



Sustainability Financing Impact Report 2019/20



About this Report

This is the second edition of the Kāinga Ora – Homes and Communities Sustainability Financing Impact Report and relates to the year ended 30 June 2020.

Kāinga Ora 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.¹

This year's impact report is structured to outline our intent and progress, building on the groundwork set by our inaugural impact report last year. It provides an overview of our journey and activities undertaken towards sustainability and wellbeing outcomes in the year to 30 June 2020 (the reporting period).²

Since the establishment of Kāinga Ora, organisational change to deliver on our mandate has meant developing and validating relevant metrics so we can include impact reporting. We expect this to expand over time.

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

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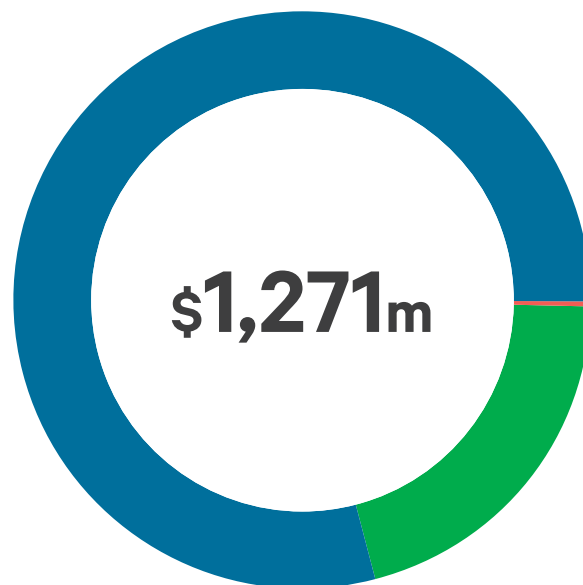
1. [Who we are](#)

2. This report should be viewed in conjunction with the [Annual Report](#).

Impact attributed to Wellbeing Bonds

In the reporting period 19/20

Proceed allocation



Affordable housing
\$1,008m
79.3%



Socioeconomic advancement and empowerment
\$3m
0.2%



Green buildings*
Pollution prevention and control
\$260m
20.5%

* Programme start 1 July 2019

Social impact

Designation:



NZ Living Standards Framework



Affordable housing

Target population

Social housing for customers as stated in Kāinga Ora's Framework* consistent with Social Bond Principles

Portfolio / Project / Programme

Public and Supported housing (new & retrofit)

Impact

Priority A + B
 Tenancies started 5,179
Total people housed 13,735

Mobility, accessibility, intensive support
+181 modified facilities

+133 homes retrofitted

+220 transitional houses



Socioeconomic advancement and empowerment

Target population

Top 5% of Kāinga Ora customers identified as most at risk of poor wellbeing outcomes, as stated in Kāinga Ora's Framework* consistent with Social Bond Principles

Project / Programme

Te Waka Urungi (Intensive Tenancy Management)

Impact

294 tenants supported
 157 tenants returned to normal tenancy

* Kāinga Ora Sustainability Financing Framework is available [here](#) [Kāinga Ora Sustainability and Wellbeing](#)

Green impact

Designation:



NZ Living Standards Framework

Target outcomes:

Environmental impact as stated in Kāinga Ora's Framework consistent with Green Bond Principles



Green buildings

Portfolio / Project / Programme

Public housing
New build to minimum 6 Homestar rating

Impact

Delivered +210 homes
2,417 in pipeline



Pollution prevention and control

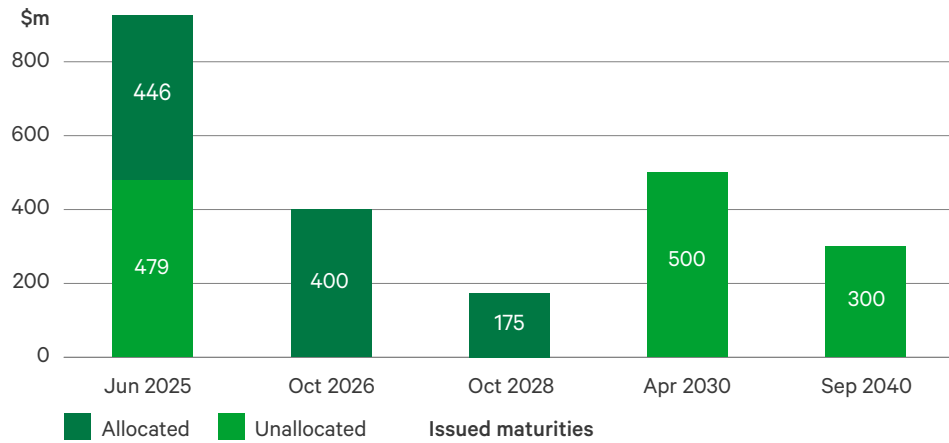
Project / Programme	Impact
Reduction of waste related to Homestar	79% diversion 201 tonnes
Reduction of waste related to deconstruction	Pilot programme Benchmark being established
Reduced rate of embodied emissions through design	Established baseline FY2018/19 estimated 116,000 tCO ₂ emissions for public housing

Wellbeing Bond programme summary

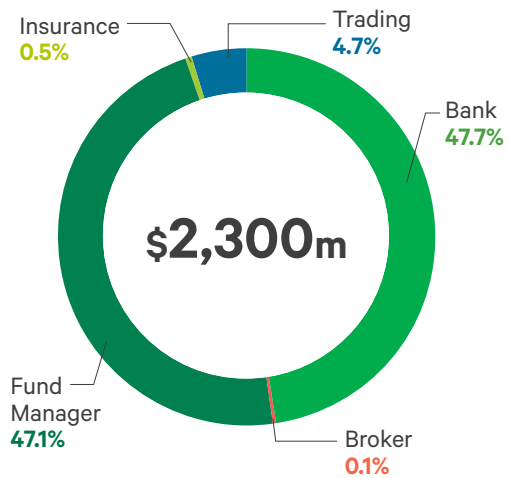
In the reporting period 19/20

Wellbeing Bond programme	\$m	%
New financing raised in reporting period FY20	2,300	
Proceeds carried over from prior FY19 period	250	
Total available financing for reporting period	2,550	
Distributed	(FY19) 250	
Proceeds allocated in reporting period	1,021	49.8%
Green and Social eligible categories	Total 1,271	
Undistributed		
Unallocated proceeds is representative of Kāinga Ora's undistributed pre-financing. Kāinga Ora expects to distribute proceeds across Green and Affordable housing categories in FY21	1,279	50.2%
Net capital expenditure forecast FY21	2,985	

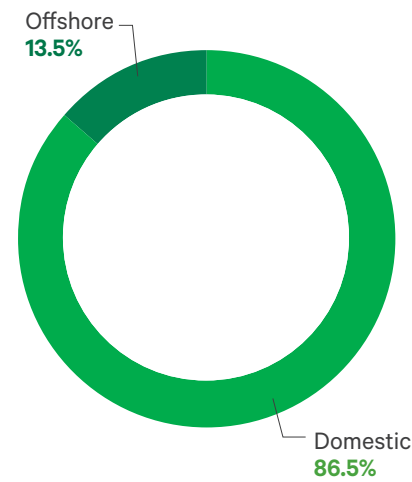
Wellbeing Bond issuance



Investor allocation primary issuance



Investor geographical participation



Foreword

All of us at Kāinga Ora recognise the significance and importance of our role in contributing to thriving and sustainable communities through increased housing supply and quality urban design.

We work every day towards housing New Zealanders, building communities and improving the wellbeing of our customers.

In addressing this, our key priorities related to sustainability and wellbeing financing are delivering green buildings and sustainable communities at scale. In the process, reducing pollution and advancing customer wellbeing through positive environmental and wellbeing outcomes to impact the quality of New Zealanders' lives. These priorities are the basis of our targeted Green and Social impacts.

Kāinga Ora's Wellbeing Bonds are a natural fit for us.

During 2018/19, Kāinga Ora developed its Sustainability Financing Framework (the Framework). The Framework, outlines our Wellbeing Bond programme and aligns our financing objectives with our function and key roles and responsibilities related to wellbeing. We expect to see the eligible categories within our Framework expand as Kāinga Ora delivers to both customer and environmental wellbeing over time.

