

# Sustainability Financing Impact Report

2020/21



## About this report

Kāinga Ora – Homes and Communities was established on 1 October 2019, bringing together the people, capabilities and resources of the KiwiBuild Unit, Housing New Zealand and its development subsidiary HLC into a new Crown entity.

The Kāinga Ora Sustainability Financing Impact Report 2020/21 is for the year ended 30 June 2021.

This report outlines our intent and progress. It provides an overview of our journey and activities undertaken towards sustainability and wellbeing outcomes.

We have established a set of performance metrics to measure our progress in delivering on our mandate. We have also made significant progress in establishing a system for reporting on the impact of our work, and we expect this to expand over time.

Consistent with our philosophy on sustainability, this report is available only in electronic format on the [Kāinga Ora Investor Centre](#).

## Contents

### Section 1 – Highlights

Foreword	02
Ngā Kāinga Anamata	04
Financing Summary	05
Social Impact Summary	06
Green Impact Summary	07

### Section 2 – Framework & Bond Programme

Sustainability Financing Framework	08
Wellbeing Bond Programme	10
Sustainability Financing Transactions	12

### Section 3 – Social

Social Impacts	13
Delivering Public Housing	14
Te Waka Urungi	15

### Section 4 – Green

Green Impacts	16
Climate Change Mitigation	17
Efficient Resource Use	26

### Section 5 – Appendices

Appendix A – Thriving Communities	28
Appendix B – Second-Party Opinion	31

# Foreword



**Matthew Needham**  
Chief Financial Officer

## Tēnā koutou

Kāinga Ora is a long-term investor in construction and development in New Zealand. We have committed to significantly invest over the next 30 years to meet our long-term development and construction programme to enable more warm, dry houses to be built for New Zealanders.

Our urban development programme has been paving the way for our 15–20-year build programme to enable more than 40,000 homes to be built to meet significant regional demand. Our large-scale projects are providing build-ready land for building more homes in the right places, including more public housing and affordable and market homes, at much higher densities than currently exist.

We recognise our homes have a significant impact on our customers and their ability to live well in their homes and with the greatest degree of independence possible. Housing security and

the energy costs of running the house have a profound impact on wellbeing.

Our organisation strategy, outcomes and financing work together to enable Kāinga Ora to better align our activities to outcomes and achieve our goals. At Kāinga Ora, we take our environmental and social responsibilities seriously. We are making good progress to understand our impact, not just on the environment but also on our customers.

The impact of climate change and social issues is immediate, and meaningful action is needed now.

We have been innovative in our approach and were the first organisation in New Zealand to establish a Sustainability Financing Framework to align financing with environmental and social outcomes across the organisation. It is critical to us that our construction initiatives are sustainable and credible and that the financial capital aligns with human, physical and environmental outcomes. We believe that the use

of sustainable finance will help us achieve our outcomes faster.

The Kāinga Ora Wellbeing Bonds are the first bonds available in New Zealand designated to sustainability. They raise financing to support our initiatives that result in positive environmental, social and wellbeing outcomes. They finance the construction of new and the retrofit of existing public housing and related services and enable a pipeline of green homes for delivery in future years through multi-year construction partnerships.

Our Wellbeing Bonds are unique in the global market and attract both domestic and international investors focused on environmental and social outcomes who value the contribution we are making to New Zealand. They have enabled capital investment into our build and development initiatives, allowing Kāinga Ora to build at scale and lead change across the sector.

Our commitment to stewardship is at the core of what we do. We work in a way that respects our environment and people, our natural resources and the future. We also believe in transparency in our business practices and work with integrity in all aspects of our operations.

We have committed to upgrading our existing homes to maintain the assets and bring quality and modern standards to all. Last year, 271 homes were retrofitted and more than 14,000 (21%) of the homes across our portfolio complied with the Healthy Homes Standards. This coming year, all new public homes we build will be built to a 6 Homestar rating. Our ageing asset base means that, in the next 15–20 years, we need to renew around 45,000 homes through either a significant renovation (retrofit) or replacement with a new home or homes.

At Kāinga Ora, we are making progress to decarbonise our activities, build more-resilient infrastructure and better support our communities through the transition to a low-emissions future.

We are taking good initial steps, from piloting solar panel installations on our new houses to reducing waste going to landfill to increasing access to more-sustainable transport options in our communities and enabling changes through the infrastructure we build.

Our commitment to do better for our customers and all New Zealanders is at the heart of everything we do. We have made a good start – however, there is so much more to do. ■



## Ngā Kāinga Anamata

Ngā Kāinga Anamata – meaning ‘homes of the future’ – is an innovative Kāinga Ora public housing pilot that tackles climate change in the built environment. The project was selected as one of 17 global sustainability projects to feature in the [Build Better Now](#) virtual pavilion at the UN Climate Conference (COP26) from 31 October to 12 November 2021.

Ngā Kāinga Anamata seeks to resolve many underlying problems with New Zealand’s housing sector including construction sector productivity, energy hardship, sick building syndrome, and climate change mitigation.

The project involves the design, construction and monitoring of five almost identical three-level walk-up buildings in Glendowie, Auckland, each constructed using a different building structural system. Ngā Kāinga Anamata will also actively protect, restore and support local ecosystems, including planned native biodiversity corridors.

The 30-home development will deliver significantly reduced carbon and energy outputs, achieving both Passive House standard and net-zero energy. It will also meet [Building for Climate Change](#) targets, reaching the proposed 2030 final operational efficiency cap by 2024, six years ahead of expectation.

The homes we build today will set the path for our carbon emissions in the decades to come, and Ngā Kāinga Anamata is the start of a national response to climate change mitigation in the built environment.

More information on Ngā Kāinga Anamata can be found on the [Kāinga Ora website](#).

**BUILD  
BETTER  
NOW**



**COP26 BUILT  
ENVIRONMENT  
VIRTUAL PAVILION**



# Financing Summary

Kāinga Ora issued \$1.7 billion of Wellbeing Bonds in the 2020/21 financial year, increasing the total supply of Wellbeing Bonds in the market to \$5.3 billion.

The impact of COVID-19 continued to affect the Kāinga Ora capital build programme. Table 1 shows unallocated proceeds raised in FY2019/20 of \$1.3 billion were fully allocated in FY2020/21. However, a capital underspend resulted in only \$421 million of the financing raised in FY2020/21 being allocated within the same period (Figure 1). We expect the remaining unallocated proceeds to be allocated in the FY2021/22 financial year.

The Wellbeing Bond Programme debuted a new 2035 nominal bond, followed by Kāinga Ora establishing its monthly bond tender programme. The Kāinga Ora monthly bond tender programme issued \$600 million of the \$1.7 billion total outstanding. Bond tender performance has been well supported with a coverage ratio on average close to 3.5 times.

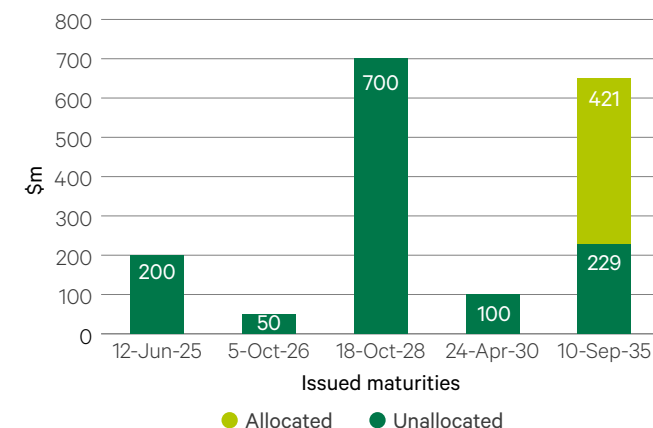
Monthly bond tenders provide regular supply, catering for a growing investor base and placing Kāinga Ora alongside established New Zealand high-grade issuers with bond tender programmes, such as the Local Government Funding Agency and New Zealand Debt Management.

The impact and use of proceeds from our Wellbeing Bonds are highlighted across our Social and Green achievements. Despite the impact of COVID-19, we continue to build momentum in delivering sustainable public housing while making strides towards decarbonising our new build programme.

