

# Building Momentum

OUR CONSTRUCTION  
PLAN FOR FUTURE HOMES





## It's time to change.

Housing more New Zealanders means we have to think differently to deliver quality state homes, at a faster rate, and with better outcomes for our customers, the communities in which we work, and the wider construction industry.

Kāinga Ora – Homes and Communities is charged with delivering ever increasing numbers of new state homes and either replacing or retrofitting a significant portion of our existing, aging housing portfolio. We are focused on improving the efficiency and effectiveness of residential construction in New Zealand, beginning with our own performance.

This document, Building Momentum – our construction plan for future homes, outlines how we will do that while working with the broader construction industry to improve the way state housing is delivered throughout the country. It's a new way of thinking and building – alongside you and the industry.

### SECTIONS

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# A word from the General Manager, Construction and Innovation Group



Champion Street, Porirua



Kāinga Ora – Homes and Communities is the new urban development authority and Crown agency established on 1 October 2019. Our name means ‘wellbeing through places and communities’. We are formed from the state housing provider, Housing New Zealand, the development subsidiary Homes Land Community (HLC), and the KiwiBuild unit from the Ministry of Housing and Urban Development.

The New Zealand Government set up Kāinga Ora to deliver a step change in housing and urban development. As the largest builder of residential homes in the country, we are charged with the annual delivery of thousands of new state, affordable, community and market homes, as well as renewing our existing portfolio to meet modern standards for warm, dry and healthy rental housing.

To be successful, we need to innovate and improve the efficiency and effectiveness of residential construction in New Zealand, beginning with improving our own performance. This new Building Momentum plan outlines how we will partner and engage with the wider construction industry to improve how we deliver state housing together. As part of our wider Kāinga Ora Strategy, Building Momentum leverages the good work from the Innovate Partner Build programme.

## We are proud of what we have achieved

Time and cost savings through construction partnering agreements – multi-year contracts for the annual delivery of a set number of homes

Increased use of offsite manufacturing – around 15 percent of current build volumes

Raising of the bar by improving the quality and efficiency of our homes by committing to minimum 6 Homestar certification and delivering more homes to universal design standards

The establishment of a standalone building consent authority called Consentium

Approval for a suite of repeatable MultiProof plans

Kāinga Ora’s Building Momentum plan is for internal and external groups such as Māori, local and central government and the wider construction sector, amongst others. It provides a single organisational vision and strategy for our state housing construction and refurbishment activity, and a blueprint for our partners who we need to work with in order to be successful.

Kāinga Ora is leading the biggest state housing programme in decades. Our success depends on how effectively we partner and engage with others in the construction industry. We wish to be the client of choice by following this plan and working to embody our values:

- Manaakitanga – People at the Heart
- Mahi Tahi – Better Together
- Whanake – Be Bold

I hope you see these values reflected in Building Momentum and in our actions over the coming months and years working together.



**Patrick Dougherty**  
General Manager  
Construction and Innovation

# What is Building Momentum?

## 01 Setting the Scene

### Purpose

Building Momentum sets out the key changes planned for the delivery and upgrading of state housing in Aotearoa New Zealand. It calls for our leadership of transformation in the construction sector.



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### Te Wero – The Challenge

Growth is a fundamental part of the challenge. It comes from demand for increased state homes, and from the need to replace many of our existing homes. Responding to the evolving needs of our customers and communities is the other part of the challenge. We need to change, and we need our industry partners to change with us.

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### Mahi Tahī – Working Together

We don't face this challenge alone. There is a suite of government and industry initiatives underway which collectively will address these challenges.

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### The Opportunity

Growth provides us with the opportunity to do things differently. It is the way we can unlock greater economic, social, environmental and cultural wellbeing – and greater value for our industry partners. We must step forward with confidence to create demand-led transformation for the construction sector.

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### Our Approach

We will do this by sharing our forward work programme, creating five priority areas of focus and committing to collaboration, measurement and sharing. Our internal improvement focus will be matched by our external partnering and knowledge-building activities.

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### Pipeline:

#### Forward Work Programme

Sharing our demand pipeline is part of our commitment to be more transparent and enable the industry to plan ahead with greater certainty.

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## 02 Priority Focus Areas

This is where we will focus our energy to drive real transformation – internally in our work programmes and externally in our information-sharing and collaboration activities with our partners towards wider construction industry transformation.

### Partnering

Undertaking collaborative construction partnerships with the industry and Māori for better outcomes.

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### Innovation

Embedding innovation into our construction delivery culture and projects.

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### Design Quality

Ensuring quality homes and vibrant communities are delivered using customisable, standardised parts.

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### Delivery

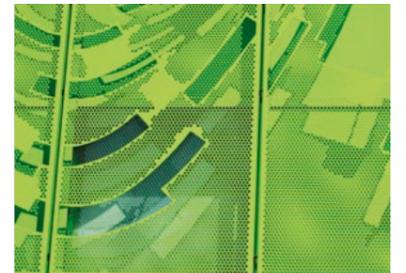
Continuously improving the delivery process and increasing efficiency to enable faster and more cost-effective builds.

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### Sustainability

Progressively working towards the delivery of carbon neutral homes and supporting industry to move there with us.

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## 03 Looking Ahead

### Measuring progress

We need to understand our contribution to broader wellbeing outcomes for New Zealanders and as a leader in the construction industry by delivering scale, pace and whole-of-life value.

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### Draft implementation overview