Kāinga Ora faced significant challenges in 2019/20, including the disruptions caused by the COVID-19 lockdown and the bringing together of KiwiBuild Unit, Housing New Zealand, and HLC under one organisation.

Our response to the challenges has been most pleasing, in particular successfully demonstrating an ability to respond to the needs of our people, customers and partners, while also achieving

our financing objectives. We made over 60,000 wellbeing calls during lockdown to our customers, and supported build partners with immediate payment terms, as well as recommencing construction work as soon as possible once lockdown restrictions eased. In 2019/20, Kāinga Ora (under its Housing New Zealand Limited subsidiary) successfully raised \$2.3 billion, including extending the term of our financing tenor to 20-years following a period of significant financial market disruption.

As a growing high-grade issuer, we challenge ourselves to be the leading issuer in New Zealand for sustainability and wellbeing financing outcomes and impact reporting. Our aim remains to attract investors who want to make a difference in the sustainability of New Zealand housing and the wellbeing of New Zealanders.



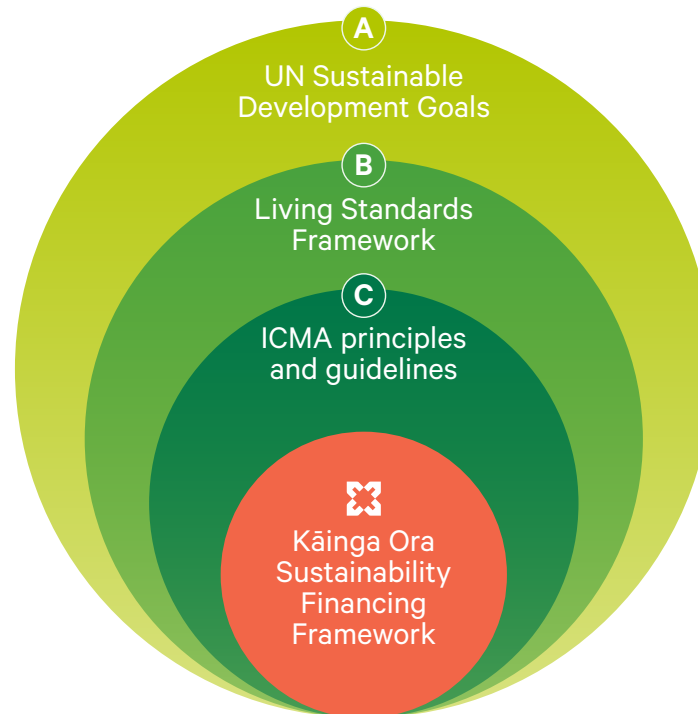
Matthew Needham
Deputy Chief Executive, Finance

Sustainability Financing Framework

Kāinga Ora’s Wellbeing Bond programme aligns with the International Capital Market Association (ICMA) [Green and Social Bond principles and Sustainability Bond guidelines](#), the New Zealand Treasury’s [Living Standards Framework \(LSF\)](#), and the Government’s commitment to the United Nations [Paris Agreement](#) and [Sustainable Development Goals \(SDGs\)](#).

These principles, frameworks and commitments form [Kāinga Ora’s 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 are aligned to our [Environment](#) and [Customer](#) Strategies.

Sustainability Financing Framework



NZ Living Standards Framework

- B Current wellbeing domains**
- Civic engagement & governance
 - Cultural identity • Environment • Health • Housing
 - Income & consumption • Jobs & earnings
 - Knowledge & skills • Time use • Safety & security
 - Social connections • Subjective wellbeing

Future wellbeing capitals

- Human Capital
- Social Capital
- Financial/Physical Capital
- Natural Capital

C ICMA principles and guidelines



Kāinga Ora is legislated under the [Kāinga Ora – Homes and Communities Act 2019](#). Its core function is to provide housing and initiate, facilitate or undertake urban development.

Under this remit, Kāinga Ora provides social housing for people in the greatest need for the duration of that need. These are people who:

- are considered ‘at risk’ with severe and persistent housing need that must be addressed immediately³
- have a ‘serious housing need’ with a significant and persistent need⁴
- 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 with ICMA, LSF, and SDGs qualify as eligible for financing.

The Framework defines eligible categories for the use of proceeds. At 30 June 2020 these include:

Eligible categories	ICMA	SDGs	LSF Domain ⁵	LSF Capital
Social	Affordable Housing	1 & 11	5 Domains	4 Capitals
	Socioeconomic advancement and empowerment	10 & 11	5 Domains	3 Capitals
Green	Green buildings	7 & 11	6 Domains	3 Capitals
	Pollution prevention and control	11 & 12	4 Domains	3 Capitals

3. Priority A, Ministry of Social Development.

4. Priority B, Ministry of Social Development.

5. LSF Domain and Capital alignment as outlined in the Framework.



Wellbeing Bond programme

In what could be called an unprecedented period, in the year 2019/20, Kāinga Ora issued \$2.3 billion of Wellbeing Bonds through six issuances across five maturities. This represented an increase in volume of over 180 percent from the previous year, and a milestone surpassing \$3.0 billion in total.

The programme debuted a new 2030 nominal bond and a new 2040 inflation-indexed bond. These issuances were raised following the peak of financial market stress that occurred across March. Given the backdrop, the results were pleasing from investor demand, diversification, and tenor.

Kāinga Ora continues to lead innovation in the wellbeing financing space, with its inaugural Wellbeing inflation-indexed bond. This also represents Kāinga Ora's first transaction into the private placement market. The inflation-indexed bond extends Kāinga Ora's curve to 20 years, providing a natural match between financing costs and rental revenues that are inflation linked.

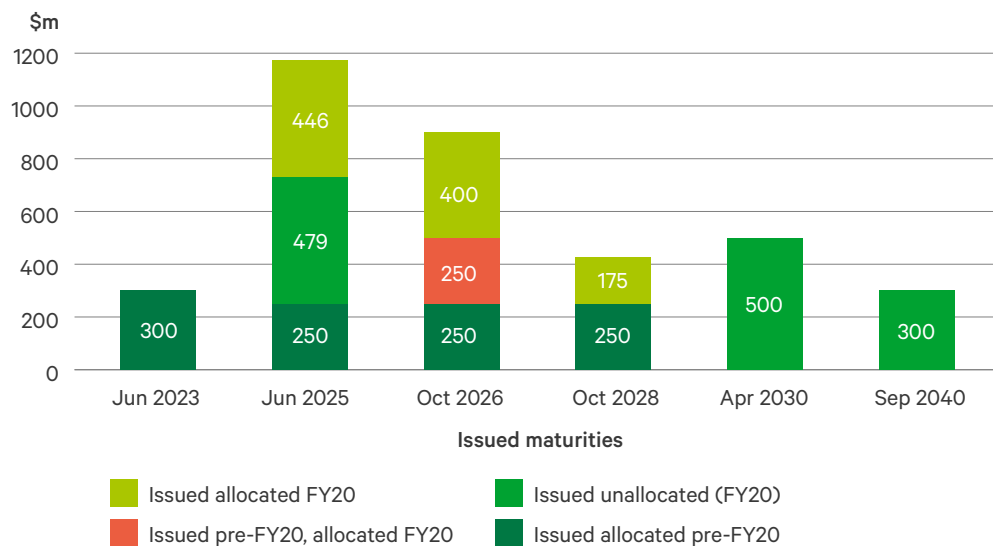
Wellbeing Bonds issued 2019/20

Issued	Maturity	\$m	Coupon %	Yield %	ISIN
11-Sep-19	12-Jun-25	425	3.360%	1.398%	NZHNZD0625L3
11-Sep-19	18-Oct-28	175	3.420%	1.771%	NZHNZD0628L7
5-Nov-19	5-Oct-26	400	2.247%	1.676%	NZHNZD0001L7
17-Apr-20	12-Jun-25	500	3.360%	1.289%	NZHNZD0625L3
17-Apr-20	24-Apr-30	500	2.183%	2.183%	NZHNZD0230L2
1-May-20	20-Sep-40	300	2.500%	2.413%	NZHNZD0940L6
		2,300			

Terms sheets with full details are available for investors. Kāinga Ora and Housing New Zealand Limited (the issuer) are both rated AA+ (positive) by Standard & Poor's (S&P Global), and Aaa (stable) by Moody's (Moody's Investor Service): kaingaora.govt.nz/investor-centre.

