10 years through the Kāinga Ora Research and Evaluation team and other partners.

This will provide further opportunities to refine and make improvements to the model as we learn. Assuming the new approaches are successful these approaches provide new opportunities for Kāinga Ora to improve service delivery and improve wellbeing outcomes for our customers and the communities they live in.

Green buildings



Bader Ventura is the first Government-led Certified Passive House Development

New Zealand's building and construction sector contributes around 15-20 percent of the country's overall carbon emissions, and it's critical the sector plays a significant part in reducing emissions for the future of Aotearoa.



Bader Ventura is the first Kāinga Ora project to achieve both Passive House standard and the New Zealand Green Building Council's new residential sustainability standard, Homestar v5.

As New Zealand's largest residential developer, Kāinga Ora is tackling this challenge through its Carbon Neutral Housing Programme, which has recently helped deliver the Bader Ventura Passive House development – an 18 home three level walk up apartment complex in Māngere, Auckland.

Bader Ventura is the first Kāinga Ora project to achieve both Passive House standard and the New Zealand Green Building Council's new residential sustainability standard, Homestar v5. Simply put – the homes at Bader Ventura are 18 of the best quality (warm, dry and healthy) homes in the country. Testament to its impact in the sector, the Construction Sector Accord recently awarded Bader Ventura its Supreme Beacon Award; recognising the Government's efforts to lead the way in replicable, low carbon construction that also benefits some of our country's most vulnerable.

The Passive House Standard is arguably the world's most rigorous quality assurance standard for energy efficient buildings that also deliver on comfort and quality. Homes regulate their own temperature through smart design, the use of high performing construction materials, and a ventilation system with heat recovery. For occupants, this means more affordable heating, fresh indoor air quality, and comfortable and healthy temperatures year-round. Environmentally, these are high performing homes that produce significantly less operational carbon emissions.

Bader Ventura has been a truly collaborative effort to deliver sustainability outcomes through industry leading innovation. Completed in June 2023, the design team is leading the industry by example with this project, achieving the Building for Climate Change Programme's proposed 2035 thermal demand performance cap by 2023; 12 years ahead of expectation.

The journey and inspiration

The project started in late 2019 and did not start out as an innovation project aiming to achieve the Certified Passive House Standard; instead, it was designed to typical construction. What changed was a once in a lifetime combination of:

- a global pandemic and the Auckland lockdowns of 2020 and 2021
- a special design team who all thought they could *'do something special to provide social housing customers a better home for little additional cost'*
- a minor clause in the Healthy Homes Legislation for sizing heaters, which launched the Passive House Standard from being a fringe *'this is how we do it Europe and North America'* to being a conversation on every residential construction project
- the launch of the Government's Building for Climate Change Programme to transform the construction sector into its low carbon future.

Over a three-year period, Bader Ventura went from an internally insulated 6 Homestar v4.1 design to 18 of the 88 best homes in the country – all by asking the question “*have we failed yet*” whenever, and frequently, a problem looked to doom the project.

It started with a conversation about windows, by using a specific combination of windows and concrete wall (sandwich panels), the project might be on the way to achieving Passive House standard and avoid the costly oversized heat pumps required by the new Healthy Homes Standards.

In early 2020, Kāinga Ora, had already been moving towards more sustainable building practices. This included taking a leadership position in 2019 by adopting the New Zealand Green Building Council’s 6 Homestar rating or better, for all new homes – a cornerstone of the Kāinga Ora Wellbeing Bond programme financing new builds.

This direction aligned with the Government’s Building for Climate Change Programme, bringing a sector level focus on reducing carbon emissions while delivering better-performing homes.

By late 2020, the Passive House Standard was determined as the right way to go. That collective attitude was key, and in many ways the project was striving to innovate well ahead of much of the industry which had not yet built a Passive House apartment in New Zealand.

Over a three-year period, Bader Ventura went from an internally insulated 6 Homestar v4.1 design to 18 of the 88 best homes in the country – all by asking the question “*have we failed yet*”.





Outcome and aspirations

Sustainability and accessible design:

- All six ground floor units are built to the Kāinga Ora accessibility standard called ‘full universal design’ to meet the changing needs of New Zealanders, and those with disabilities, so customers can live well and age in place.

Embodied carbon solutions:

- Low carbon concrete, using a combination of the two cement replacement materials, Neocrete’s D5 Green and Fly Ash, in the precast sandwich panel’s cladding layer. This reduced the amount of cement required in the cladding layer by 24 percent and the embodied carbon impact by 18 percent compared to standard practice.
- Beyond carbon benefits, the Neocrete D5 assisted with reducing the production time of the precast sandwich panels by mitigating the increased curing time lower carbon – fly ash concretes require e.g. reducing the time the precast spends on the moulds/beds.