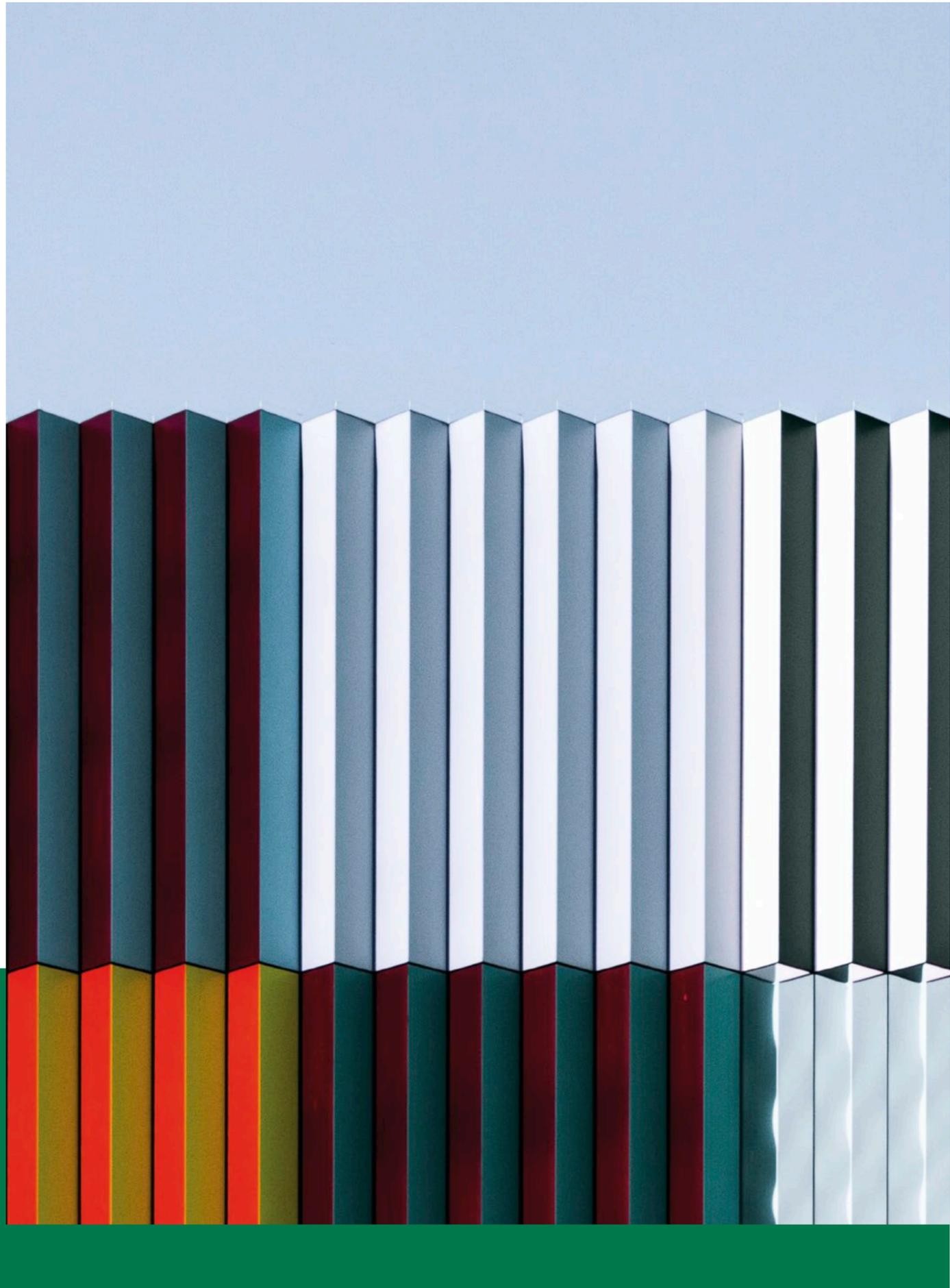
The key milestones and activities that we will deliver over the coming two years.

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### Future voices

We have a once-in-a-generation opportunity to get this right. What will it look like when we do get it right? Here are some voices from the future.

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# 01

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## Setting the Scene

# Purpose



**Kāinga Ora is the key delivery agency for the Government’s public housing commitment. We have a significant role to play in delivering more homes and ensuring these homes are part of thriving communities. We also have a legislative requirement to provide leadership and transformation to the construction industry.**

Building Momentum is one of a complementary suite of Kāinga Ora plans and strategies to achieve a step change in the way housing and urban development are provided in New Zealand. It sits alongside the Customer Strategy, the Asset Management Strategy, the Supplier Strategy and the Environment Strategy, as well as related guidance such as the Accessibility Policy (2021-2022). Building Momentum looks at how we will deliver on our ambitions for better state homes (as a sub-set of public housing) and for broader influence on improving the wider construction sector.



Britomart Street, Wellington

At Kāinga Ora we have established six overarching outcomes which drive all our activity (see next page). The work we undertake in delivering state housing construction, refurbishment and purchasing is a key contributor to each and every one of these outcomes. However, this plan is critical to the success of the following three outcomes:



### System transformation

Authentic and strategic partnerships shape the system, including those with iwi and Māori organisations, investors, local government and all stakeholders. Innovative methods such as offsite manufacturing (OSM) are adopted in the housing sector for increased productivity. Capacity and resource in the system are unlocked to enable new housing delivery at a faster and more efficient pace. The lessons learned are shared transparently and collaboratively with the construction sector, as is the pipeline of forward work.



### Quality and affordable homes

Our homes are safe, warm, dry, healthy and designed to support a diverse range of needs and choices. Commissioned state housing supply responds to customer needs. People and whānau have access to homes they can afford. The cost of new market housing becomes more affordable by embedding construction industry efficiencies and innovative systems in the state housing build programmes. We excel at delivering quality at scale by using standardised design and manufactured components.



### Environmental wellbeing

We own and deliver environmentally sustainable assets. Our assets and communities are resilient to environmental shocks from our changing climate conditions. Our customers and communities are empowered to live in an environmentally sustainable way. We are reducing construction waste and moving towards carbon neutral housing delivery while measuring the steps and improvements we make along the way.

The Kāinga Ora Outcomes Framework



Getting this right is critical – for Kāinga Ora as an organisation and for New Zealand. We will spend around \$35 billion over 20 years on this construction activity. We need Building Momentum as the foundation plan to help us think clearly, and think ahead, about the smartest way we can make this investment succeed on behalf of New Zealanders.

Building Momentum sets out our intentions in relation to these key programmes in the work of Kāinga Ora. Please note that Kāinga Ora’s approach to urban development is referenced in other strategic planning documents. While Kāinga Ora has a responsibility to deliver public housing alongside community housing organisations (CHOs), Building Momentum is focused on the delivery of state housing as a sub-set of public housing. It lays out the ways we will work together towards greater consistency in delivering newly developed, new build and retrofitted housing.

**\$35 billion  
over  
20 years**

Designing and developing  
**NEW STATE HOUSES** →

Kāinga Ora develops new state housing by directly managing the feasibility, planning, design and delivery process. We engage consultants and build partners to help us achieve this.

Refurbishing and upgrading  
**EXISTING STATE HOUSES** →

Kāinga Ora undertakes significant retrofit and refurbishment programmes in existing homes and apartments, to make them warmer, drier and more modern for our customers.

Specifying and purchasing  
**NEW STATE HOUSES** →  
from developers on private land

Kāinga Ora also purchases new state homes from private sector developers where we have an agreement that they build a range of tenures on private land. While we do not directly manage the development process, we are the client for the completed homes.



# Te Wero – The Challenge

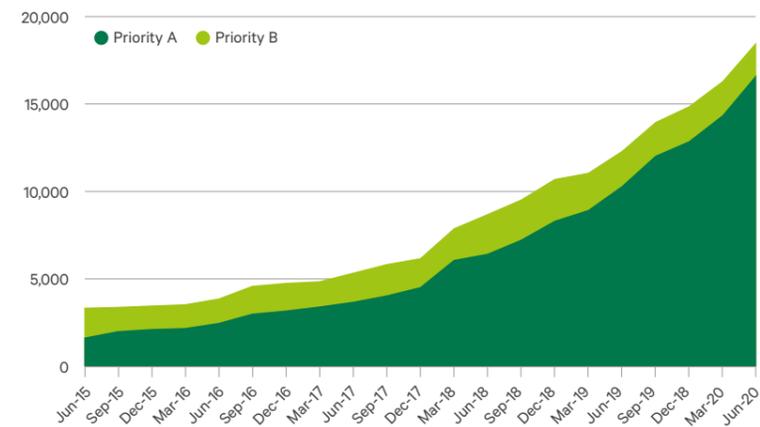
Given the central role Kāinga Ora plays in delivering on the Government’s plan to reform the housing sector and improve housing for New Zealanders, it is critical that we clearly set out how we intend to face this challenge.