As outlined in last year’s impact report, all market debt raised prior to 30 June 2019 is now included within the Framework. This followed the introduction of Wellbeing Bonds in September 2019. For consistency, all market debt raised prior to 30 June 2019 has been allocated to financing Affordable housing (eligible Social category) within that period, with the exception of \$250 million designated for environmental outcomes in the reporting period.

Wellbeing Bond maturity profile



Unallocated proceeds

Capital expenditure in the reporting period was less than forecast as a consequence of COVID-19, with some projects deferred to 2020/21. Unallocated financing over the reporting period will be allocated in 2020/21, in anticipation of the subsequent increase in the build programme resulting from project carry-forwards. Net capital expenditure is forecast to be \$2,985 million.



Sustainability financing transactions

Use of proceeds

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

Evaluation and selection

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

Over 2020/21 Kāinga Ora will be undertaking a business change programme to embed its Investment Management Framework in the organisation, including a requirement for benefits to be stated in all investment decisions and monitored through the various phases. Kāinga Ora is developing wider benefits realisation metrics, which will be included in future impact reporting as these are measured and validated over time.

Management of proceeds

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

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

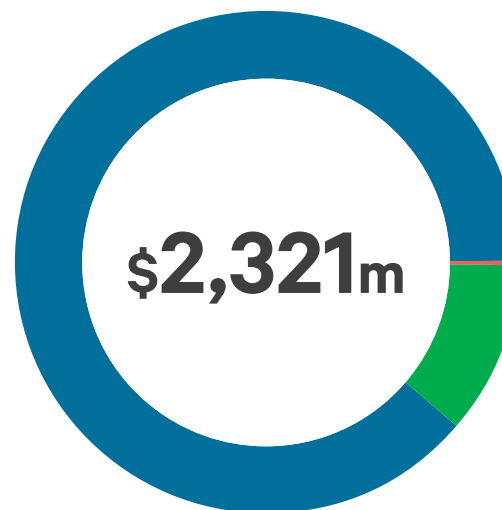
Management and use of proceeds (Total Wellbeing Bond programme)	\$m	%
Financing raised (prior to FY20)	1,300	
New financing raised in reporting period (FY20)	2,300	
Total Wellbeing Bonds proceeds raised	3,600	
Proceeds allocated (prior to FY20)	1,050	
Proceeds allocated in reporting period (FY20)	1,272	
Total allocated proceeds	2,321	64%
Unallocated proceeds carried forward (prior to FY20)	250	
Unallocated proceeds in reporting period (FY21)	1,029	
Total unallocated proceeds	1,279	36%
Total allocated and unallocated proceeds	3,600	100%
Total available financing for current year (FY21)	1,279	

We expect the proportion of Green buildings allocation to increase over time. The Green buildings programme was established on 1 July 2019, with around an 18 month construction period for new builds.

Reporting

This report only covers expenditure eligible under the Framework.

Management of proceeds



Affordable housing
\$2,057m
88.6%



Socioeconomic advancement and empowerment
\$5m
0.2%



Green buildings*/ Pollution prevention and control
\$260m
11.2%

Social impact

Eligible categories

- 1 Affordable housing
- 2 Socioeconomic advancement and empowerment

ICMA, SDG, LSF designations



The
Social Bond
Principles



NZ Living Standards Framework

Being a world-class public housing landlord requires us to place customers and whānau at the centre of what we do. It's about achieving positive social outcomes that allow our tenants to live with dignity, stability and independence, and to help tenants achieve socioeconomic advancement. These outcomes are aligned with criteria as defined under the SBPs, LSF and SDGs.

Kāinga Ora owns or manages more than 67,000 properties nationwide, including about 1,500 houses for community groups, providing residential services. More than 189,000 people live in these houses or flats.

Click the following link to view our housing portfolio tour [Kāinga Ora housing portfolio tour](#).

1 Affordable housing







Retrofit programme

 **Impact:**
Retrofitted 133 homes

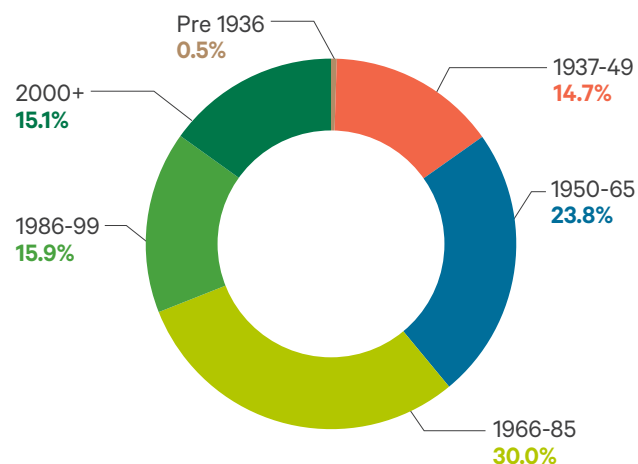
The average age of our homes is around 45 years. Thirty-nine percent of our homes were constructed before 1965, and many are cold and damp.

The Retrofit programme is a renewal programme of existing properties that aims to improve the wellbeing of our tenants by making our older homes warmer, drier and healthier. The activities include full insulation of homes, double glazing, improved air-tightness, ventilation and new heating to ensure a healthy indoor living environment. In some cases, a retrofit will also see some structural changes to a home, providing more open plan living and making the home more accessible.

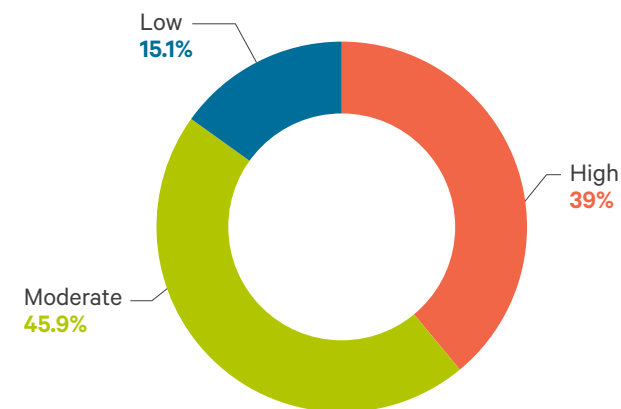
The following [Walkthrough video](#) highlights the significance of the upgrade work to bring these homes to new build and 6 Homestar standards, adding another 50 years of life to the properties.

	Pre-1936	1937-49	1950-65	1966-85	1986-99	2000+
						
Owned Homes	309	8,932	14,419	18,197	9,638	9,179
	0.5%	14.7%	23.8%	30.0%	15.9%	15.1%
Description	Villa & Californian Bungalow	Brick Weatherboard, Native timber	Brick Weatherboard, Native timber	Innovative lightweight, low cost materials	Pre-modern	Modern code & specifications
Expected life (years)	80-100	70-90	70-90	40-50	50	50
Tenant concerns	Cold & drafty	Cold & drafty	Cold & drafty	Cold & damp	Damp	Few
Operating costs	High	High	High	Moderate	Moderate	Low

Construction date



Operating costs



1 Affordable housing

Modifications



Impact:
Delivered 181 modifications

Kāinga Ora's new Accessibility Policy was approved by the Board in September 2019 and was published in December 2019.

The Accessibility Policy is part of the Crown's new Disability Action Plan 2019-2023, and sets a target that at least 15 percent of all Kāinga Ora's public housing new builds will meet universal design standards in 2021/22. Kāinga Ora is currently completing its submission to the Office for Disability Issues on how it intends to measure progress in delivering against the Policy.

During 2020/21 we will benchmark current delivery numbers. For existing homes, we will use the information learned from our Retrofit pilot to set a future achievable target for the proportion of our retrofitted properties that incorporate appropriate accessibility features.