**Table 1 – Wellbeing Bond Programme FY2020/21**

	\$m
New financing raised in reporting period (FY2020/21)	1,700
Proceeds carried over from FY2019/20 period	1,279
<b>Total available financing for reporting period (FY2020/21)</b>	<b>2,979</b>
Proceeds allocated in reporting period (FY2020/21)	1,700
Unallocated proceeds	1,279

**Figure 1 – Wellbeing Bonds issued FY2020/21**



# Social Impact Summary

## Designations:

- International Capital Market Association Social Bond Principles
- United Nations Sustainable Development Goals
- New Zealand Treasury Living Standards Framework



## Affordable housing

Target population: Public housing for customers as outlined in the Kāinga Ora Sustainability Financing Framework

Impact	2019	2020	2021
Total people housed Priority A + B	+5,295	+13,735	+10,947
Facilities modified for mobility/accessibility/intensive support	+192	+181	+320
Homes retrofitted	–	+133	+271
Supported houses	–	+220	+640



## Socioeconomic advancement and empowerment

Target population: Top 5 percent of Kāinga Ora customers identified as most at risk of poor wellbeing outcomes

Impact	2019	2020	2021
Customers receiving wrap-around support through Te Waka Urungi	+520	+294	+406

# Green Impact Summary

## Designations:

- International Capital Market Association Green Bond Principles
- United Nations Sustainable Development Goals
- New Zealand Treasury Living Standards Framework



## Green buildings

Impact	2019	2020	2021
Homes delivered to minimum 6 Homestar rating	-	+210	+493



## Pollution prevention and control

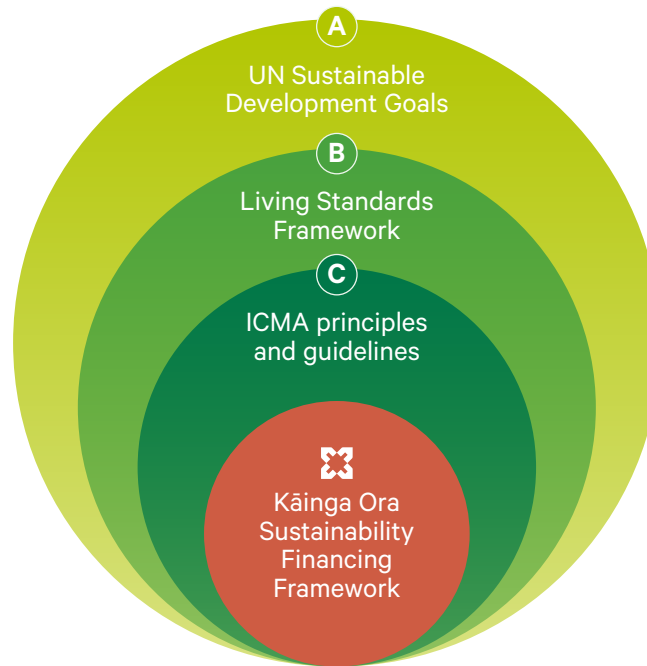
Impact	2019	2020	2021
Reduction of waste related to deconstruction (%)	-	-	87% (Auckland developments)
Reduction of waste related to deconstruction (tonnes)	-	-	13,467 (Auckland developments)



# Sustainability Financing Framework

The Kāinga Ora Wellbeing Bond Programme 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).

## Sustainability Financing Framework



### A UN Sustainable Development Goals



### B New Zealand Living Standards Framework capitals

- Human capital**  
People’s skills, knowledge and physical and mental health
- Social capital**  
Relationships with customers, communities, Māori and other stakeholders
- Financial/physical capital**  
Physical and financial assets
- Natural capital**  
The natural environment, including natural resources such as plants, animals and energy

### C ICMA principles and guidelines



These principles, frameworks and commitments form the [Kāinga Ora Sustainability Financing Framework](#). Under the Framework, Kāinga Ora raises financing to support programmes and projects that result in positive environmental, social and wellbeing outcomes. These align with our six outcomes – public housing customers, improving outcomes for Māori, enabling more housing and access to housing, creating caring communities, environmental wellbeing and system transformation.

Kāinga Ora is legislated under the [Kāinga Ora–Homes and Communities Act 2019](#). It has two key roles – being a world-class public housing landlord and partnering with the development community, Māori, local and central government and others on urban development projects.

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.

Every day, Kāinga Ora works hard to provide public housing and contribute to the wellbeing of more than 186,000 people and whānau living in Kāinga Ora homes. These are people who:

- are considered at risk with severe and persistent housing need that must be addressed immediately
- have a serious housing need with a significant and persistent need
- are unable to access and/or sustain suitable, adequate and affordable alternative housing.

Within its legislated capacity to operate, under the Framework, all appropriate programmes and projects with alignment to ICMA, LSF and SDGs qualify as eligible for financing. The Framework defines eligible categories for the use of proceeds. At 30 June 2021 these include the categories shown in Table 2.

**Table 2 – Kāinga Ora Sustainability Financing Framework eligible categories**

Eligible categories	ICMA	SDGs	LSF Domains	LSF Capitals
<b>Social</b>	Affordable housing	1 and 11	5 domains	4 capitals
	Socioeconomic advancement and empowerment	10 and 11	5 domains	3 capitals
<b>Green</b>	Green buildings	7 and 11	6 domains	3 capitals
	Pollution prevention and control	11 and 12	4 domains	3 capitals



# Wellbeing Bond Programme

Term sheets with full details can be found on the [Kāinga Ora Investor Centre](#).

Kāinga Ora and Housing New Zealand Limited (the issuer) are both rated AAA (stable) by Standard & Poor's (S&P Global) and Aaa (stable) by Moody's (Moody's Investors Service).

Kāinga Ora syndicated \$1.1 billion of Wellbeing Bonds across two issues in FY2020/21. Along with syndications, \$600 million was issued in our regular bond tender programme.

A new 2035 nominal bond was issued in September 2020, attracting strong demand. \$500 million was issued at the tight end of pricing guidance and debuted in a period characterised by low yields, providing an opportunity to build our nominal bond curve.

Our second syndication, in April 2021, occurred in a much different backdrop, with yields moving

significantly higher on reflationary themes. This provided opportunity for us to focus on building liquidity into existing bond lines. Consequently, we tapped the 2028 bond for an additional \$600 million to strong interest, with over \$1.1 billion in bids received.

Across both syndicated issues, we were pleased to see increased offshore participation and specific interest from fund managers with ESG mandates. Bond syndications and tenders have seen a material increase in liquidity to above \$1 billion in the 2025 and 2028 lines, with \$950 million in the 2026 line. We see this improving the attractiveness of these lines and appealing to a wider range of investors.

**Table 3 – Wellbeing Bonds issued in 2020/21**

Issued	Maturity	Transaction type	\$m	Coupon %	Yield %	ISIN
10-Sep-20	10-Sep-35	Syndication	500	1.53%	1.53%	NZHNZD0935L6
2-Dec-20	18-Oct-28	Tender	50	3.42%	1.00%	NZHNZD0628L7
2-Dec-20	10-Sep-35	Tender	50	1.53%	1.72%	NZHNZD0935L6
20-Jan-21	5-Oct-26	Tender	50	2.25%	0.85%	NZHNZD0001L7
20-Jan-21	24-Apr-30	Tender	50	2.18%	1.34%	NZHNZD0230L2
17-Feb-21	12-Jun-25	Tender	50	3.36%	0.90%	NZHNZD0625L3
17-Feb-21	18-Oct-28	Tender	50	3.42%	1.57%	NZHNZD0628L7
31-Mar-21	12-Jun-25	Tender	50	3.36%	1.11%	NZHNZD0625L3
31-Mar-21	10-Sep-35	Tender	50	1.53%	2.79%	NZHNZD0935L6
28-Apr-21	18-Oct-28	Syndication	600	3.42%	1.80%	NZHNZD0628L7
19-May-21	12-Jun-25	Tender	50	3.36%	1.18%	NZHNZD0625L3
19-May-21	24-Apr-30	Tender	50	2.18%	2.19%	NZHNZD0230L2
23-Jun-21	12-Jun-25	Tender	50	3.36%	1.28%	NZHNZD0625L3
23-Jun-21	10-Sep-35	Tender	50	1.53%	2.64%	NZHNZD0935L6
			<b>1,700</b>			

### Unallocated proceeds

Capital expenditure in the reporting period was less than forecast because of COVID-19, with the flow-on effect of lockdowns affecting all construction projects, including an underspend on strategic land acquisitions. Issued and unallocated financing in the FY2020/21 reporting period is forecast to be allocated in the upcoming financial year. This anticipates the subsequent increase in the build programme resulting from project carry-forwards. Net capital expenditure is forecast to be \$3 billion.