We do not underestimate the scale of the challenge. While we have delivered year-on-year increases in the volumes of new state homes built (with the exception of the FY20 COVID-impacted numbers), we have even more to do. There are four dimensions to the scale of this challenge:

## 1 | The demand for public housing is increasing

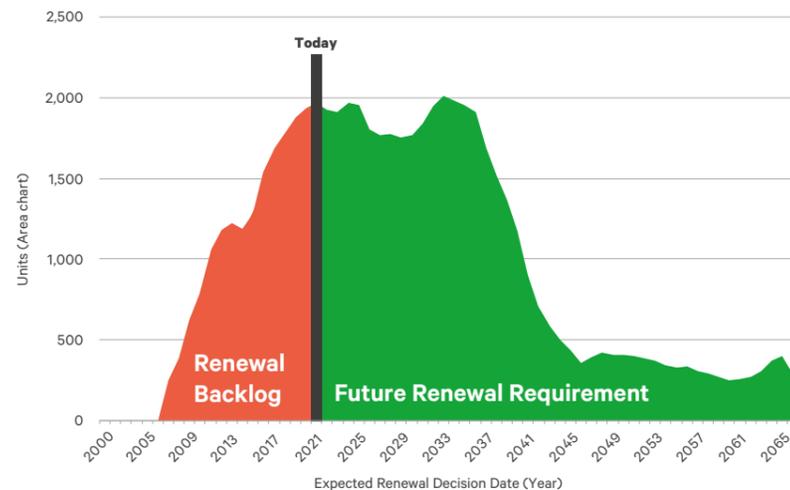
The public housing waiting list has tripled in the last five years

Public Housing Register at 30 June 2020



## 2 | Over half of our 65,000 homes need to be replaced over the next 20 years

The renewal programme will see 75% of properties upgraded over the next 20 years



## 3 | New Zealand’s housing and construction sector faces significant challenges

- Skills and labour shortages
- Health and safety improvements needed
- Low margins and fragmented industry
- Poor collaboration and knowledge sharing
- Variability across urban and rural contexts
- Spike in construction costs
- Increased project delivery risks
- Compliance-based cost increases

Source: ANZ NZConstruction Report (2017)

## 4 | We need to build homes differently

- Designs for customers and community
- Lower energy and water bills
- Higher-quality builds for whole-of-life value
- Lower carbon footprint and increased climate resilience
- Getting the benefits of digital technologies
- Building in a way that benefits community through local employment
- Homes to suit people’s different needs, including Māori
- Homes universally designed to be functional over a lifetime

- We currently have more than 4,000 homes under construction and we want to maintain that momentum.
- We need a plan to help us sustainably build over 3,000 new state homes a year.
- We will spend more than \$33.4 billion on new and refurbished state housing over the coming 20 years.

A smart approach to building will directly impact how many thriving communities we can create, and our own financial sustainability. We need to deliver the best possible public value – for this generation and future generations.

# Mahi Tahī – Working Together

We don't face this challenge alone. There is a suite of government and industry initiatives underway which collectively help to unlock these challenges.

Kāinga Ora and the Ministry of Housing and Urban Development (HUD) have complementary and interdependent roles. Kāinga Ora is the Government's primary housing and urban development delivery arm. We are focused on providing state housing principally for those most in need, along with initiating or undertaking urban development.

The Ministry of Housing and Urban Development's Public Housing Plan 2018-2022 guides the work of Kāinga Ora – Homes and Communities, other agencies such as community housing providers (CHPs) and the wider housing sector to achieve the Government's goal of increasing the supply of public housing, transitional housing and services to tackle homelessness.

## CONSTRUCTION SECTOR ACCORD

As part of the Construction Sector Accord, industry and the Government pledged to work together to create a plan to transform the industry in Aotearoa New Zealand. The Transformation Plan was launched in January 2020 and aims to:

- increase productivity
- raise capability and grow skills
- improve resilience
- restore confidence, pride and reputation.

## CONSTRUCTION SKILLS ACTION PLAN

The Construction Skills Action Plan has six initiatives aimed at ensuring a fit-for-purpose construction workforce now and in the future. These include:

- working with industry to increase interest for jobs in the sector
- helping employers make a difference for young people, so that they receive the training they deserve in a range of industry sectors.

## BUILDING SYSTEM REFORM

The building law reform is a programme of work to lift the performance of the regulatory system and drive better outcomes for the sector and for New Zealanders. Key areas for improvement are:

- a new voluntary manufacturer certification scheme for offsite manufacturing (OSM) or modern methods of construction (MMC)
- more publicly available information about the building products they sell
- a more robust product certification scheme.

## BUILDING FOR CLIMATE CHANGE

The Ministry of Business, Innovation and Employment (MBIE) has set out three main objectives to increasing a building's operational efficiency:

1. Reduce operational carbon emissions
2. Reduce water use
3. Improve health and wellbeing through indoor environmental qualities (IEQ)

MBIE proposes to regulate operational efficiency through a set of requirements at the building consenting stage.

## A HIGHLY COLLABORATIVE RESPONSE TO COVID-19

As part of the national emergency response, we have taken a highly collaborative response to COVID-19. We have been working alongside our suppliers, build partners and other agencies through a whole-of-government approach to this pandemic. There are six principles that guide our response:

1. Keeping our people and our contractors safe and healthy
2. Doing no harm to anyone we come into contact with
3. Providing regular and open communications
4. Supporting our customers to stay safe and healthy
5. Supporting our suppliers and partners to stay in business
6. Ensuring our decisions are based on facts



# The Opportunity

Growth provides us with the opportunity to do things differently. It is the way we will unlock greater economic, social, environmental and cultural wellbeing – as well as greater value for our construction industry partners. We must step forward with confidence to create demand-led transformation for the sector.