Transitional housing



Impact:
Delivered 220 homes

Transitional housing provides a place for families to stay while their needs can be understood and addressed and longer-term sustainable accommodation can be found.


Kāinga Ora sources transitional housing through a mix of supply options, including market purchases, conversion of existing facilities (such as motels and retirement homes), redevelopments, or placement of relocatable homes on land that is available for a fixed term only (this land may be owned by Kāinga Ora or another agency).





2 Socioeconomic advancement and empowerment

Te Waka Urungi

 **Impact:**
Supported 294 tenants
157 tenants returned to regular tenancy

Our Te Waka Urungi (Intensive Tenancy Management) service supports customers with high and complex needs.

Through Te Waka Urungi, we work with government and non-government agencies and support providers to build trust with our customers, identify the support they need, and facilitate and support ongoing relationships. At the heart of Te Waka Urungi is helping customers sustain their tenancies, as we know this is important in ensuring every New Zealander has a safe, warm, dry home every night.

In 2019/20 Te Waka Urungi supported 294 tenants, with 157 tenants successfully returning to regular tenancy management.

Case study

Context

A 25-year-old female customer with long-standing mental health issues was awaiting housing. She was in the care of in-patient mental health services at the time and, while she had significant support from whānau, mental health services identified the need for help to coordinate service care across multiple agencies in order to implement an effective discharge plan and provide ongoing support.

The turnaround

Te Waka Urungi took a whānau-centric approach and led the coordination of agencies to contribute to a complete care solution for the customer. This included securing a three-bedroom home with space for a 24/7 live-in carer. The customer is now living in her new home with ongoing wraparound support in place and continued whānau support.

The whānau provided this feedback to Kāinga Ora following the intervention: “Te Waka Urungi gave my whānau voice legitimacy at a level in the District Health Board that I otherwise would not have had. They provided my daughter with more than just a house!”

Te Waka Urungi ensured the needs of the individual were addressed and positively impacted.



Green impact

Eligible categories

- ③ Green buildings
- ④ Pollution prevention and control

ICMA, SDG, LSF designations



NZ Living Standards Framework

During the reporting period, the Kāinga Ora Board approved our Sustainability Strategy. In 2020/21 Kāinga Ora will implement the strategy to positively influence the environmental performance of the residential construction sector.

Our approach to achieving Green outcomes includes:

- green buildings
- demolition waste (diversion from landfill)
- waste minimisation (through green building construction)
- reduction in building construction and operation carbon emissions.

3 Green buildings

Impact:
210 units issued | **2,417 units registered**
234 projects registered

Kāinga Ora has made the commitment that all new homes contracted from 1 July 2019 will be built in accordance with green building standards consistent with the Paris Agreement. To be eligible, Kāinga Ora has adopted the Homestar rating tool,⁶ with a minimum commitment of achieving a 6 Homestar rating.

The primary benefit of building to a 6 Homestar standard is verification that the homes are designed to be warmer, drier, healthier and more sustainable than current New Zealand Building Code regulations, and thus better able to achieve the tenant wellbeing and environmental outcomes Kāinga Ora desires.

We expect the financing impact of green buildings to increase in the coming year as new build projects with Homestar specifications continue to come on stream.

Homestar ratings

UNDERPERFORMING	CURRENT NEW ZEALAND BUILDING CODE	HIGH PERFORMING	VERY HIGH PERFORMANCE	WORLD LEADING SELF SUFFICIENT
1* 2*	3* 4*	5* 6*	7* 8* 9*	10*
Minimal energy, health, water and comfort features	↑ Typical house built to New Zealand Building Code standards	↑ Kāinga Ora minimum requirement		↑ World best in all categories

6. <http://www.nzgbc.org.nz/homestar>

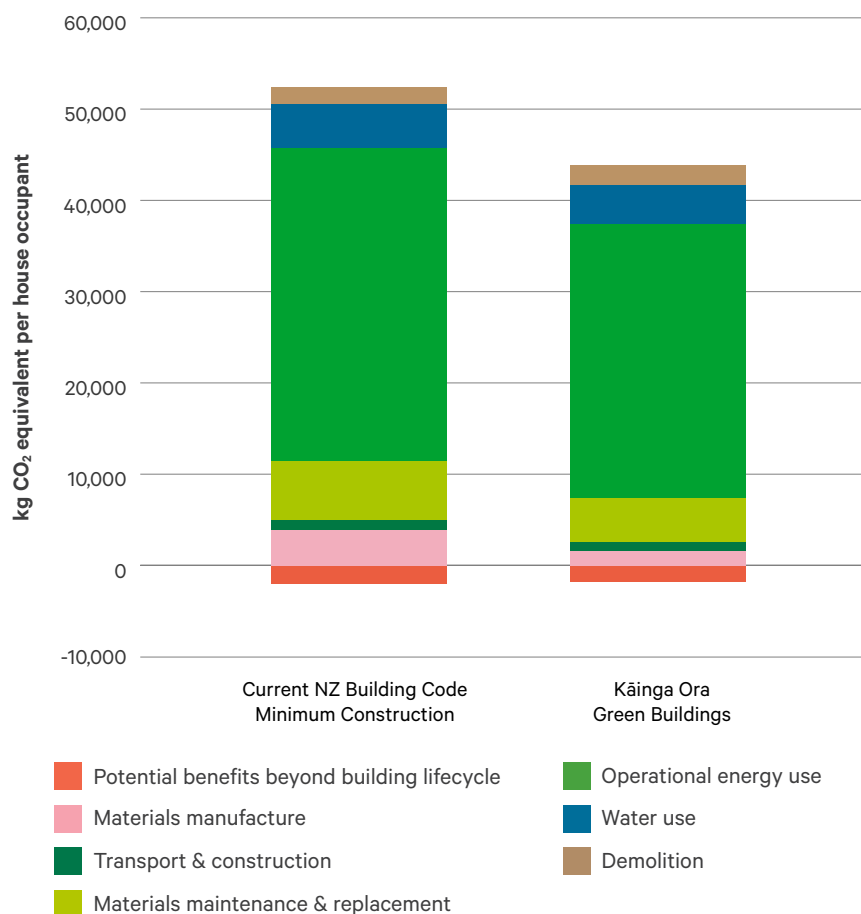


3 Green buildings

Green building construction is estimated to reduce Greenhouse Gas (GHG) emissions by around 14 percent when compared with the New Zealand Building Code and when measured on a per-occupant basis. Kāinga Ora’s preferred approach centres on a carbon budget per person as a more meaningful metric than per square metre. A greater focus on carbon emissions per house occupant removes the impact of larger homes distorting performance.

The following graph compares the [lifecycle carbon performance](#) of new house construction under the New Zealand Building Code with that of Kāinga Ora’s green building standards.⁷ Our challenge is to continue to innovate construction practices to achieve an output of 10,000kg CO₂ equivalent, consistent with a 1.5-degree Celsius global warming climate target.

Estimated potential CO₂ equivalent (kg) per house occupant
Impact over 90 year building lifespan



7. BRANZ lifecycle assessment tool

4 Pollution prevention and control



Impact:

Waste diverted from new construction – 79% / 201 tonnes
Waste demolition from deconstruction – 80% / developing
Carbon emissions (carbon neutral homes) – baseline / developing

Waste diverted from new construction

The nationwide waste diversion initiative was rolled out at our construction sites on 1 July 2019 as part of our build programme that meets 6 Homestar standards. Prior to 1 July 2019 most construction waste would have been sent to landfill. Typical construction waste from our sites includes timber, plasterboard, packaging, metal and plastics.

Jonathan Witts, Team Leader Quality Assurance Construction, says:

“The construction waste that ends up in landfills is a huge problem as large volumes of waste increase the cost of a project and its environmental impact. Every year, 600,000 tonnes of building and demolition waste ends up in landfill in Auckland alone, equating to approximately 4 tonnes of construction waste for each new home. If we simply redirect and recycle construction waste, at least half of it could be diverted from landfills and cleanfills.”