Figure 2 – Wellbeing Bond maturity profile

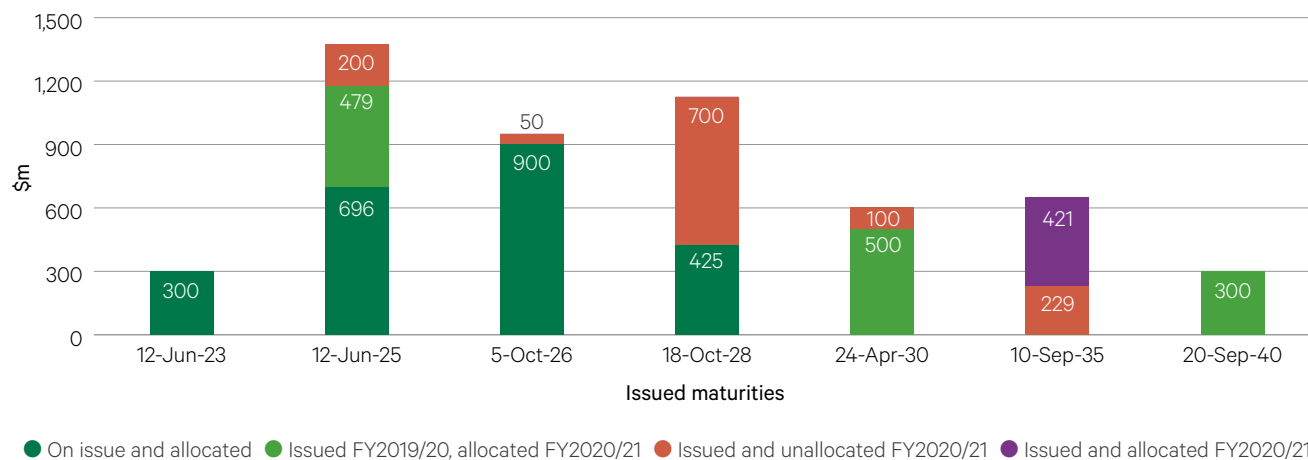
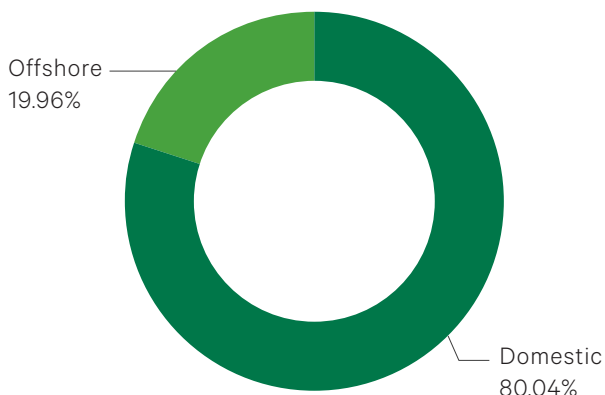
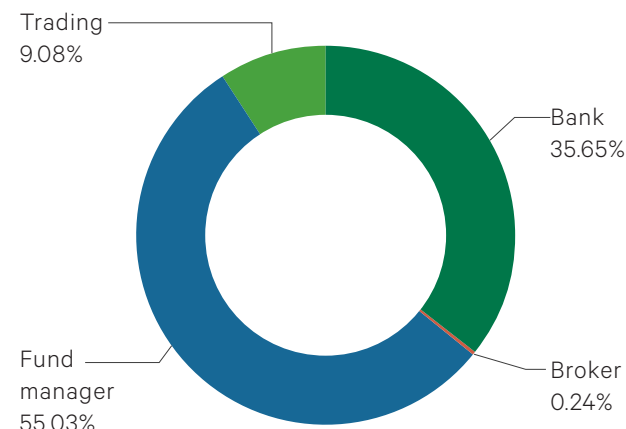


Figure 3 – Syndicated transactions statistics FY2020/21

#### Geographical participation



#### Investor type



# Sustainability Financing Transactions

## Use of proceeds

Proceeds from the Kāinga Ora Wellbeing Bond Programme are allocated to a portfolio delivering housing and urban development projects eligible under the Framework. Eligible projects are financed in whole or in part by Kāinga Ora.

## Evaluation and selection

The Kāinga Ora Investment Management Framework guides our decisions about investments in assets, development and communities in order to achieve our outcomes. The Investment Management Framework comprises a series of investment policies, controlled by our Board, and a lifecycle comprising five decision gates.

## Management of proceeds

Our approach to the management and use of proceeds is on a total portfolio basis given our purpose and function as a Crown entity. All proceeds from Wellbeing Bonds are used to finance the Kāinga Ora build and development initiatives and projects in support of achieving our desired outcomes.

Annual financing requirements are presented within Kāinga Ora portfolio budgets. Undistributed proceeds are invested in accordance with the Kāinga Ora liquidity policy, subject to the exclusionary criteria in sections 2.1.3 and 2.1.4 of the Framework. Proceeds are allocated as required, and proportionally allocated to eligible categories based on the programme these reside within.

## Reporting

This report only covers expenditure eligible under the Framework.

**Table 4 – Total Wellbeing Bond Programme**

Management and use of proceeds	\$m	%
Financing raised (prior to FY2020/21)	3,600	
New financing raised reporting period (FY2020/21)	1,700	
<b>Total Wellbeing Bonds proceeds raised</b>	<b>5,300</b>	
Proceeds allocated (prior to FY2020/21)	2,321	
Proceeds allocated in reporting period (FY2020/21)	1,700	
<b>Total allocated proceeds</b>	<b>4,021</b>	<b>76%</b>
Unallocated proceeds carried forward (previous year)	1,279	
Amount allocated to reporting period FY2020/21	-1,700	
Net	-421	
<b>Total unallocated proceeds</b>	<b>1,279</b>	<b>24%</b>
<b>Total allocated and unallocated proceeds</b>	<b>5,300</b>	<b>100%</b>
Total available financing for FY2021/22	1,279	

# Social Impacts

Being a world-class public housing landlord requires us to place customers and whānau at the centre of everything we do. We enable our customers to achieve positive personal and social outcomes that allow them to live with dignity, in secure and stable housing, so they can progress to further independence.

In this section of the report, we explore the stories behind the social outcomes highlighted earlier in the report.



## Delivering public housing

Meeting a Kāinga Ora customer and learning about their experience moving in to a new Kāinga Ora home.



## Te Waka Urungi (Intensive Tenancy Management)

Understanding the support this service provides to high-needs customers in connecting them with wrap-around services from government agencies and other support providers.

## Eligible categories

- 1 Affordable housing
- 2 Socioeconomic advancement and empowerment

## Designations





## Delivering public housing

**Meeting some of the wonderful people moving in to new, warm, dry homes is one of our favourite parts of the job. Check out our recent chat with the lovely Alofa, who is thrilled to call the new Bader McKenzie complex home (see also Green Impacts for further detail on Bader McKenzie).**

Faataualofa Aiuta's megawatt smile from across the dining table says it all as we enjoy a coffee inside her new Bader Drive home.

"We were really excited when we got the call to say that one of the new public homes in the Bader McKenzie complex was available to look through," she says.

"And when we actually got here and saw this beautiful brand-new home, we just couldn't believe it. We said, 'Wow! This is us!' and it really felt like God was smiling down, making it happen," she beams.