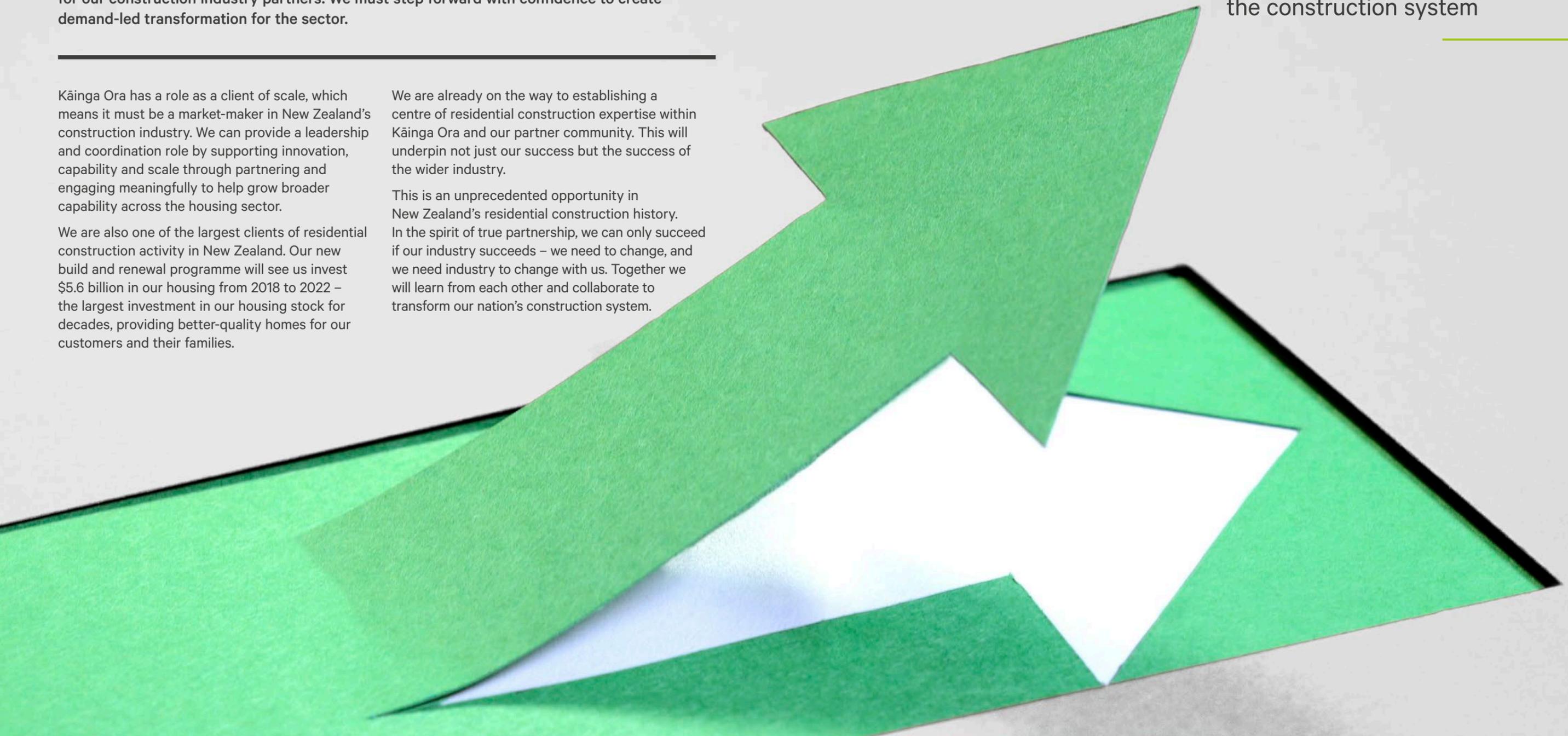
Kāinga Ora has a role as a client of scale, which means it must be a market-maker in New Zealand’s construction industry. We can provide a leadership and coordination role by supporting innovation, capability and scale through partnering and engaging meaningfully to help grow broader capability across the housing sector.

We are also one of the largest clients of residential construction activity in New Zealand. Our new build and renewal programme will see us invest \$5.6 billion in our housing from 2018 to 2022 – the largest investment in our housing stock for decades, providing better-quality homes for our customers and their families.

We are already on the way to establishing a centre of residential construction expertise within Kāinga Ora and our partner community. This will underpin not just our success but the success of the wider industry.

This is an unprecedented opportunity in New Zealand’s residential construction history. In the spirit of true partnership, we can only succeed if our industry succeeds – we need to change, and we need industry to change with us. Together we will learn from each other and collaborate to transform our nation’s construction system.

We are transforming ourselves and together we will transform the construction system



# Our Approach

We will embed the Kāinga Ora values into the way we deliver our state housing construction and retrofit programmes. This means we need to look at our behaviours and make some changes. We also need our partners to come on this journey with us. We need to move from these behaviours and perceptions:

| FROM              | → | TOWARDS                    |
|-------------------|---|----------------------------|
| Lack of trust     | → | High trust                 |
| Closed shop       | → | Open and transparent       |
| A closed mind     | → | An open + curious mind     |
| Command + control | → | Humble + listening         |
| Siloed approach   | → | Engagement + collaboration |

We will create five priority areas of focus to drive real change and outcomes – within Kāinga Ora and also the wider construction industry in partnership. The five priority focus areas are Partnering, Innovation, Design Quality, Delivery, and Sustainability. They provide the pathways for us to direct our energy towards wider construction system transformation. They sit at the heart of our own change, and the change we want to

support in the industry. We intend to change the way we build and retrofit state homes through a focus on partnering, innovation, quality, delivery and sustainability. We also intend to move to a more consistent approach between the homes we build and the homes we buy from developers, while recognising the constraints of these different ways of working.



# Pipeline: Forward Work Programme

Sharing our pipeline is part of our commitment to be more transparent and enable the construction industry to plan ahead using this information.

By sharing our forward work programme we hope to create benefits for our industry partners and contribute to a more productive construction industry. This is part of our role as a leader in delivering construction industry transformation. Some of those benefits include:

- forward planning, risk understanding and investment certainty
- identification of resource or skills gaps, and ways to address these
- increased certainty, which increases opportunity for innovation
- opportunities for collaboration and partnership
- capacity partnering agreements for supply of products and/or services at scale.

## Pipeline information that will be available:

| WHERE  | WHAT   | HOW MANY                                  | WHEN  | STATUS  |
|--|--|---|---|---|
| Location of new construction by region, city and suburb. | Type of house to be built: <ul style="list-style-type: none"> <li>• Number of storeys</li> <li>• Number of bedrooms</li> <li>• Typology</li> </ul> | Number of homes and projects to be built. | Indication of future expected housing starts by region and by typology – over two timeframes: <ul style="list-style-type: none"> <li>• The next 3-4 years</li> <li>• The next 5-10 years</li> </ul> | Number of homes and projects that are: <ul style="list-style-type: none"> <li>• in planning</li> <li>• contracted</li> <li>• under construction.</li> </ul> |

We will begin by updating our website quarterly with a high-level view of this Pipeline information from late 2020. In the future it will include current statistics on the delivery of the housing retrofit programme.

From mid-2021 we plan to increase the depth of this information using online and interactive tools. We intend to share information on the work we have in planning, the level of work that is forward committed through multi-year procurement arrangements, and the work that is available for tender in the future.

The intent is to allow our current construction partners to have certainty today and build momentum for the future, as well as giving future partners the opportunity to engage with us on upcoming projects.





# 02

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## Priority Focus Areas

White Lines East, Lower Hutt

## Partnering

Undertaking collaborative construction and retrofit partnerships with the construction industry and Māori for better outcomes.

### Why this is a priority focus

- Partnering with Māori enables Kāinga Ora to offer Māori opportunities to participate in construction and retrofit activities while meeting our organisation's obligations to Māori as a Treaty partner.
- Longer-term and larger-scale contracts enable partnering to deliver better efficiencies in cost, time, health and safety, quality and productivity improvements.
- Partnering demonstrates our values as a construction industry leader and contributes to industry stability.
- Partner feedback tells us there is room for improvement – we are listening and responding, particularly to their expressed need for better contracting.
- Kāinga Ora has an opportunity and responsibility to continue leading the improvement of social outcomes through our partnerships and contracts.