The Kāinga Ora 6 Homestar standard will reduce construction waste by 60-79 percent by following [Resource Efficiency in the Building and Related Industries guidelines](#). Kāinga Ora diverted 201 tonnes over the reporting period through completed Homestar new builds. We anticipate an increase in pollution prevention and control impact working in tandem with our green building outcomes.



Case study

Case study - waste demolition from deconstruction

Kāinga Ora recently completed its first public housing deconstruction pilot at an Auckland development. The 5,537sqm site will see 50 new homes built across three levels. Two of the existing homes were lifted off-site by a house removal company for resale and the remaining eight homes were removed using a deconstruction process. This type of demolition actively seeks to reuse and recycle as many construction materials as possible that may otherwise go to landfill.

Kāinga Ora has an 80 percent diversion from landfill target. This target will be applied to small and medium-sized public housing and across the regions. In the pilot, Kāinga Ora worked with a deconstruction company to achieve 85 percent diversion from landfill. This meant we were able to divert 203 tonnes of building materials from landfill. The cost and duration of the contract were on a par with conventional demolition. The pilot underlines our commitment to having a positive impact on pollution control.



203 tonnes
of building materials
diverted from landfill



4 Pollution prevention and control

Sustainable procurement

Kāinga Ora made a conscious decision in the reporting period to replace existing National Supply Agreements that had been in place for seven years. This provided an opportunity to widen the requirements in our Request for Proposal (RFP) process and ask suppliers to demonstrate their capability in relation to broader outcome initiatives, particularly training and wellbeing, and sourcing products ethically. The RFP process outlined the following expectations:

- **Broader outcomes:** For some materials, we expect environmental certification. For all materials, we expect to see suppliers tracing their supplier chain back to source to ensure ethical compliance. For other environmental factors such as recycling and waste, both of the product and with the companies themselves, we expect suppliers to demonstrate where they are on the journey and what they are going to do in the near future.
- **Supply chain:** We want to ensure that the shortlisted respondents are aware of the importance of being able to access all the materials across all of New Zealand.

We know that suppliers may not currently have advanced broader outcome strategies such as environmental certification or have traced their supply chain back to source, but we expect them to commit to continue the journey and include key performance indicators in the agreement. Overall, the process allows us to align our procurement practices and supplier agreements with Kāinga Ora's broader sustainability programme.



4 Pollution prevention and control

Carbon neutral homes

Our [Environmental Strategy](#) has enabled us to establish Kāinga Ora’s carbon aspirations, which are:

- **new** residential construction to be carbon neutral by 2030 and beyond
- continuous decarbonisation of our **existing** portfolio to achieve a carbon neutral housing portfolio by 2050
- having a **total** carbon neutral housing portfolio by 2050.

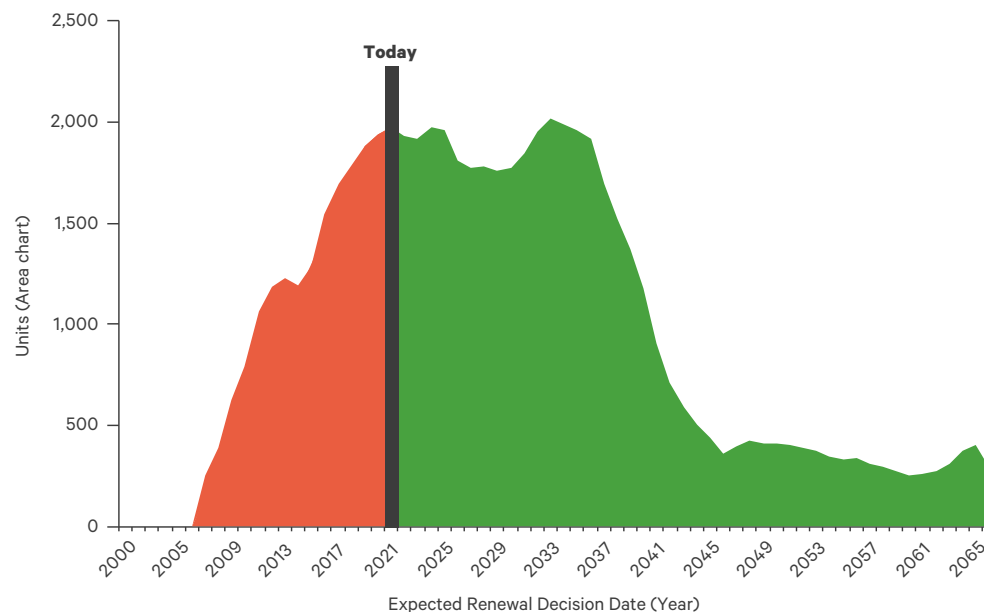
In the reporting period, our build programme represented around 7.5 percent of the total residential investment in New Zealand. That figure will continue to grow over the next three to four years, with our build programme forecast to deliver an additional 7,000 public houses over that period.

In addition, around 50,000 of our public houses require significant capital reinvestment in the next 30 years. This presents a unique opportunity to reset and significantly improve the performance of our portfolio via retrofit or redevelopment.

The key factors determining our corporate emissions profile are our existing housing portfolio, underlying business operations, and expansion of new build programmes. The challenge we face, and one that separates us from other organisations, is the size of our asset base, which is on a path of increasing at scale. The work required represents a significant challenge to achieve a totally carbon neutral portfolio by 2050, but it is one we are committed to.

We need to renew at a rate of around 2,400 properties per annum to ensure the lifecycle of 75 percent of our assets is reset.

Forecast of dwellings in need of renewal Based on build year life assumption



4 Pollution prevention and control

Kāinga Ora’s corporate emissions profile

For Kāinga Ora to meet its responsibilities under the [Climate Change Response Amendment \(Zero Carbon\) Act](#), as well as its own carbon neutral housing aspirations, the lifecycle carbon pollution of its new buildings needs to decrease.

In 2019/20 Kāinga Ora commissioned a Corporate Carbon Footprint report to identify the significant sources of GHG emissions within the organisation’s business operations, construction activities and supply chain. The emissions data gathered is a snapshot of one year (2018/19) of Kāinga Ora’s activities.

Operation (exclusions ⁸)	Total emissions (tCO ₂ e) ⁹	%
Tenant energy, water and maintenance activities	63,002	54%
Housing construction and demolition	48,378	42%
Corporate emissions	4,843	4%
Urban development programme	Not measured	–
FY2018/19	116,223	100%