Alofa, as she prefers to be called, migrated to Māngere from Samoa in early 2018 with her husband Malo and then one-year-old son Logopese. The young family was keen for a better life with more opportunity in New Zealand but soon realised that with the extra opportunity came many challenges.

"In Samoa, our families live as one – we share our homes, raising our children, our land, everything," she explains. "So when we arrived in Māngere, we lived with my husband's uncle. But it was his house and he was paying for everything, so it felt very different. We were so grateful to him, but we wanted to stand on our own, walk our own path and really build a life here."

After about six months, the family moved in to public housing accommodation at several motels over the last year before getting the call about Bader Drive.

"Our friends told us to be patient, but it's very hard when you're a family of three living in one motel room. We were very thankful to have a roof over our heads, but our bed was right near the small kitchen bench and there was nowhere to store our food, no freezer and no cooking facility."





## Delivering public housing

Looking around her brand-new 6 Homestar rated home, meeting quite a few of her neighbours, including being reunited with several friends, Alofa says they're still pinching themselves and thanking God for such a blessing.

“We only moved in about two weeks ago, and we're already so happy!”

Thinking about her favourite part of her new home, Alofa pauses and then says seriously, “Everything. Everything is my favourite. Our lives have changed so much. Our home is so quiet and warm thanks to the double-glazed windows and insulation, and that's going to make such a difference to our health, particularly in winter.

“It's so fresh and clean, and there's an awesome playground downstairs for our son too. It's really nice not having to go searching for somewhere for him to play, and he's made lots of friends already.

“That's probably the thing we love the most about being in Māngere. Everyone is so friendly, and there are so many Samoans here, so it really feels like a community. Our son was already going to preschool in Māngere, and now we can keep him with his friends when he starts school next year. It feels like everything has just fallen into place.

“When we're a bit more settled, we're looking forward to having our families over for a celebration barbecue and showing them around our new house. We keep telling them how amazing it is so they're all desperate to come and see it with their own eyes!” she laughs.



## Te Waka Urungi

### Te Waka Urungi, the Kāinga Ora Intensive Tenancy Management service, supports customers with high and complex needs.

#### Context

A 63-year-old female was living alone in an elderly persons' complex with no known support network. The customer was having difficulty living independently, and it was identified she needed support living in her home and making social connections.

#### The turnaround

Te Waka Urungi took a whānau-centric approach focusing on reassuring the customer of our role to support her and helping her identify her own support needs. The customer spoke about her health needs, and Te Waka Urungi was able to assist her to connect with primary healthcare services. She is now receiving in-home care services to help with cleaning and cooking. [Age Concern](#) is also providing ongoing support to the customer.



# Green Impacts

Kāinga Ora recognises the potential for carbon emissions of buildings to contribute to global warming and acknowledges the importance of generating positive environmental outcomes. We want our build programme to challenge the New Zealand construction industry to innovate in order to achieve net-zero carbon emissions.

In this section of the report, we explore the programmes Kāinga Ora is undertaking to deliver the green outcomes highlighted earlier in the report.



## Climate change mitigation

Our pathway towards achieving net-zero emissions for our public housing, infrastructure and operations.



## Efficient resource use

How we are working to minimise water consumed and waste produced by our activities.

## Eligible categories

- 1 Green buildings
- 2 Pollution prevention and control

## Designations





## Climate change mitigation

### Kāinga Ora emissions reductions aspirations

Green building residential construction, such as the Kāinga Ora 6 Homestar version 4.1 policy is estimated to reduce greenhouse gas (GHG) emissions by around 10% when compared with the New Zealand Building Code and when measured on a per-occupant basis (see Figure 4 on the following page).

The Kāinga Ora preferred approach of carbon emissions measurement and reporting for houses is a carbon budget of carbon dioxide equivalent (CO<sub>2</sub> eq.) per person. This is a more meaningful metric than CO<sub>2</sub> eq. per square metre, as fundamentally, we want to house as many people as possible for the least carbon emitted. Kāinga Ora is aligned with international best practice by taking a whole-building whole-of-life or cradle-to-grave approach to its carbon measurement and reporting. This includes both the carbon emissions released at present day during construction (upfront embodied emissions) and in those in the future (operational energy, water, maintenance and end-of-life emissions and other benefits).

Figure 4 compares the lifecycle carbon performance of new-house construction designed to the current Building Code, Ngā Kāinga Anamata designed to a 6 Homestar rating and the Passive House, cross-laminated timber (CLT), net-zero energy final solution.

Countries such as Denmark are leading in the decarbonising of new buildings at a national scale by setting national reduction targets for lifecycle carbon emissions. Nga Kāinga Anamata compares well to those standards, but our collective challenge is to continue to innovate construction practices to achieve an output of ~10,600 kg CO<sub>2</sub> equivalent. This is consistent with a science-based target for new residential construction in New Zealand and would ensure Kāinga Ora buildings limit their share of global warming climate change to no more than 1.5°C.

Kāinga Ora is working towards similar aspirational targets for our national build programme. We are currently capturing the global warming impact of existing public housing tenancy operations, working towards setting carbon emission targets that decrease over time with the aim of reaching a 1.5°C science-based target for housing.