### What we are trying to achieve

- We move to a collaborative model of engagement with partners to build trust, confidence and transparency.
- We become a partner and a 'client of choice' by removing barriers, including those for Māori and Pacific businesses of different sizes catering to different project tiers, reducing inefficiencies in our process, providing more certainty through contracting and transparency of pipeline.
- Māori and Pacific outcomes and further social and sustainable outcomes are integrated through our procurement practices and partnerships across our different work areas.
- We work alongside the delivery of the Supplier Strategy to ensure a clear understanding of how to deliver on our partner expectations and how to support our partners to meet or exceed our expectations.



# Partnering

## How we will go about it

- Work internally with:
  - Te Kurutao team on construction partnering to connect Māori and Pacific businesses
  - Procurement to ensure alignment with Social Procurement and Supplier strategies to calibrate engagement frameworks to identified common themes and actions.
- Partner with important regional stakeholders including:
  - local government, councils and utility providers through a spatial planning approach at a strategic level to achieve shared outcomes
  - Iwi, Rōpū Māori and Māori businesses on construction-related activities using best-practice partnering and engagement principles to guide our ongoing approach and ensure the embedding of Māori outcomes across our work. This includes understanding perspectives, aspirations, interests and relationships.
- Work with industry to create better contracts by:
  - increasing our use of Contract Partnering Agreements (CPAs) for greater certainty to consultant, offsite and build partners
  - contracting with fewer partners and creating longer-term and deeper relationships
  - reducing the cost of tendering by focusing on prioritising overall value, not just lowest price
  - integrating social outcomes further into our contracts and surrounding processes
  - adapting and refreshing our contracting models with Partners to reflect performance across a range of measurables including time, cost, quality, health and safety, and productivity
  - exploring alternative procurement or partnering models to deliver projects at scale.
- Engage early and broadly to link, engage, and share forward work programmes through the quarterly pipeline reporting.
- Collaborate, enable apprentices, further social outcomes and grow awareness of mental wellbeing work, such as Mates in Construction.
- Understand our partners better by using tools and software to map our partnership network, engage and retain partners, and track partner satisfaction.

## Partnering Milestone Ambitions

### By end 2020

- Investigate extending the reach of social procurement clauses across build partners.
- Design and deliver a 'Better Contracts' forum.

### By mid-2021

- Work with the Construction Accord, Iwi, Rōpū Māori, Māori businesses and the wider construction sector to lead a regular 'forum' for the industry to share ideas, intellectual property, learnings and challenges.
- Explore opportunities for Māori companies through a retrofit pilot.
- Develop a business case for increased Māori participation in our panels.

### By end 2021

- Develop and contract three-level walk-up (3LW) CPAs in Auckland.
- Develop CPAs across consultant areas.
- Develop regional support and sourcing methodologies for local resources and capabilities.

White Lines East, Lower Hutt



## 💡 Innovation

Embedding innovation into our construction and retrofit delivery culture through the way we bring new products and systems to fruition.

### Why this is a priority focus

- Kāinga Ora is the nation's largest entity with commercial levers to drive behavioural change and innovation in the residential construction sector. We lead with an innovation culture.
- System transformation requires leadership and a willingness to share risk and learnings with industry. We are being asked to lead in innovation through increased uptake of OSM, digital shared environments and authentic collaborative partnering across the industry.
- We need a shared understanding of how we identify and manage innovation. Innovative products, materials and systems, such as OSM and digital tools, can help meet time, cost, quality, health and safety, and community targets.
- We are moving towards more innovation through new approaches, systems, products and materials to deliver more and better-quality housing. We also want to support the scale-up of more homegrown innovations.

### What we are trying to achieve

- There is an open and collaborative innovation system that internal team members and external partners can access and participate in with safety, trust and transparency
- Partnerships with industry, not-for-profits and academia both deliver benefits for the Kāinga Ora customers, stakeholders and the community and lead the way for showcasing innovative products and systems to the broader construction sector.
- We measure, benchmark and learn from other innovation initiatives and embed their learnings in our build programme, alongside Design Quality, Delivery and Partnering priority focus areas.
- We demonstrate and share with stakeholders how innovation can deliver productivity gains through continuous improvement, refinement and rigorous assessment of new products.



# 💡 Innovation

## How we will go about it

- Establish internal models and plans:
  - Create innovation investment models and opportunity versus risk models to appraise innovative products and methods on performance-based outcomes.
  - Create measurements and data capture for learning to populate these models and make decisions.
  - Be clear in our terms of engagement and approach to intellectual property in our partnerships.
  - Develop a Kāinga Ora Offsite Plan to drive uptake of these innovations right across the organisation.
- Identify key areas for innovation opportunity:
  - Create internal hubs of expertise.
  - Establish offsite and regulatory compliance pathways.
  - Use common Data Environments (CDE) and Building Information Modelling (BIM).
  - Investigate emerging materials, systems and digital technologies.
- Develop external collaborative relationships:
  - Act on opportunities to procure materials direct from supply chain through National Supply Agreements (NSA).
  - Investigate our supply chain model and identify opportunities for sub-contractors to be part of innovation collaborations and partnerships.
  - Create innovation partnerships with potential funding for research and development.
  - Connect with others, such as the proposed national Innovation Barometer initiative. Work with academia and industry, monitor international best practice and create a knowledge-sharing network to disseminate and promote innovation in construction and retrofit activities.
  - Share information and knowledge to disseminate lessons learned and deliberately influence the wider construction industry.

## Innovation Milestone Ambitions

### By end 2020

- Develop an Offsite Plan.
- Put in place offsite CPAs.

### By mid-2021

- Establish an internal innovation programme setting out investment, risk, partnerships and pilots.
- Investigate how to create a culture of innovation, supporting risk, failure and prototyping, with appropriate measures, such as a staff survey.

### By end 2021

- Develop a model for how intellectual property and collaboration works for Kāinga Ora with industry and other partners such as research or academia.

### By end 2022

- Develop pathways for clear consistent communication for innovation throughout our organisation through workshops, brown-bag lunches, webinars, website and intranet.