8. Non-operational emissions under Scope 3 have been excluded.

9. CO₂ emissions per tonne, calculated in line with ISO 14064-1 and the Greenhouse Gas Protocol.

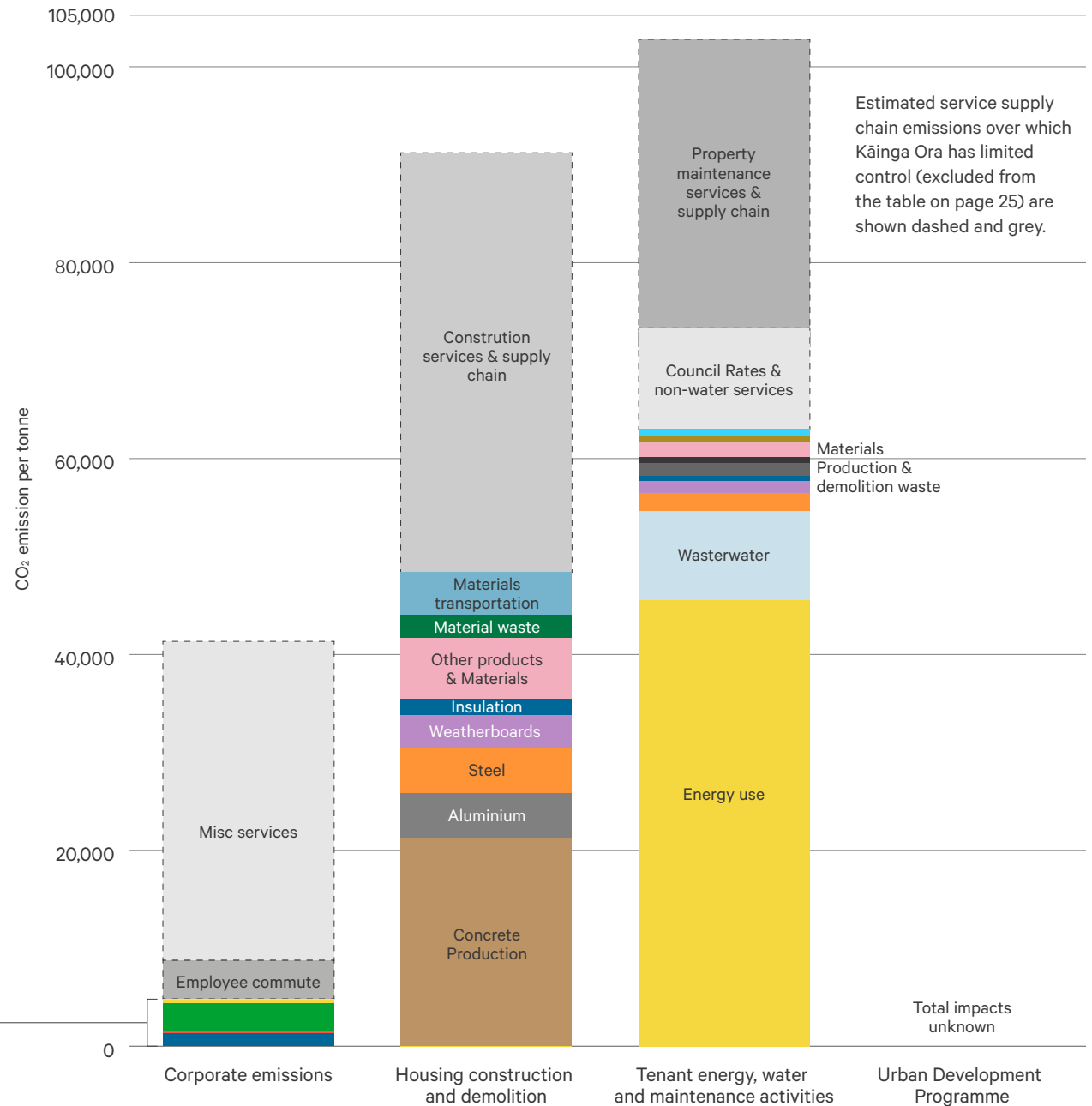
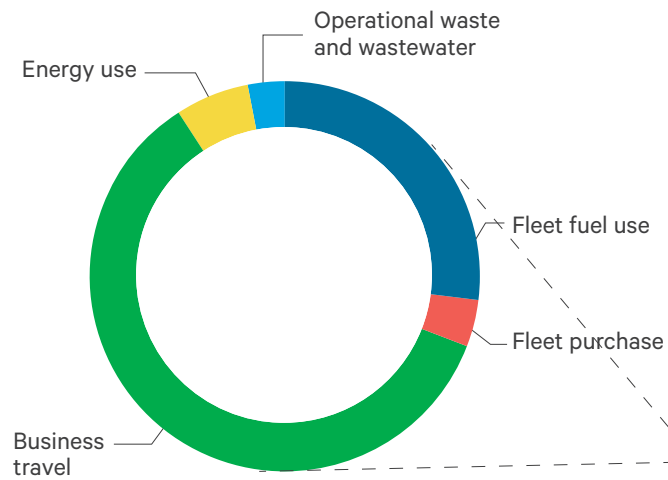


4 Pollution prevention and control

The following graphic shows Kāinga Ora’s estimated carbon emission footprint across different parts of the organisation. We consider this the first step in developing and implementing sustainability interventions to reduce Kāinga Ora’s operational carbon impact.

Kāinga Ora will have an impact on, housing construction and demolition, emissions through selection of manufactured construction products and materials.

In addition, Kāinga Ora has the ability to impact tenant emissions through energy efficient house design and products.



4 Pollution prevention and control

Next steps: The challenge – to lead or to follow?

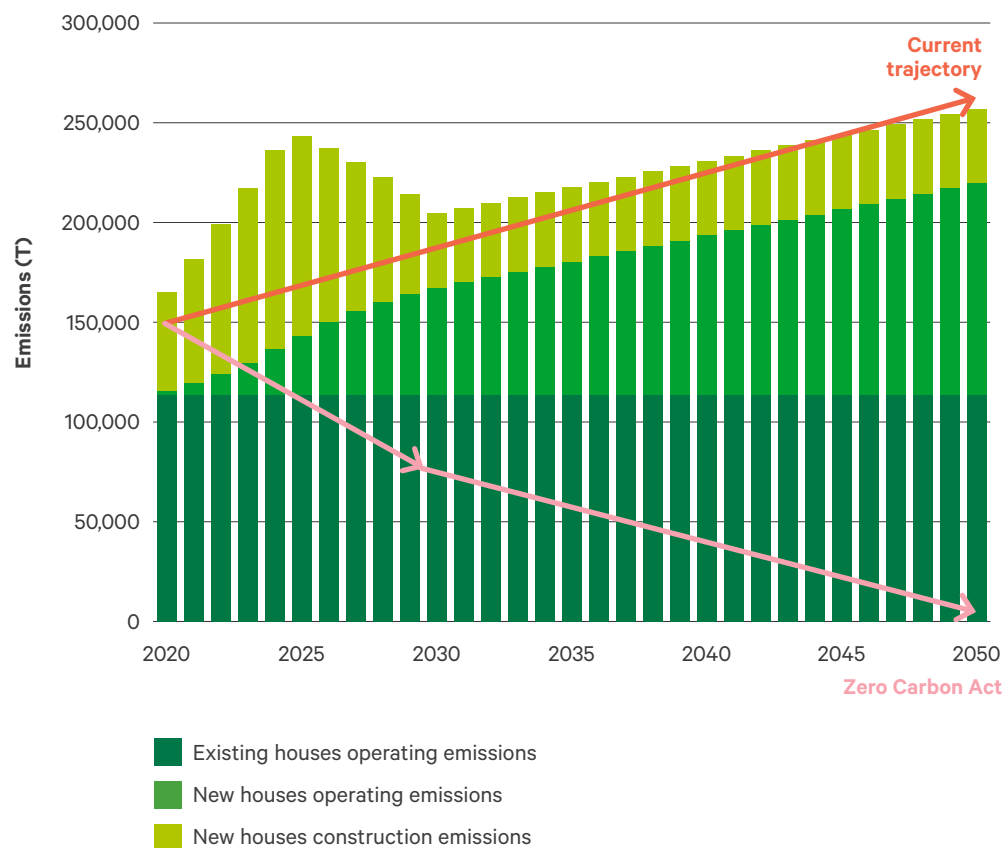
The current pace of construction innovation in New Zealand will not enable us to achieve our carbon aspirations over the required timeframe.¹⁰

In response to this challenge we have adopted a leadership role. This ensures we are proactive in research and development (primarily having goals and testing solutions against them) that informs the decisions we need to make about structural systems and internal environment performance requirements.

This includes design and construction decisions such as evaluating the performance of five different structural/construction systems (5-Systems). Innovative technology such as cross-laminated timber (CLT) and conventional constructions such as light timber frame, light gauge steel, concrete and steel framing are measured. In each structural/construction system different insulation, air-tightness and ventilation performance levels are being evaluated to further improve our tenants' wellbeing and environmental outcomes.

Estimated annual emissions projection

Continue status quo



10. Chart illustrates ~2,000 new homes pa, increasing to 4,000 by 2025 and dropping to 1,500 from 2030.

4 Pollution prevention and control

Case study

Hybrid construction systems

Offsite Manufacturing (OSM) and Modern Methods of Construction (MMC) are relatively new building approaches in New Zealand. This enables learning from countries like Germany, Sweden and Japan where OSM and MMC are more widely accepted. Global predictions for construction are to integrate more technology, more manufacturing and more improved building methods in the next few years.

Hybrid systems are combinations of different building elements manufactured in a controlled facility away from the construction site.