### Last year, we achieved:

# 87%

of demolition waste diverted from landfill in Auckland vs 80% target

# 7%

national relocation target set for our site clearance activities

# 200

homes relocated rather than being demolished and sent to landfill

# 65%

(440) of our vehicle fleet now hybrid/EV

# 6 Homestar

rating set on all redevelopment

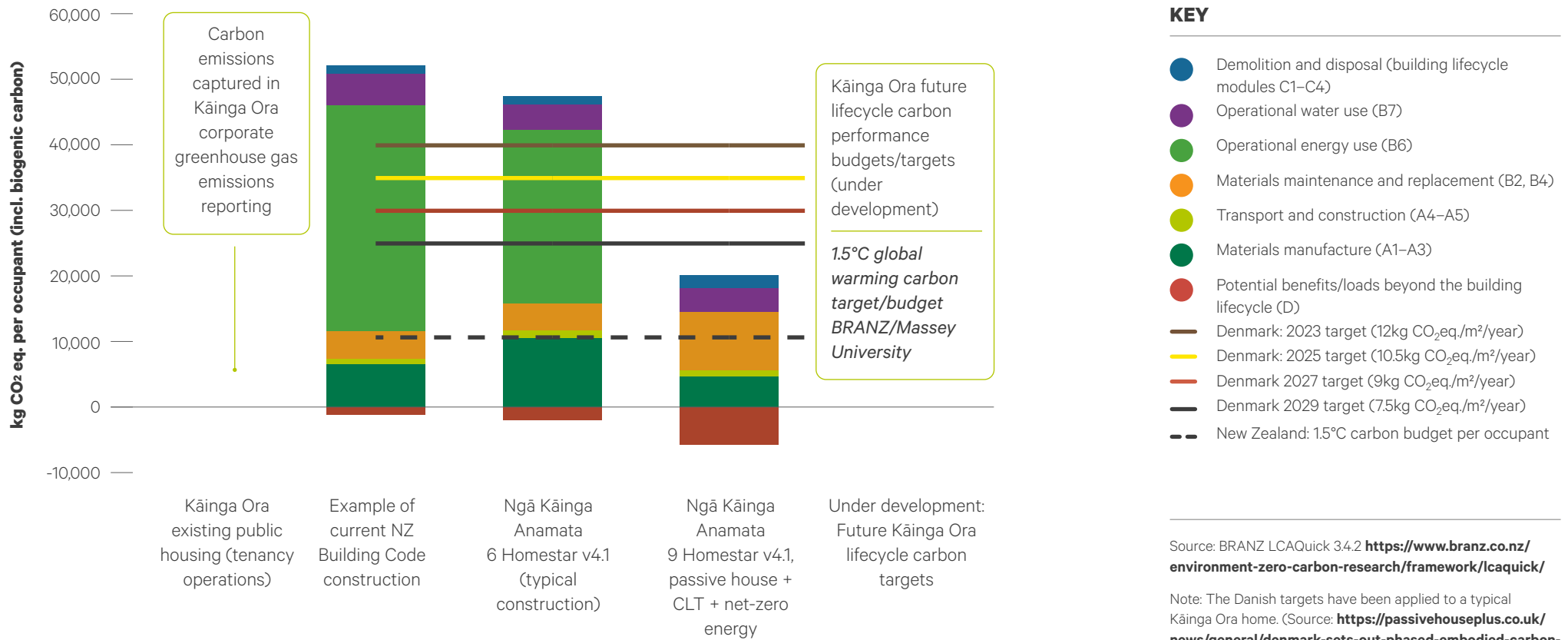
# Dedicated

sustainability function established



## Climate change mitigation

Figure 4 – Lifecycle carbon performance





## Climate change mitigation

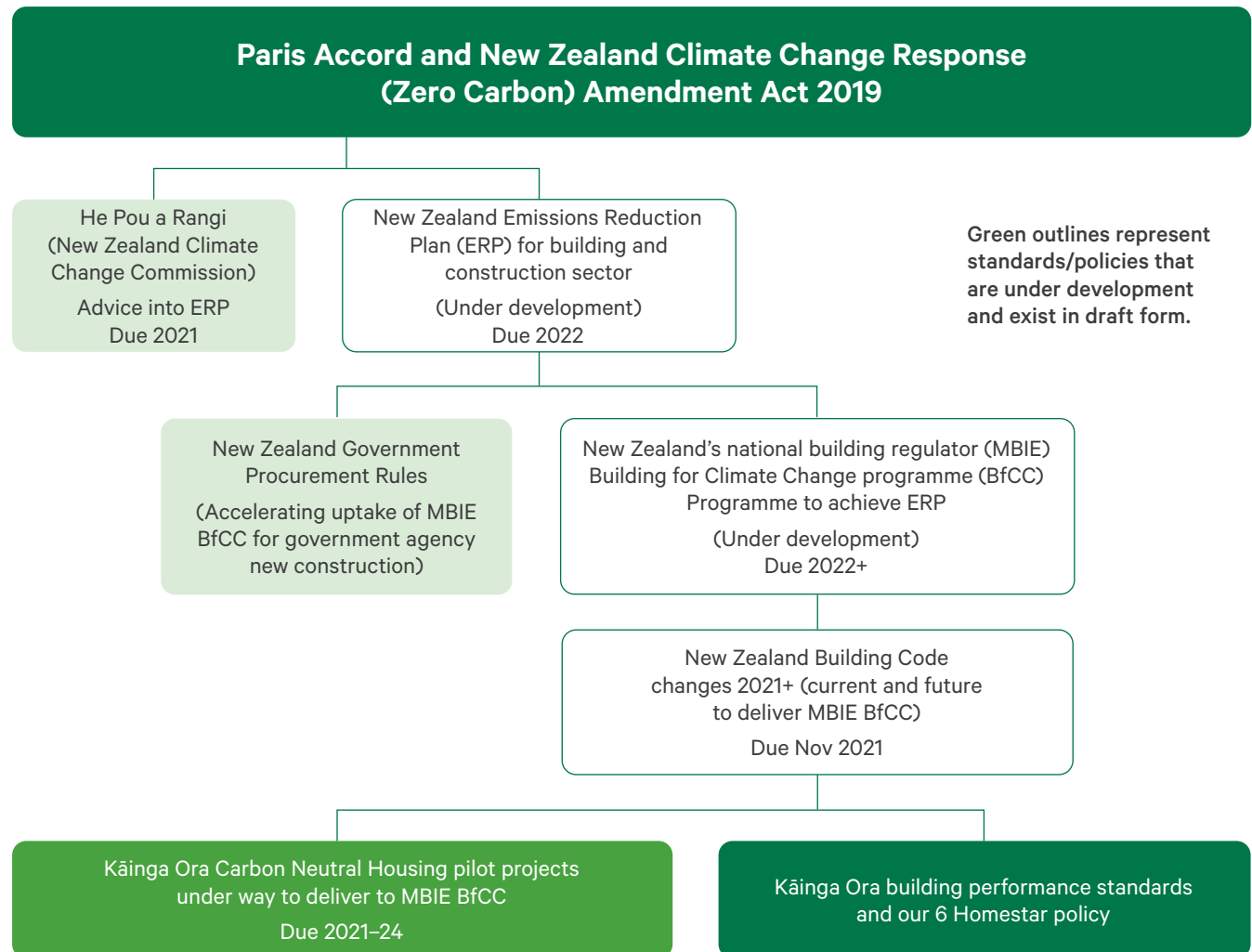
### New Zealand’s legislative landscape

The New Zealand legislative landscape is dynamic and changing as all levels of government are mobilising and working towards developing legislation and policy to decarbonise buildings in line with New Zealand international climate change commitments.

The hierarchy reflects the path from legislation and building-related policy to Kāinga Ora building activities and initiatives as the organisation aspires to be a world-leading public housing provider.

Kāinga Ora is actively contributing to this landscape by aligning our buildings with the highest standards to reduce the carbon impact of our building portfolio.

Figure 5 – New Zealand legislative framework





## Climate change mitigation

New Zealand's national building regulator, the Ministry of Business, Innovation and Employment (MBIE), is developing a carbon mitigation programme for new building construction. This transformational programme, Building for Climate Change (BfCC), has been set up to reduce carbon emissions during the construction and operation of buildings in order for the sector to meet targets to transition New Zealand to a net-zero carbon economy post 2050.

The programme is focused around two frameworks:

- Transforming operational efficiency
- Whole-of-life embodied carbon emissions reduction

The Transforming operational efficiency framework aims to improve the operational efficiency of buildings by reducing energy and water use as well as improve indoor environmental quality.

The [Whole-of-life embodied carbon emissions reduction](#) framework aims to reduce the embodied carbon of buildings throughout their lifetime, from production of construction materials through to disposal of the building at the end of its life.

These frameworks will set a series of caps (initial, intermediate and final) that are reviewed and updated over time to meet New Zealand's climate change goals.

Government is expected to demonstrate leadership and adopt the frameworks ahead of the construction sector. Figure 6 on the following page outlines how Kāinga Ora is demonstrating leadership through the Carbon Neutral Housing programme by aligning projects with the different performance caps to test, learn through innovation and understand how to decarbonise new construction.





## Climate change mitigation

**Figure 6 – Kāinga Ora carbon continuum**

Kāinga Ora back dated timeline to meet MBIE’s draft Building for Climate Change (BfCC) Programme & final cap