Everitt Road, Otara



Bathroom pod, Concision, Christchurch

# Design Quality

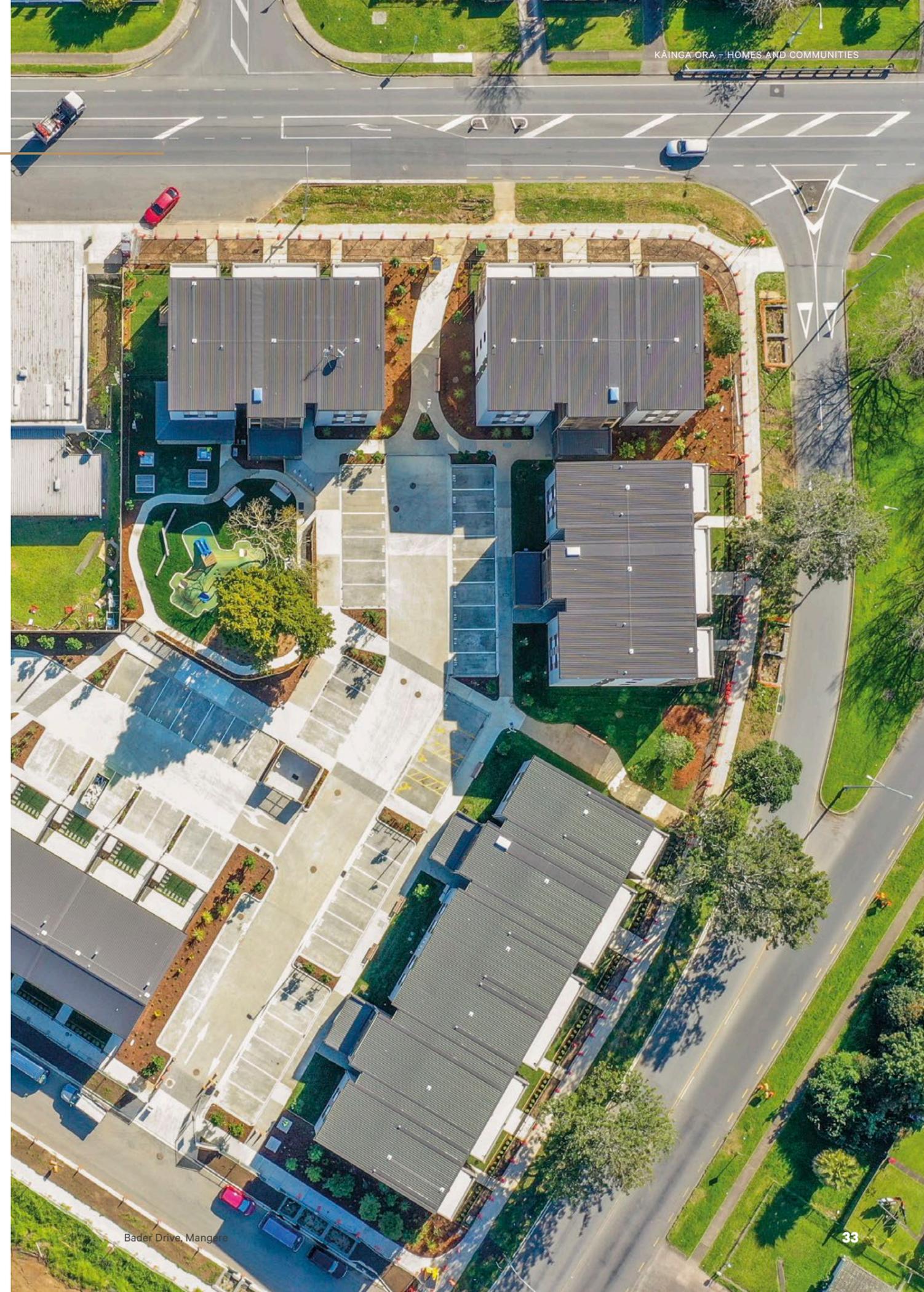
Ensuring quality homes and vibrant community developments are delivered using customisable typology suites and design optimisation tools.

## Why this is a priority focus

- We need to champion and make ourselves accountable for design quality and whole-of-life outcomes in our homes and community developments for the wellbeing of our customers and the wider community, and for broader savings to health and policing as a result of our work.
- Using universal design standards can be a cost-effective way to ensure that a home will be suitable for customers of different ages, as well as beneficial to the wider health system.
- We need to achieve significant time and cost savings through smarter use of standardisation and 'modular design theory' (ie, using smaller repeatable parts while designing for manufacture and assembly), while also enhancing quality outcomes for customers and communities.
- Enabling new construction and retrofit methods plus increased use of offsite methods requires a new approach to design management, procurement and delivery.
- We need to embed consistent and integrated design quality standards and review processes with continuous feedback and learning through a centralised operating function.

## What we are trying to achieve

- Our state housing lives up to the design quality, cultural and wellbeing expectations of our customers, design and development partners, and the wider community.
- Our standardisation framework enables faster, better and more cost-effective outcomes through utilising offsite, mass customisation, regulatory changes, and new solutions.
- We have the ability to enter materials supply agreements based on agreed design solutions.
- We engage in a continuous improvement journey with our customers, communities, build partners and design partners to learn, innovate and deliver the best outcomes we can.
- We learn from our design mistakes and track our performance improvements.



# Design Quality

## How we will go about it

- Create a customisable suite of standard typologies for component-based houses and apartments that deliver time and cost savings, meet design quality expectations (eg, for multi-generational and accessible or universal lifetime design), and enhance local character or amenity values.
- Develop our targets and actions set out in our Accessibility Policy with respect to universal design for new builds and retrofit.
- Use in-house building consent processing through Consentium to gain time efficiencies, in particular for pre-approval and fast-tracking of standard construction details and components.
- Establish a design quality review and improvement model with consistent and integrated Quality Assurance (QA) design guidelines and review through all stages, including whole-of-life assessment.
- Establish Standard Scopes and Terms of Engagement for consultants – to ensure engagement of design consultants is optimised for performance expectations, project deliverables and quality outcomes.
- Upskill all members of the Construction and Innovation Group in design quality appreciation and design management processes, to ensure improvement in design quality and community wellbeing outcomes through training, shared learning and meaningful feedback.



Pallant Street, Manurewa

## Design Quality Milestone Ambitions

### By end 2020

- Create a Standard Design Quality Briefing and Assessment Template.
- Develop Standard Scope of Professional Services Guidelines and Master Service Agreements.
- Develop the 'Standardised Design' Apartment Pilot Project.

### By mid-2021

- Design pre-Resource Consent and completed project Design Quality Assessments that achieve a minimum design quality score of 60 points.
- Initiate the first 'Standardised Design' Apartment Pilot Projects.
- Complete designs for the new Standard Typology Suite.

### By end 2021

- Evaluate community wellbeing outcomes by achieving minimum security, crime prevention through environmental design (CPTED), and Stigma-Free scores on all projects.
- Enable the new Standard Typology Suite to have its first project under construction.
- Instigate a design quality training and continuous improvement programme.

### By end 2022

- Complete the first projects in the new Standard Typology Suite.



Aorangi Road, Bryndwr, Christchurch

## Delivery

Continuously improving the delivery process to improve efficiency and effectiveness to enable more homes are completed for our customers.

### Why this is a priority focus

- We need to deliver consistent performance for best investment value to deliver on growth targets.
- We need to provide confidence and assurance of delivery targets and measure how we perform on volume and cost as well as meaningful qualitative data on quality, health and safety, productivity and value.
- We need to be more efficient and reduce waste from our processes to create overall process flow improvement using Lean principles. Lean methodologies stem from a culture of continuous improvement with a focus on reducing waste and increasing workflow smoothness, identifying efficiency improvements, and increasing documentation control.

### What we are trying to achieve

- We identify contributing factors, measure how they improve the quality and value of our delivery, and demonstrate our resulting performance improvement.
- There is a measured time reduction between development milestones for pre-construction, consent processing and construction at site, through greater consistency of internal processes between delivery teams.
- Project delivery methods are refined by tracking different delivery approaches and decision making to determine best practice.
- We share our delivery performance metrics to create an uplift in capability internally and at an external system-wide transformation level.