- Hybrid systems may include **panel elements** like interior or exterior walls, floors and volumetric units, such as **bathroom pods**. Wall elements can include cladding, interior finishes, windows and doors.
- A hybrid approach combines benefits, such as the design customisation of panels with the **speed of assembly** of fully finished pods.
- Key benefits are a building that is closed in **more quickly and safely**, while speeding up the Building Consent Authority (BCA) inspection process and internal finishing.
- A fully weather-tight structural solution is achieved with reduced scaffold costs and in record time. **Time savings** for hybrid systems can see the build programme reduced by 60-70 percent from a traditional build.

- Craning in fully-formed panels reduces time at site and increases **worker safety** with less time spent working at height, which is a major cause of workplace incidents.
- **Digital design tools**, including building information modelling (BIM) and virtual reality (VR) visualisation, ensure dimensional accuracy and correct coordination of the elements for installation at site.

New Zealand's forestry and wood manufacture industry is well positioned to increase its manufacturing base in high-value manufactured timber panel elements, such as CLT. Kāinga Ora's R&D pilot programme has trialled full CLT buildings as well as a peer-reviewed hybrid system comprising CLT floors and internal walls, customised cladding panels, and bathroom and laundry pods.

Wood is the only widely used renewable building material and enables long-term carbon storage, or sequestration of biogenic carbon, which helps combat climate change. Timber production is a relatively low-carbon process and its chain-of-custody can be certified to reflect sustainable sources. Making sure that the sequestered carbon is greater than the emitted carbon enables the end goal of achieving carbon neutrality in construction.

In adopting construction innovation Kāinga Ora will look to have a meaningful and sustainable impact on and reduction in its carbon emission footprint over the next 30 years.



“A three-storey walk-up of six single-bedroom units requires 200m³ of CLT, which sequesters 120 tonnes of CO₂. The concrete foundation emits around 20 tonnes of CO₂, which leaves 100 tonnes of CO₂ sequestration in the CLT to offset any CO₂ emissions from the remaining building elements. This is one of the principles behind our pathway to carbon neutrality.”

Tim Campbell, Business Innovation,
Research and Design Director



Appendix one – Building thriving communities

The following case studies on Greys Ave and Northcote Precinct encapsulate our environment, social, sustainability and wellbeing objectives and outcomes in one cohesive picture.

Case study

Greys Ave

Project details

The planned complex includes three new apartment towers up to 14 storeys high and contains 276 apartments, along with 45 basement carparks and more than 2,500sqm of commercial space and support facilities.

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

Milestone	Status
Consenting	Resource consent gained Final building consent expected in October 2020
Civils infrastructure	Underway
Main construction	Beginning early December 2020
Expected completion	Q3/2022

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



Sustainable design outcomes

The Greys Ave project is striving to support great sustainable outcomes through design, and will be constructed to meet 7 Homestar standards. The building has a sustainable focus, with waste minimisation both during construction and post occupation and a focus on reduction and recycling.

Social procurement outcomes

Kāinga Ora has included social procurement outcomes within the main build programme for 139 Greys Avenue. Social procurement supports a broader range of outcomes from our contracts such as creating employment opportunities through new apprenticeships, supporting the development of Māori and Pacific businesses through targeted spend and providing meaningful learning and development opportunities for the workers on site. We are targeting between 4 percent and 7.5 percent of total spend for this contract to go to Māori and Pacific businesses or social enterprises. At least 28 apprenticeships will provide learning and development opportunities for workers on site to support and develop new construction workers, with a particular focus on Māori and Pacific workers, women in construction, Kāinga Ora customers and people who have experienced long-term unemployment.

The following link provides our social procurement outcomes in detail: <https://kaingaora.cwp.govt.nz/assets/Developments-and-Programmes/Greys-Ave/Greys-Ave-update-21Oct2020.pdf>

Iwi partnership

Kāinga Ora has partnered with Ngāti Whātua Ōrākei through the design of the building. Iwi gifted a narrative from which the base design was developed and five Ngāti Whātua Ōrākei designers have worked alongside our design team to develop a design that tells the story of the narrative and brings the narrative to life. We continue to work alongside Iwi and they will continue to be involved throughout construction and post occupation.



Case study

Northcote Precinct

The redevelopment of Northcote has been talked about for many years and so the community has been waiting for redevelopment to take place. It is a superbly located suburb, 8km from the CBD, with a town centre, a primary and intermediate school, employment nearby and excellent public transport.

House delivery/Completion numbers

Financial Year (1 July to 30 June)	New Houses
Completed to date (30 June 2020)	129
2020/21	150 (forecast)
2021/22	320 (forecast)
2022/23	554 (forecast)
2023/24	416 (forecast)

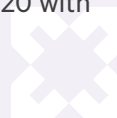
Key projects in Northcote which Kāinga Ora is working on or involved with

Northcote Town Centre: This is majority owned by Panuku (the property arm of Auckland Council), and is a successful regional shopping centre particularly for the Asian community. But it is a tired town centre and Panuku has plans to redevelop it over the next 7 to 10 years. Kāinga Ora works with Panuku to ensure there is a coordinated masterplan and communications about Northcote in general. Panuku use the Kāinga Ora Info Centre (located in Northcote Town Centre) to communicate its plans.

Local schools: The two local schools are Northcote Intermediate and Onepoto Primary. The primary school is not doing so well, with a declining roll,

and it is possibly the lowest decile school on the North Shore. Kāinga Ora worked with the Ministry of Education (MOE) on options for redeveloping the school. MOE has allocated \$19.5 million towards the rebuild of the school, which has commenced. The new school will be redeveloped over two stages, with capacity for 800 students. The intermediate school is performing well but a growing roll means redevelopment options are currently being explored with MOE.

Amenity: With the uplift in density we need to ensure that we have amenity in place to balance that. 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 quite some time. There has been a large amount of engagement and consultation on the design of Te Ara Awataha with the local schools, Mana Whenua, and key stakeholder community groups. Works commence in 2020 with completion forecast for summer 2021/22.



Kāinga Ora is also delivering a new pocket park and re-orienting and increasing the size of the existing Cadness Loop Reserve. The community has participated in the design of these parks to make Northcote a great place to live, shaped with what the community wants and needs.



Appendix two – Capital expenditure

Kāinga Ora has established a Portfolio/Programme/Project (P3) approach to its build programme. Programmes and Projects may run concurrently across several portfolios to ultimately procure the most efficient and effective outcome to achieve the long-term objective. Green, social, sustainability and wellbeing impacts may be shared across the Portfolios, as Programmes and Projects can often overlap.

Portfolio	Budget FY2019/20	Actual FY2019/20	Forecast FY2020/21	Programme	Description	Example / large projects	Eligible category
Public Housing	\$1,270m	\$1,056m	\$1,525m	<ul style="list-style-type: none"> New Build Redevelopment Buy-in Significant Public Housing Projects Construction in Large-Scale Projects Retrofit Complex Remediation 	<ul style="list-style-type: none"> Acquisition of newly built homes for use as public housing Development and construction of public housing on land owned by Kāinga Ora Acquisition of existing homes for use as public housing Large or complex projects focused on development and construction of public housing, but may include other housing products Construction of public housing on land produced by large-scale programmes in the Urban Development and Regeneration Portfolio Retrofit of existing public housing homes owned by Kāinga Ora Remediation and renewal of large public housing buildings (complexes) owned by Kāinga Ora 	Large Scale Projects (Precincts): Mangere Northcote Greys Ave Eastern Porirua	Green Green buildings Pollution prevention and control Social Affordable housing Socioeconomic advancement and empowerment
Supported Housing	\$720m	\$184m	\$1,315m	<ul style="list-style-type: none"> Community Group Housing Transitional housing 	<ul style="list-style-type: none"> Construction or acquisition of homes for use as Community Group Housing Construction or acquisition of transitional homes Construction or acquisition of transitional homes under the Permanently Ending Reliance on Motels initiative 	Transitional housing	Green Green buildings Pollution prevention and control Social Affordable housing Socioeconomic advancement and empowerment
Urban Design & Regeneration	\$23m	\$31m	\$90m	<ul style="list-style-type: none"> Urban Development Investigations Partnership Programmes 	<ul style="list-style-type: none"> Land development programmes for public housing Large or complex projects focused on development and enablement of public or supported housing 		Green Green buildings Pollution prevention & control Social Affordable housing Socioeconomic advancement and empowerment
Net capital expenditure	\$2,065m	\$1,270m	\$2,985m				

Appendix three – Annual review



Kāinga Ora

Type of Engagement: Annual Review

Date: November 2, 2020

Engagement Leader:

Amanda Ackerman, amanda.ackerman@sustainalytics.com, (+31) 20 205 00 88

Introduction

In 2019 and 2020, Kāinga Ora¹ issued sustainability bonds to improve the environmental performance and availability of social housing in New Zealand, and which support Kāinga Ora's strategy and vision. In 2020, Kāinga Ora engaged Sustainalytics to review the programmes funded through the issued sustainability bonds and provide an assessment as to whether the programmes met the Use of Proceeds criteria and the Reporting commitments outlined in the Sustainability Financing Framework.