## Climate change mitigation

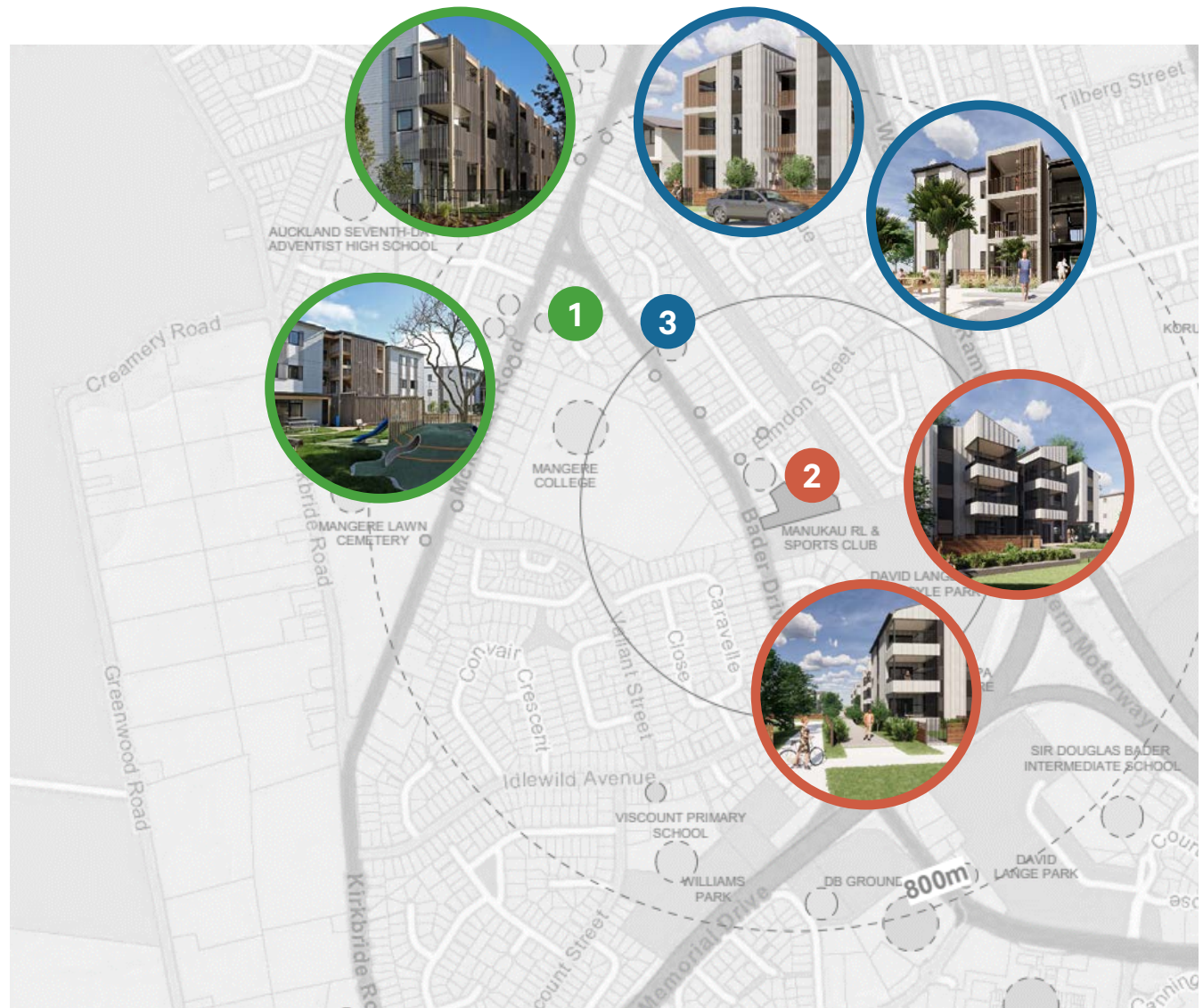
### Bader pilot projects

Three pilot projects, Bader McKenzie, Bader Harvard and Bader Ventura, sit within the larger Māngere development on Bader Drive and are expected to be delivered between 2020 and 2023.

The three projects have increasing sustainability targets, representing current Kāinga Ora sustainability targets and an improvement to the intermediate and final MBIE BfCC caps.

This enables Kāinga Ora to innovate and develop and test the effectiveness of solutions that deliver the levels of sustainability that need to be met by both Kāinga Ora and the wider construction industry over the next 10-15 years.

You can read [coverage of this pilot by local news agency Stuff.co.nz](#).





## Climate change mitigation

### 1 Bader McKenzie



- **Dwellings:** 65 x 1, 2 and 4-bedroom dwellings
- **Type:** 3-level walk-ups and terraced houses
- **Construction:** Panellised cross-laminated timber (CLT)
- **Delivery:** Completed in 2020
- **Sustainability:** 6 Homestar version 4.1
- **Thermal demand:** ~80–90kWh/m<sup>2</sup>.a

#### Sustainability outcomes

The Bader McKenzie project used a full cross-laminated timber (CLT) construction system. CLT is a panellised off-site manufacturing process, which allows for faster construction, reduced embodied carbon emissions and reduced construction waste compared to traditional construction methods. Rated a 6 Homestar v4.1 project, Bader McKenzie represents our current sustainability targets and a move to modern methods of construction to deliver low-carbon solutions.

### 2 Bader Harvard



- **Dwellings:** 41 x 1, 2 and 3-bedroom dwellings
- **Type:** 3-level walk-ups
- **Construction:** Precast concrete
- **Delivery:** 2023 – currently in design
- **Sustainability:** 7 Homestar version 4.1 and Passive House Low Energy Standard
- **Thermal demand:** <30kWh/m<sup>2</sup>.a

#### Sustainability outcomes

The Bader Harvard project is targeting Passive House Institute Low Energy Building Standard energy caps, which align the development with the MBIE BfCC intermediate cap for thermal performance. In addition to reduced energy use and significantly improved occupant health and wellbeing outcomes, the precast concrete panellised system uses fly ash cement replacement concrete, which is a low-carbon alternative to standard concrete.

### 3 Bader Ventura



- **Dwellings:** 18 x 2, 3 and 4-bedroom dwellings
- **Type:** 3-level walk-ups
- **Construction:** Precast concrete
- **Delivery:** Mid-2022 – Currently under construction
- **Sustainability:** 8 Homestar version 4.1 and the Passive House Standard (Classic)
- **Thermal demand:** <15kWh/m<sup>2</sup>.a

#### Sustainability outcomes

The Bader Ventura project is targeting an 8 Homestar v4.1 rating and the Passive House Standard, which aligns the development with the MBIE BfCC final cap for thermal performance. Like Bader Harvard, it also uses a precast concrete panellised system with low-carbon fly ash concrete.

Most importantly, both developments have the same design and construction teams and robust R&D performance evaluations of time, cost, quality, IEQ and energy, and the carbon performance can be assessed.





## Climate change mitigation

### Corporate emissions profile

Kāinga Ora has responsibilities under the Carbon Neutral Government Programme (CNGP) to report emissions and publish reduction plans from the 2022/23 financial year. The upcoming General Policy Statement on Housing and Urban Development (GPS-HUD) requires us to lead by example in mitigating emissions through investment in efficient buildings and progressing and facilitating thoughtful urban development.

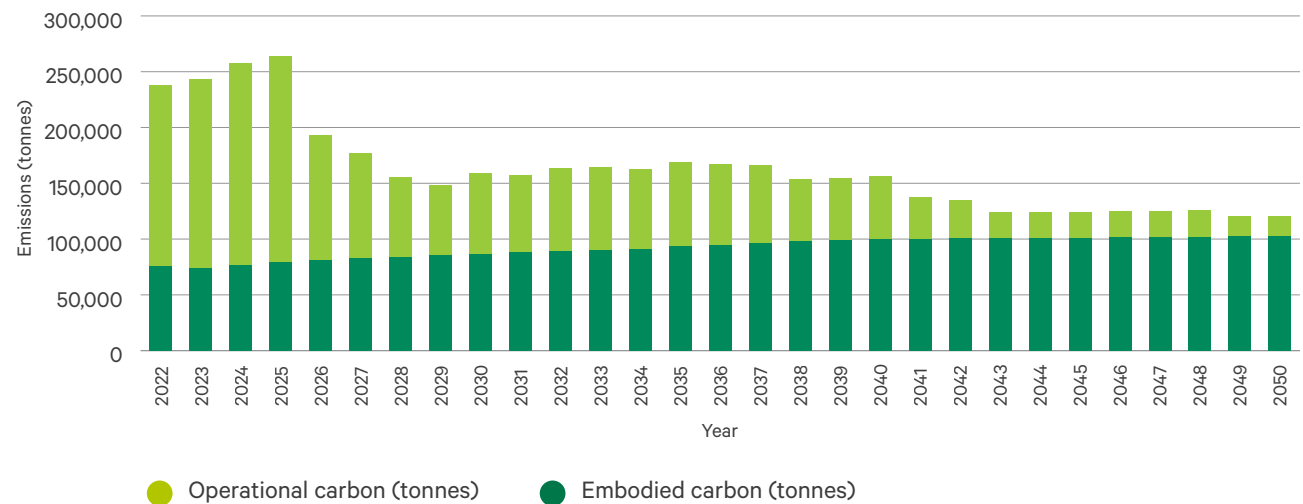
For FY2020/21, Kāinga Ora has focused on building its capability to develop reliable and complete emissions measuring in house. For the first time, we have developed our own externally assured corporate emissions inventory. Table 5 includes direct emissions from our vehicle fleet (scope 1) and indirect emissions associated with our consumption of electricity (scope 2) and business travel (scope 3). We will be measuring further categories to align our inventory with the mandatory requirements of the CNGP by 2023.