Operational carbon solutions:

- Reduced operational energy carbon by more than 25 percent, and reduced space heating electricity by around 47 percent – compared to a standard 6 Homestar v4.1 home with a space heating heat pump.
- High thermal envelope (insulation combined with smarter design and construction detailing to practically eliminate heat loss weak points) and performing air tightness properties, meaning the walls and windows are well sealed to provide a high-quality thermal envelope.
- Average space heating energy use forecasted to be less than 15kWh/m²/year, which means a power bill of about \$360 versus a baseline of around \$700 per year.

Climate change adaptation – flood design:

Māngere is an area vulnerable to flooding. After assessing the risk through thorough investigations including flood paths and flood zoning, the team chose to raise the floor levels well beyond Council’s 1:100 year flood requirements by almost half a metre. In the case of an extreme weather event, the additional height will negate traffic induced any wave action.

Measuring and evaluating outcomes: benefits realisation

The intensive monitoring and evaluation programme developed provides critical insight into pre-build, build and post occupancy issues to establish benchmarks, understand the unique design and construction challenges, and inform future government initiatives (such as the Building for Climate Change Programme, joint Government/ Industry Accord, and other Building Code solutions). Both qualitative and quantitative analysis is being conducted, which will span several years. The objective is to understand and learn from the unique aspects of the build to determine whether they should be recommended for wider adoption in Kāinga Ora where proven successful.

The research is focused on answering specific questions under thematic areas such as:

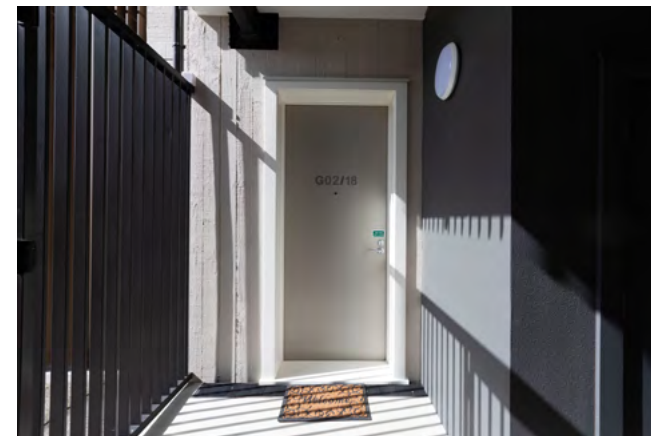
- thermal comfort
- airtightness, ventilation and indoor air quality analysis
- moisture analysis
- energy/water use
- embodied carbon
- lifecycle financial cost
- design features that are different.

To answer the questions in each theme, a world class set of building performance sensor equipment has been installed in each of the 18 homes to measure temperature, moisture, air quality (dust), electricity use and hot water consumption.

Future benefits realisation for New Zealand

Kāinga Ora has a coordinated plan of industry outreach and knowledge dissemination to maximise the benefits of the lessons learned during the design, construction and occupation of the building. This includes:

- Ongoing engagement with industry through a coordinated communications strategy.
- A dedicated Bader Ventura knowledge transfer plan with key aspects of industry outreach.
- An extensive monitoring and evaluation programme underway – capturing both qualitative and quantitative data.
- A series of events and dissemination activities already undertaken and planned over the next two years (Kāinga Ora have delivered two industry events so far, during construction and prior to the official opening of the building – with over 700 registrations of industry, government, and research experts in attendance over the two events).
- Developing a series of supporting video content (including construction time-lapse videos and coverage of the industry events).
- Kāinga Ora is working on a range of supporting information, industry journal articles, customer stories and a technical study report to inform industry and catalyse change in the sector – sharing best practice, common challenges and issues and making the case for pushing toward higher performance and better low carbon outcomes.



External review



About Sustainalytics

Sustainalytics is a leading independent environmental, social and governance research, ratings and analytics firm. It is recognised as the largest second-party opinion provider by Environmental Finance and the Climate Bonds initiative.

Engagement

Sustainalytics were engaged to provide a second-party opinion through an annual review of the Kāinga Ora Sustainable Finance Impact Report 2022/23.

Opinion

Based on the limited assurance procedures conducted, nothing has come to the attention of Sustainalytics that causes them to believe that, in all material respects, the reviewed bond projects, funded through proceeds of Kāinga Ora Wellbeing Bonds, are not in conformance with the use of proceeds and reporting criteria outlined in the Sustainable Finance Framework.

Eligibility criteria	Procedure performed	Factual findings	Error or exceptions identified
Use of proceeds criteria	Verification of the projects funded by the Wellbeing Bonds in FY2022/23 to determine if projects aligned with the use of proceeds criteria outlined in the Sustainable Finance Framework.	All projects reviewed complied with the use of proceeds criteria.	None
Reporting criteria	Verification of the projects funded by the Wellbeing Bonds in FY2022/23 to determine if the impact of projects was reported in line with the KPIs outlined in the Sustainable Finance Framework.	All projects reviewed reported on at least one KPI per use of proceeds criteria.	None

Further information

The full annual review letter can be found on the [Kāinga Ora Investor Centre](#).