This annual review relates to bonds being issued with maturity dates as follows:

1. June 2025
2. October 2026
3. October 2028
4. April 2030
5. September 2040

Evaluation Criteria

Sustainalytics evaluated the programmes funded in FY2019/20 (reporting period representing July 2019 – June 2020) based on whether the programmes:

1. Met the Use of Proceeds and Eligibility Criteria outlined in the Sustainability Financing Framework; and
2. Reported on at least one of the Key Performance Indicators (KPIs) for each Use of Proceeds criteria outlined in the Sustainability Financing Framework.

Table 1 lists the Use of Proceeds, Eligibility Criteria, and associated KPIs.

Table 1: Use of Proceeds, Eligibility Criteria, and associated KPIs

Use of Proceeds	Eligibility Criteria	Key performance indicators (KPIs)
Affordable Housing	<p>Retrofit of existing, and development of new, social housing. This includes upgrades to provide better health and wellbeing outcomes for tenants under a number of programmes including the Kāinga Ora Warm & Dry programme and Healthy Homes Act requirements.</p> <p>Development of accessible units which incorporate mobility considerations for building new homes as well as for redevelopment.</p> <p>Development of supported housing for tenants requiring intensive support to live in their homes, including those utilised for Community Group Housing.</p>	<ul style="list-style-type: none"> - Number of people housed with new and/or retrofitted social housing accommodation - Number of new and/or upgraded facilities financed that include mobility considerations. - Number of new and/or upgraded facilities financed for supported housing for tenants requiring intensive support to live in their homes
Socio-Economic Advancement	Development of a Te Waka Urungi (Intensive Tenancy Management) function to provide better support for the 5 percent of Kāinga Ora	<ul style="list-style-type: none"> - Type of support for customers identified as most at risk of poor wellbeing outcome

¹ Kāinga Ora was established on 1 October 2019, bringing together KiwiBuild Unit, Housing New Zealand and its development subsidiary HLC into a new Crown Entity. The Sustainability Financing Framework referenced in this Annual Review, dated September 2019, was developed under Housing New Zealand. https://kainagora.govt.nz/assets/Investors-Centre/Documents/Sustainability-Financing-Framework-2019_20-A6446463.pdf

Annual Review
Kāinga Ora



	customers identified as most at risk of poor wellbeing outcomes.	- Case studies
Green Buildings	New construction and/or retrofit of social housing that has, or will receive, minimum 6 Star Homestar rating ^{2 3 4} .	<ul style="list-style-type: none"> - Green certifications obtained - Materials sourced sustainably (including certified products, recycled content) (%) - Energy/ CO2 savings from renovations and upgrades
Pollution Prevention and Control	<p>Reduction of waste by Kāinga Ora construction activities on kg/m² basis through:</p> <ul style="list-style-type: none"> - standard designs for standard material sizes and reduced material types that reduce construction waste - deconstruction services and waste management to recycle and reuse deconstruction waste - use of materials that reduce waste and/or have recycled content <p>Reduce rate of embodied emissions through use of low embodied carbon designs and materials in Kāinga Ora developments.</p> <p>Reduction of urban air pollution through:</p> <ul style="list-style-type: none"> - use of surface area materials designed to reflect heat - increased tree and vegetation coverage of Kāinga Ora land. 	<ul style="list-style-type: none"> - Amount of waste reduced, reused, recycled and/or diverted from landfill (tonnes) - CO2 and other GHGs avoided/reduced through waste management (tCO2e) - Amount of waste that is separated and/or collected and treated (including composting) (tonnes and %) - Reduction of air pollutants in buildings - Amount of soil and land remediated - Amount of runoff reduced

Issuing Entity's Responsibility

Kāinga Ora is responsible for providing accurate information and documentation relating to the details of the projects that have been funded, including description of projects, estimated and realized costs of projects, and project impact.

Independence and Quality Control

Sustainalytics, a leading provider of ESG and corporate governance research and ratings to investors, conducted the verification of Kāinga Ora's Sustainability Bond Use of Proceeds. The work undertaken as part of this engagement included collection of documentation from Kāinga Ora employees and review of documentation to confirm the conformance with the Sustainability Financing Framework.

Sustainalytics has relied on the information and the facts presented by Kāinga Ora with respect to the Nominated Projects. Sustainalytics is not responsible nor shall it be held liable if any of the opinions, findings, or conclusions it has set forth herein are not correct due to incorrect or incomplete data provided by Kāinga Ora.

Sustainalytics made all efforts to ensure the highest quality and rigor during its assessment process and enlisted its Sustainability Bonds Review Committee to provide oversight over the assessment of the review.

² https://www.nzqbc.org.nz/Category?Action=View&Category_id=110

³ Most Kiwi homes would only achieve a 2-3 on the Homestar rating scale; a new home designed and built to today's Building Code would achieve around a 3-4 on the Homestar scale. https://www.nzqbc.org.nz/Category?Action=View&Category_id=110

⁴ Broadly speaking, in Auckland a 6 Homestar home will be 38% more energy efficient than a home built to the building code. (Potential savings vary from region to region.) https://www.nzqbc.org.nz/Category?Action=View&Category_id=110

Conclusion

Based on the limited assurance procedures conducted⁵ nothing has come to Sustainalytics' attention that causes us to believe that, in all material respects, the reviewed bond projects, funded through proceeds of Kāinga Ora's Sustainability Bonds, are not in conformance with the Use of Proceeds and Reporting Criteria outlined in the Sustainability Financing Framework.

Detailed Findings

Table 2: Detailed Findings

Eligibility Criteria	Procedure Performed	Factual Findings	Error or Exceptions Identified
Use of Proceeds Criteria	Verification of the projects funded by the sustainability bonds in FY2019/20 to determine if projects aligned with the Use of Proceeds Criteria outlined in the Sustainability Financing Framework and above in Table 1.	All projects reviewed complied with the Use of Proceeds criteria.	No error was found. However, we note that reporting was performed on a portfolio basis.
Reporting Criteria	Verification of the projects funded by the sustainability bonds in FY2019/20 to determine if impact of projects was reported in line with the KPIs outlined in the Sustainability Financing Framework and above in Table 1. For a list of KPIs reported please refer to Appendix 1.	All projects reviewed reported on at least one KPI per Use of Proceeds criteria.	None

⁵ Sustainalytics limited assurance process includes reviewing the documentation relating to the details of the projects that have been funded, including description of projects, and project impact, which were provided by the Issuer. The Issuer is responsible for providing accurate information. Sustainalytics has not conducted on-site visits to projects.

Appendices

Appendix 1: Impact Reporting by Eligibility Criteria⁶

Use of Proceeds Category	Environmental Impact Reported by Eligibility Criteria
Affordable Housing	- Number of people housed: 13,735
Socio-Economic Advancement	- Number of tenants supported (Te Waka Urungi): 294
Green Buildings	- Number of homes: Delivered 210 green building homes to minimum 6 Homestar Rating
Pollution Prevention and Control	- Waste reduction: 79% reduction of waste related to green buildings (Homestar Rating)

⁶ While Kāinga Ora reports on several impact metrics in their Sustainability Financing Impact Report, for ease of reporting, Sustainalytics has highlighted one per category.

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Named
2015: Best SRI or Green Bond Research or Rating Firm
2017, 2018, 2019: Most Impressive Second Opinion Provider





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