Further modelling work is being progressed to understand and quantify the broader emissions associated with Kāinga Ora activities, including construction, demolition, and maintenance activities. Initial modelling indicates that this will be just over 240k tCO<sub>2</sub>e.

**Table 5 – Kāinga Ora corporate emissions – FY2020/21**

Emissions category	Total emissions (tCO <sub>2</sub> e)
Scope 1	979
Scope 2	392
Scope 3 – emissions relating to staff travel	2,095
<b>Total FY2020/21</b>	<b>3,466</b>

**Figure 7 – Total emissions – base scenario**





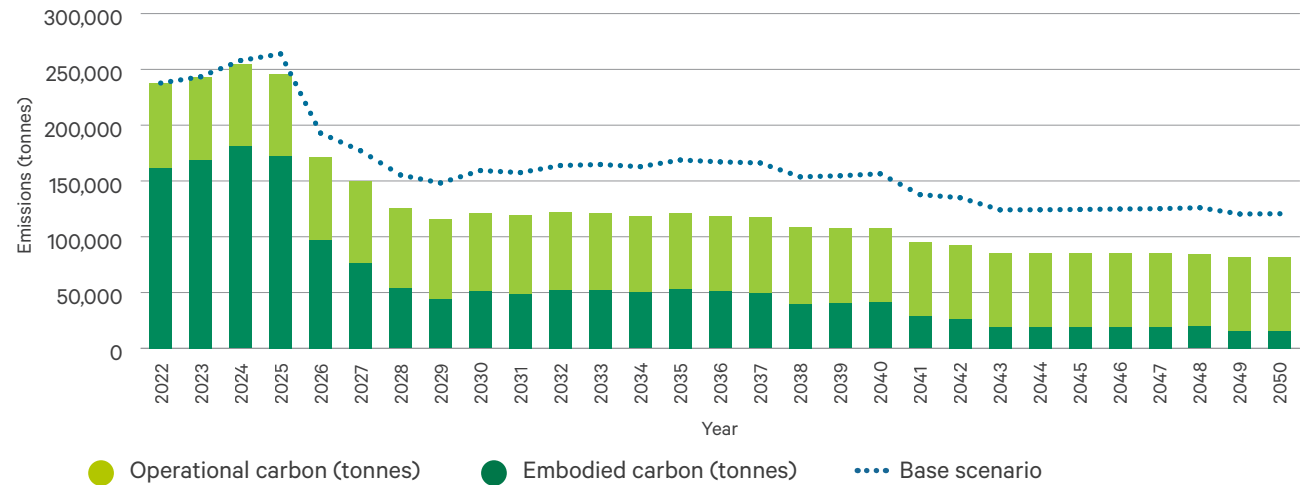
## Climate change mitigation

### Corporate emissions profile

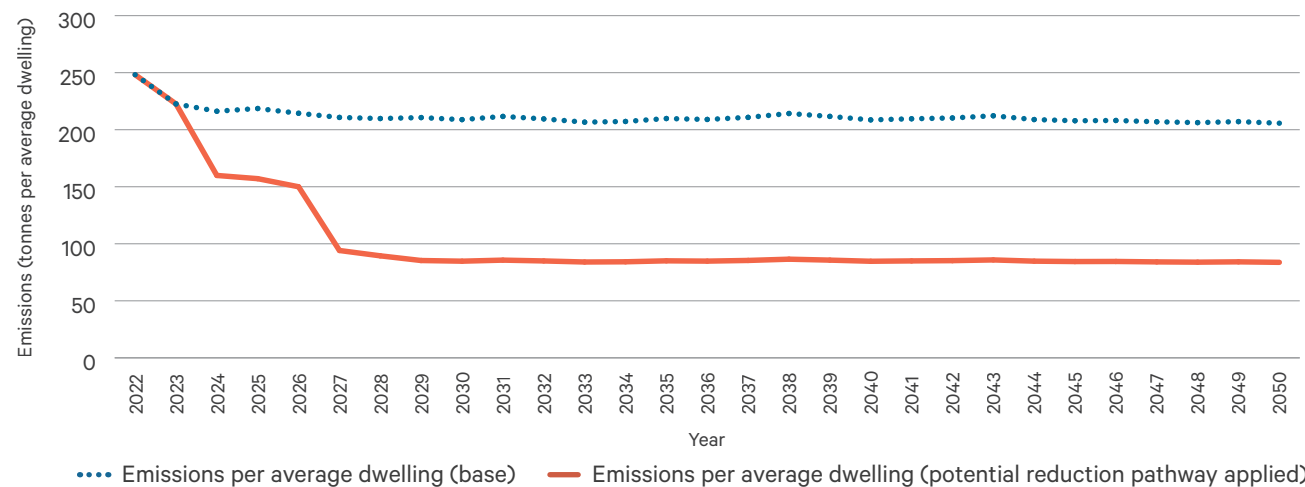
Kāinga Ora has improved its capability to measure the emissions associated with our pipeline of construction activities and the operational emissions from our current housing portfolio. We are able to project future emissions and compare against a number of scenarios and international frameworks (Figure 7–9).

Kāinga Ora will use this analysis to aid in decision making on the operational energy demand and materials used in our future homes. We can assess the impacts of the MBIE BfCC, Homestar rating and other key frameworks on our emissions profile.

**Figure 8 – Total emissions – potential reduction pathway applied**



**Figure 9 – Emissions intensity comparison**





## Efficient resource use



### Site clearance

Kāinga Ora is working to help bring about system transformation in residential construction alongside our partners, contractors and industry.

As well as legislative requirements, government, iwi and communities expect that Kāinga Ora will work to minimise its environmental impact, leaving a positive legacy for future New Zealanders.

Part of this commitment is to minimise construction and site clearance waste. Waste Minimisation and Site Clearance Lead Rachel Trinder says this presents an exciting opportunity for the organisation.

**“There’s no doubt that, by positioning sustainability as one of the key drivers in property development, we’re going to build better communities and cities.**

**“Working together with our partners, we aim to ensure our homes are sustainable not only in how they are built, but also in terms of how they are lived in and how we will take them down one day.”**



### Waste minimisation hierarchy and targets

Kāinga Ora has implemented a waste hierarchy approach to clearing sites for redevelopment, which prioritises house relocation and deconstruction over demolition wherever possible.

In 2020, Kāinga Ora set a national target of 7% of our public houses to be relocated from redevelopment areas, equating to approximately 70 homes a year. In our Auckland large-scale project areas, our civil contractor Piritahi is averaging 32% of homes being relocated for refurbishment and reuse.

To date, relocations have mostly come about through iwi partnerships. As the programme gains momentum, we will offer more homes for relocation to groups such as iwi, Māori community housing providers and other community housing providers.

Kāinga Ora also has a target to divert 80% of materials from landfill across our developments in Auckland. Through our deconstruction and demolition programmes, we averaged 87% diversion from landfill last year.



### First national deconstruction panel

A new Kāinga Ora site clearance panel was established in May 2021, following extensive engagement with industry partners. The aim is to ensure we can achieve our targets while also helping build capacity and capability across the site clearance industry.

The panel contains three subcategories: house relocation, deconstruction and demolition contractor panels.

Kāinga Ora now intends to create New Zealand’s first national deconstruction panel by expanding the Auckland panel. We conducted an expressions of interest in May 2021 to find out about local capacity in the regions as well as key infrastructure and capability constraints. This information will help us establish regional waste diversion targets that are appropriate for the rest of New Zealand. We expect to issue a request for proposal for interested parties in September 2021, supported by supplier briefings.



## Efficient resource use

### CASE STUDY

In late 2020 and early 2021, Kāinga Ora undertook a pilot deconstruction programme, which far exceeded the 80% waste diversion target. Approximately 90% of materials were cleared from the Avondale projects in the pilot known as Highbury Triangle and Elm Street.