# Delivery

## How we will go about it

- Provide consistent project monitoring and control:
  - Be transparent in our timelines and our performance with our partners.
  - Use consistent documentation, control and monitoring techniques, and health and safety monitoring.
  - Be ‘the best client we can’ – helping our partners achieve best delivered value
  - Develop standard measures to compare like-for-like performance.
  - Act on opportunities to procure materials direct from supply chain through National Supply Agreements (NSA) for general construction materials and components.
- Ensure strategic scheduling of the pipeline:
  - Plan for best delivery approach, procurement and investment decisions.
  - Balance our resource capacity with our workforce planning.
  - Maximise delivery alignment and synergies using approaches such as Lean.
- Leverage our data as construction business intelligence:
  - Understand the implications of how we capture and use our data.
  - Enable data collection to measure community and environmental performance.
  - Share information to raise performance and understanding in the industry.
- Make a cultural shift with Lean principles:
  - Use Lean methods for best management practices within our development processes.
  - Engender a continuous improvement culture for ourselves and our partners from best practice and lessons learnt.
  - Identify process gaps and fix them, as led within the team and consistently applied.
  - Use visual reporting for real-time access using a ‘balanced scorecard’ approach.

## Delivery Milestone Ambitions

### By end 2020

- Investigate Lean intervention for internal delivery and out to construction sites.
- Create and release the pipeline of forward work programme.

### By mid-2021

- Develop delivery performance metrics and roadmap.
- Share delivery performance approach with build partners.
- Publish our workload and demand as a pipeline (including build partner metrics).

### By end 2021

- Develop a construction business intelligence and information management plan.
- Work with our partners for workforce planning of resource and capacity.
- Develop a working group approach to share best practice with industry.



Hanson Street, Wellington

## Sustainability

Progressively working towards the delivery of carbon neutral homes and supporting industry to move there with us.

### Why this is a priority focus

- Kāinga Ora is well placed to influence sustainability through the scale of our build programme as a platform to develop better construction and retrofit methods, low-carbon materials and high-performing homes.
- Our work on sustainability reflects environmental, cultural and heritage values.
- Reducing the operational carbon impacts of our homes benefits customers by providing warm, dry, healthy and comfortable environments that require minimal energy to heat or cool.
- Carbon emission reductions are a legislative requirement, a Kāinga Ora Board priority and a key investor expectation.
- Further building regulations and sector expectations are going to change. We want to anticipate these changes to prevent added cost in the medium term.

### What we are trying to achieve

- Carbon produced in the manufacture of materials or construction process for our homes is minimised.
- Energy (and therefore carbon) required to heat, cool and ventilate our homes and keep them comfortable is significantly reduced, thereby reducing running costs for our customers as well as being good for the environment.
- Maintenance requirements and the carbon resulting from future maintenance requirements are both minimised.
- Long-term remediation costs, upgrade costs or financial penalties are minimised by planning ahead for changing environmental conditions, legislation and expectations.
- Our supply chain is evolved to allow us to consistently deliver homes which have a low or neutral carbon footprint.



White Lines East, Lower Hutt

# Sustainability

## How we will go about it

- Embed low-carbon materials and passive solar designs into our standard typology plans. We will measure and report at the design, build and post-completion stages to create a monitoring framework for consistent and reliable carbon measurement.
- Use strategic projects to develop our own knowledge to share within the construction sector on how to decarbonise construction and retrofit activities to build lower-carbon homes.
- Create a culture of sustainable construction within our Construction and Innovation Group to support all our people to own and support their build partners through this transition.
- Work directly with the wider construction sector to share these tools and learnings to support increased sustainability across the sector. We will make sure all our Development Managers can incorporate these learnings into the design brief.



## Sustainability Milestone Ambitions

### By end 2020

- Establish a Carbon Neutral Housing Plan.
- Complete a three-level walk-up (3LW) sustainability study.

### By mid-2021

- Enable Plan implementation and pilot projects to get underway.
- Undertake lifecycle modelling of selected standard plans.
- Develop marginal abatement cost curves as part of our sustainability measures.

### By end 2021

- Investigate the first pilot projects to identify quick wins.
- Establish guidelines for annual reporting of construction emissions.
- Incorporate interventions into the new Standard Typology Suite.

### By end 2022

- Evaluate the pilot projects completed.
- Enable new pilot projects to get underway.
- Operationalise new or revised standard plans and performance specifications.
- Share findings, lessons learnt, and best-practice approaches with industry.



Pallant Street, Manurewa



Jennings Street and Jersey Avenue, Mt Albert

# 03

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## Looking ahead

# Measuring Progress

We need to understand our contribution to broader wellbeing outcomes for New Zealanders and for the construction industry by being able to deliver innovation, pace and the best possible public value while leading industry transformation.

| Outcome   | Building Momentum   | Key measures   |
|---|---|--|
| <br>Quality and affordable     | Pace of construction  | <ul style="list-style-type: none"> <li>• Time to deliver average home</li> <li>• Number of new homes constructed</li> <li>• Number of homes refurbished</li> <li>• Construction cost savings (whole-of-life)</li> </ul>        |
|   | Scale of construction                                       |  |
|   | Cost of construction  |  |
| <br>Sustainable communities   | Great urban design and community amenity                    | <ul style="list-style-type: none"> <li>• Design quality score</li> <li>• Community engagement score</li> <li>• Number of trainees on Apprenticeship programme</li> </ul>   |
|   | Benefits to community through construction                  |  |
|   | Community engagement in development and design              |  |
| <br>Partnering with Māori    | Partnerships with Māori in design, build and development    | <ul style="list-style-type: none"> <li>• Number and value of partnerships with Māori in construction and refurbishment</li> <li>• Number of Māori in Apprenticeship programme</li> <li>• Number of Māori businesses</li> </ul> |
|   | Broader outcomes for Māori through the build programmes     |  |
| <br>Dignity and independence | Customers feel safe in their homes                          | <ul style="list-style-type: none"> <li>• Customer satisfaction with new home</li> <li>• Percentage of homes meeting CPTED and Stigma-Free scores</li> <li>• Percentage of homes meeting universal design standard</li> </ul>   |
|   | Customers live in homes that meet their accessibility needs |  |

| Outcome  | Building Momentum  | Key measures  |
|--|--|---|
| <br>Environmental wellbeing | Kāinga Ora homes have a low carbon and environmental footprint           | <ul style="list-style-type: none"> <li>• Carbon footprint of homes</li> <li>• Demolition waste</li> <li>• Percentage of homes achieving 6 Homestar rating</li> <li>• Total carbon footprint of portfolio in construction and operation</li> <li>• Proportion of homes exposed to flood risk</li> </ul>                                      |
|  | Kāinga Ora homes are resilient to environmental shocks such as flooding  |   |
| <br>System transformation | Collaborative partnerships based on trust and understanding are the norm | <ul style="list-style-type: none"> <li>• Health and safety incidents</li> <li>• Percentage of build programme in CPAs</li> <li>• Percentage of use of offsite in build programme</li> <li>• Cost and time savings achieved through innovation</li> <li>• Number of women and minority groups in leadership roles in the industry</li> </ul> |
|  | The industry leverages innovative systems and thinking                   |   |
|  | The health and safety of people working on our homes improves            |   |
|  | The sector becomes more diverse  |   |

Our ability to track and measure our cost efficiency is being significantly lifted through:

- **Shifting to whole-of-life costing** – we now take a whole-of-life cost view for all investments with >\$20 million cash investment. We assess the present value of total cash costs of the investment over its lifecycle, calculated using the relevant Public Sector Discount Rate
- **Developing a comprehensive cost of construction database** – we are now collecting standardised cost information through the Schedule of Price or Works Order from our build partners at the contracting stage and any Variation Orders at the construction stage. This data is then used to inform how we will estimate our build rates in the future and can be filtered by typology, timeframes and location.

## Draft Implementation Overview

- The next phase of Building Momentum is to develop a programme of activities and an implementation plan alongside the development of the pipeline reporting on the forward work programme.
- We will then review progress against the ambitions in our implementation plan and provide regular updates via the Kāinga Ora website.
- We will work closely alongside HUD, MBIE, BRANZ, the Construction Accord and many industry partners to deliver on this Building Momentum plan.
- The table on pages 50 and 51 sets out some of our indicative aims, activities and approximate timeframes.

**Moving towards success looks like embedding an internal culture and capability that has a much greater emphasis on upskilling teams to use smart standardised processes, best-practice public sector client operations, and excellent knowledge-sharing internally and externally.**

| Focus Areas  | By end 2020   | By mid-2021  | By end 2021  | By end 2022   |
|--|---|--|--|---|
|  <p><b>Partnering</b></p>       | <p>Investigate extending the reach of social procurement clauses across build partners.</p> <p>Design and deliver a 'better contracts' forum</p>  | <p>Work with the Construction Accord, Iwi, Rōpū Māori, Māori businesses and the wider construction sector to lead a regular 'forum' for the industry to share ideas, intellectual property, learnings and challenges.</p> <p>Explore opportunities for Māori construction companies in a retrofit pilot.</p> <p>Develop a business case to enable increased Māori participation in our panels.</p> | <p>Develop and contract three-level walk-up (3LW) build partner capacity agreements in Auckland.</p> <p>Develop contract capacity agreements across consultant areas.</p> <p>Develop regional support and sourcing methodologies for local resources and capabilities.</p>                             |   |
|  <p><b>Innovation</b></p>       | <p>Develop an offsite (OSM) Plan.</p> <p>Put in place Offsite (OSM) Contract Partnering Agreements (CPAs).</p>  | <p>Establish an internal innovation programme setting out investment, risk, partnerships and pilots.</p> <p>Investigate how to create a culture of innovation, supporting risk, failure and prototyping, with appropriate measures, such as a staff survey.</p>  | <p>Develop a model agreement for how intellectual property (IP) and collaboration works for Kāinga Ora with industry and other partners such as research or academia.</p>  | <p>Develop pathways for clear consistent communication for innovation throughout our organisation through workshops, brown-bag lunches, webinars, website and intranet.</p>   |
|  <p><b>Design Quality</b></p>   | <p>Create a Standard Design Quality Briefing and Assessment Template.</p> <p>Develop Standard Scope of Professional Services Guidelines and Master Service Agreements.</p> <p>Develop the 'Modular Design' Apartment Pilot Project.</p> | <p>Design pre-Resource Consent / Completed Project Design Quality Assessments that achieve a minimum design quality score of 60 points.</p> <p>Initiate the first 'Modular Design' Apartment Pilot Projects to be under construction.</p> <p>Complete designs for the New Standard Typology Suite.</p>   | <p>Evaluate Community Wellbeing Outcomes through all projects achieving minimum security, CPTED and Stigma-Free scores.</p> <p>Enable the new Standard Typology Suite to have its first project under construction.</p> <p>Instigate design quality training and continuous improvement programme.</p> | <p>Complete first projects in the new Standard Typology Suite.</p>  |
|  <p><b>Delivery</b></p>       | <p>Investigate Lean intervention for internal delivery and out to construction sites.</p> <p>Create and release the pipeline of forward work programme.</p>   | <p>Develop delivery performance metrics and roadmap.</p> <p>Share delivery performance approach with build partners.</p> <p>Publish our workload and demand as a pipeline (including build partner metrics).</p>   | <p>Develop a construction business intelligence and information management plan.</p> <p>Work with our partners for workforce planning of resource and capacity.</p> <p>Develop a working group approach to share best practice with industry.</p>  |   |
|  <p><b>Sustainability</b></p> | <p>Establish a Carbon Neutral Housing Plan.</p> <p>Complete a 3-level walk-up (3LW) sustainability study.</p>   | <p>Enable Plan implementation and pilot projects to be underway.</p> <p>Undertake lifecycle modelling of select standard plans.</p> <p>Develop marginal abatement cost curves as part of our sustainability measures.</p>  | <p>Investigate the first pilot projects to identify quick wins.</p> <p>Establish guidelines for annual reporting of construction emissions.</p> <p>Incorporate interventions into new Standard Typology Suite.</p>   | <p>Evaluate the pilot projects completed.</p> <p>Enable new pilot projects to be underway.</p> <p>Operationalise new or revised standard plans and performance specifications.</p> <p>Share findings, lessons learnt, and best practice approaches with industry.</p> |

# Future Voices

The scale of the challenge reflects the size of the opportunity. We have a once-in-a-generation opportunity to get this right. But what will it mean to ‘get it right’?

Let’s listen to some voices from the future...



My refurbished home is warm and dry – I don’t even need to use the heater. I have been so well this winter in my new home. My asthma is clearing up and my sleep apnoea has gone.

**CUSTOMER LIVING IN AVONDALE**



I never used to want to invite my friends to my house, because I was ashamed of it – and because they would know I lived in a state house. Now I love to invite friends to my house because it looks just like all the other houses – only cooler!

**YOUNG PERSON LIVING IN DUNEDIN**



I can finally relax. I’ve got my mum and dad, and my kids living together in a way that works for our people. And the place that Kāinga Ora built for us feels like a real home.

**PACIFIC CUSTOMER**



The best thing about doing work with Kāinga Ora was that they really wanted us to succeed. If they learnt about a new system or material through a pilot on another project, they would share that with all the build partners.

**BUILD PARTNER**



It used to be us and them – and we’d see who was going to win. Then we started to notice a change in the way Kāinga Ora wanted to work with us. Not saying it’s always easy now, but there’s no doubt we’re all winning a lot more than we used to.

**BUILD PARTNER**



We have been able to invest in new computer-controlled technology, and the latest machinery from offshore, and have more certainty in our investment cycle that we report to our board – all by having a capacity partnering agreement in place with Kāinga Ora.

**OFFSITE MANUFACTURER**



While I worked for Kāinga Ora, we went from a 12-month typical build period down to four. My mates in the industry wanted to know our secret. We told them it’s about making more parts away from the construction site – it’s not meant to be a secret.

**PROJECT MANAGER**



Through the use of rational designs, standardised typologies and repeatable building forms, we are enhancing quality outcomes while also reducing cost and time in the delivery of projects.

**STRUCTURAL ENGINEER**

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White Lines East, Lower Hutt