In addition to the sustainability results achieved, these projects became a catalyst to promote entrepreneurship and restore economic health to local communities as well as Pasifika and Māori businesses more broadly.

During the Highbury Triangle deconstruction, our contractor TROW Group set up a pop-up maketi (market) at the nearby Elm Street site to help predominantly Pasifika and Māori businesses struggling with the effects of the recent COVID-19 lockdowns. The maketi created social connection and promoted entrepreneurship among the more than 70 stall holders involved while also helping Kāinga Ora to improve its social licence to operate.

Highbury Triangle helped create art installations, planter boxes and a community maker space at the maketi, and thirteen 63m<sup>3</sup> shipping containers of materials from the two projects were sent to Tonga. These materials helped rebuild schools, churches and houses in cyclone-prone areas or were sold to benefit Tongan communities.

TROW Group also took on six small-to-medium Pasifika and Māori building companies as subcontractors over the two projects, upskilling them in deconstruction and supporting them in business post-lockdown.

**The Elm Street deconstruction project in Auckland's Avondale saw approximately 90% of waste diverted from landfill.**



## Appendix A – Thriving communities: Greys Avenue

### Project details

The planned complex includes three new apartment towers up to 14 storeys high and contains 276 apartments and more than 3000m<sup>2</sup> of shared, communal, commercial and retail spaces. The building will also provide 24/7 support services on site to support customer wellbeing.

Greys Avenue is the largest single-site project undertaken to date by Kāinga Ora, with an overall cost of approximately \$196 million.

**Table 6 – Greys Avenue timeline**

Milestone	Status
Consenting	October 2020
Civil infrastructure	Completed December 2020
Main construction	Began December 2020
Expected completion	Q3/2022

A video developed to mark the completion of demolition and the design can be viewed [here](#).

### Sustainability

139 Greys Avenue is located in central Auckland, with highly accessible public transport options and on-site, shared and accessible transport options available for our customers to use at their convenience. All these attributes combined will help to reduce congestion in the central city, reduce emissions and encourage our customers to access alternative transport solutions.

The new building will not provide any residents’ car parking. However, it will provide three car share vehicles on site for use by the residents and community. In 2020, we undertook a car share pilot with Cityhop, and 214 people participated from the Greys Avenue community. In total, 2,496 shared car journeys and 96 first-time users were recorded.

The landscape design for the building includes only plants from Tāmaki Makaurau and was designed to sustain the local biodiversity of the area.

### Social procurement – supplier diversity

We are working closely with our construction partner Icon to create employment opportunities, support the development of Māori and Pasifika businesses and provide meaningful learning development opportunities for the workers on site.

The contract targeted between 4% and 7.5% of the contract value being contracted to Māori and Pasifika business and social enterprises. Nine months in to the construction contract, this is currently sitting at 5.5%.

In addition to the 5.5% contracted to Māori and Pasifika businesses, Icon has three contracts with women-owned construction companies: fire protection, concrete services and cleaning services.

Icon is working alongside supplier diversity intermediary Amotai to reach diverse suppliers and is now an Aukōkiri member.

### Iwi partnerships

From the project’s inception, Kāinga Ora has partnered with Ngāti Whātua Ōrākei on building design, naming and landscaping, with five iwi representatives on our design team.

We have been gifted a narrative on which the building was designed and a site-specific karakia by Ngāti Whātua Ōrākei.

Our iwi partnerships will ensure that mana whenua are involved throughout the entirety of the construction period, from cultural site inductions and beyond.

Click [here](#) for a video about our partnership with Ngāti Whātua Ōrākei on the Greys Avenue project.

## Appendix A – Thriving communities: Northcote

The redevelopment in Northcote of over 300 outdated public homes has been under way since 2016, with a forecasted final dwelling completion date at the end of 2025. Northcote Development is tracking towards more than 1,600 total dwellings at completion (Table 7), with an approximate one-third split between public, market and affordable homes across the 15ha development area. It is a superbly located suburb, 8km from the CBD, with an existing town centre, primary and intermediate schools, employment nearby and excellent public transport.

### Key projects in Northcote that Kāinga Ora is working on or involved with

With the uplift in density with mainly detached homes or walk-ups and apartment units being built, Kāinga Ora needed to ensure that new amenity is in place for the residents and community.

Te Ara Awataha Greenway is the key piece of amenity for Northcote and has been talked about for more than a decade. It is a joint project being delivered by Kāinga Ora, Panuku and Healthy Waters and provides residents with easy and enjoyable access to, from and through the Northcote town centre.

Te Ara Awataha includes daylighting of the existing Awataha Stream, which was filled in when the area

was first developed (around the 1950s) and will provide passive and active recreation and an educational and stormwater function. It is part of the solution to solve the stormwater flooding issues that have been present in Northcote for some time.

There has been extensive engagement and consultation on the design of Te Ara Awataha with local schools, mana whenua and key stakeholder community groups. Works commenced in 2020, with completion forecast for summer 2022.

Kāinga Ora has recently completed the construction of a new pocket park between Richardson Place and Whakamua Parade tailored for younger children. There is a lovely grass area to kick a ball around, mini trampolines, balance balls, a swing and a BBQ facility under a shelter for families and communities to come together and play.

Kāinga Ora is also replacing the existing Cadness Loop reserve with a new upgraded park catering for young teens. The park will include an upgraded basketball half court, learn-to-ride track, relocated pōhutukawa tree and a large grassed area with a BBQ facility and shelter. The park connects to the new Te Ara Awataha Greenway with accessible pedestrian accessways to the new and existing footpaths linking the Northcote Development areas.

**Table 7 – Northcote delivery timeline**

Financial year (1 July to 30 June)	New houses
Completed to date	190
2021/22	62 (forecast)
2022/23	417 (forecast)
2023/24	534 (forecast)
2024/25	330 (forecast)



## Appendix A – Thriving communities: Northcote

### Shovel-ready projects

Two key stormwater infrastructure projects in Northcote were designed to alleviate the stormwater flooding issues in the area.

The construction of Greenslade Reserve is currently under way, with completion due in the first quarter of 2022. This project involves the full lowering of the sports field to provide a stormwater detention basin in a large flood event as well as an improved field amenity for the local community. The field is used as a rugby and cricket field and also has play equipment and BBQ and seating areas. The project is a Healthy Waters project that is being delivered by Kāinga Ora with our alliance delivery partner Piritahi. Shovel-ready funding enabled this very important project to be constructed.

The other key stormwater project that is shovel-ready funded is the Tonar Street pipeline and outlet. All the stormwater in the Northcote catchment drains out of this outlet into the Hillcrest Stream. This project involved the construction of a 2.1m diameter pipe underground to drain all stormwater from Northcote into Hillcrest Stream. The pipe was thrust using a tunnel-boring machine – the first project of its kind in the Northcote area. This project is also a Healthy Waters project delivered by Kāinga Ora and Piritahi.



## Appendix B – Second-party opinion



### About Sustainalytics

Sustainalytics is a leading independent environmental, social and governance (ESG) 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 has been engaged to provide a second-party opinion through an annual review of the Kāinga Ora Sustainability Financing Impact Report 2020/21.

### 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 Sustainability Wellbeing Bonds, are not in conformance with the use of proceeds and reporting criteria outlined in the Sustainability Financing Framework.

Eligibility criteria	Procedure performed	Factual findings	Error or exceptions identified
<b>Use of proceeds criteria</b>	Verification of the projects funded by the Sustainability Bonds in FY2020/21 to determine if projects aligned with the use of proceeds criteria outlined in the Sustainability Financing Framework.	All projects reviewed complied with the use of proceeds criteria.	None
<b>Reporting criteria</b>	Verification of the projects funded by the Sustainability Bonds in FY2020/21 to determine if the impact of projects was reported in line with the KPIs outlined in the Sustainability Financing 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](#).



---

Copyright © 2021. This copyright work is licensed under a Creative Commons Attribution-Non-commercial 3.0 New Zealand licence.

---

New Zealand Government

