Group Home Builders: Delivering low-carbon buildings as the default

Final Debrief

MBIE



The research objectives

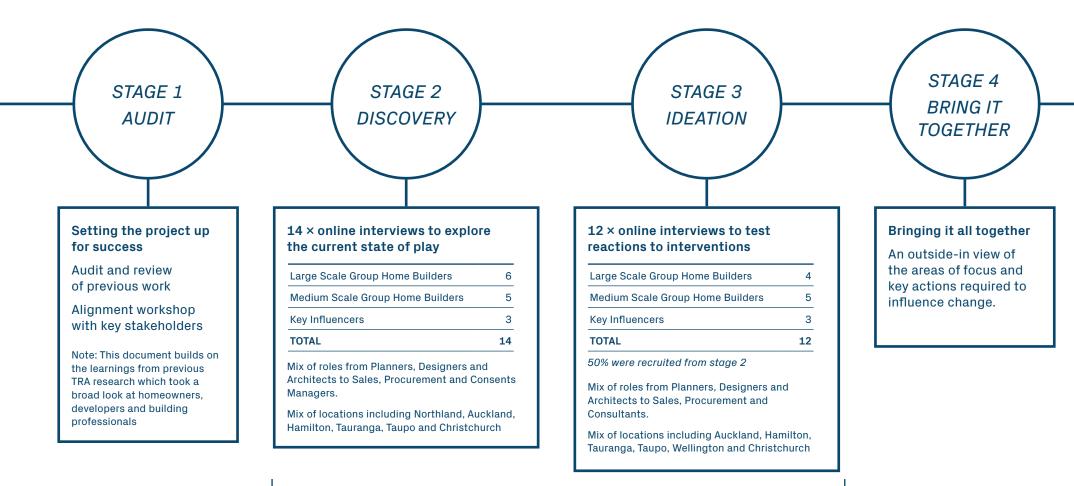
The overarching business objective:

Have Group Homes Builders delivering low carbon buildings as the default by equipping them with the knowledge, skills and information to do so

The core project objectives are to:

- 1. Understand current knowledge, comfort and behaviours when it comes to low-carbon building.
- 2. Determine the **barriers and challenges** getting in the way of positive behaviour towards low-carbon building.
- 3. Understand motivation towards low-carbon building.
- 4. Determine how to impact future behaviour to deliver positive low carbon building outcomes, including policy, communication, education and behavioural influence.
- 5. Bring it all together in **prioritised areas of focus** for the BfCC team, to help determine the actions required to change the industry for the better.

The approach



Note: This research was conducted before the North Island floods

Agenda

1

Setting the scene

2

Exploring perceived and experienced barriers

3

Identifying how to impact future behaviour

4

Bringing it all together



Setting the scene

TRA

Let's start by looking at the Group Home Builder context

DRIVEN BY COST AND SPEED

The Group Home Builder proposition is contingent on lower-cost, speedy builds made possible through economies of scale.

WHICH IS ACHIEVED THROUGH REPEAT TYPOLOGIES

Cost and speed promises are achieved by rolling out repeat house plans with minimal to no changes – they are trying to deter homeowners from making adjustments.

Note: This is partly why the H1 regulations have felt like such a difficult change.

DELIVERED TO FINANCIALLY CONSCIOUS CUSTOMERS

Group Home Builders believe their customers come to them with a specific mindset – tighter on money and wanting a home fast.

With a business model that rests upon low margins and high volume, Group Home Builders are focused on the bottom line.



There are a range of contextual pressures Group Home Builders are up against

- Economic uncertainty across the board
- Rising building costs
 - + diminishing house values
 - = shrinking profits
- Decreasing buyer demand
- Supply chain pressures and project delays

These forces are having a direct impact on the bottom line and are therefore taking priority.

The cost to build an average home rose 11.3% last year •

USINESS

Construction material shortages, price hikes plague building industry

No end in sight for housing market downturn, despite easing price falls •

Building consent numbers fall by 7% in December •

HOUSING

Shock and Orr: Rate hikes kill off housing affordability and development

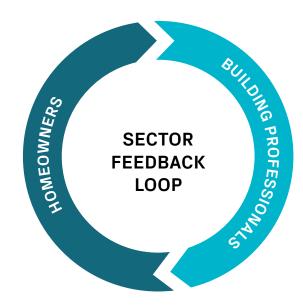
Construction firm with over 100 staff enters voluntary administration •

There is also a lack of market pressure for low-carbon building

We're in a catch 22 – homeowners aren't asking for low-carbon homes and Group Home Builders aren't promoting them.

Group Home Builders believe low-carbon homes conflict with their core priorities (lower-cost and speed), therefore they aren't willing to proactively offer them to financially-conscious customers.

And because homeowner demand is limited, Group Home Builders can't identify direct benefits of promoting low-carbon homes beyond a first-mover marketing differentiator.



Homeowners don't know what they don't know – they expect their build teams to provide guidance and expertise.

Group Home Builders think lowcarbon options aren't a priority for homeowners – they expect them to push for it if they want it.

"It's not a big factor for the company because it's not a big factor for the customers that come to us, so we're not driven to advance our knowledge around that or develop other ways of building homes."

MEDIUM SCALE GROUP HOME BUILDER

So whilst Group Home Builders recognise the need for change, they have no urgent motivation to prioritise low-carbon building



"I suppose once the business dries up and there's more demand from our customers, we're going to have to act pretty quickly. Until that happens though, and this is probably industry-wide, I don't think a lot of people are going to change.

I know that's an incredibly selfish way of thinking."

MEDIUM SCALE GROUP HOME BUILDER

"Group Home Builders are generally waiting to be pushed in the right direction because it's all very much based on money."

LARGE SCALE GROUP HOME BUILDER

"It isn't really on anyone's radar in the company, it isn't a topic of conversation. People are more focused on getting through the build process as quick as possible."

MEDIUM SCALE GROUP HOME BUILDER

"We're finding a lot of clients just stopping straight after resource consent and saying 'we're just going to wait and see how the market develops over the next few years.' So it's definitely not at the front of our minds to be saying 'hey should we be doing more environmentally friendly buildings which will cost more.' We're struggling enough as it is with the plans that we've got costing as much as they do now."

MEDIUM SCALE GROUP HOME BUILDER

Exploring perceived and experienced barriers to low-carbon building



TRA



Low-carbon building feels *lofty*

It's too big of a problem to proactively tackle

- Group Home Builders acknowledge the significance of carbon emissions in the building industry, but engaging with the problem and solving it feels like a monumental ask.
- Many feel overwhelmed, unsure of where or how to start, and are more focused on problem-solving the contextual pressures.
- They're looking for an authority to set the impetus for change and break it down into manageable steps.

"We really need MBIE to release a regulatory response that details what the industry will do."

LARGE SCALE GROUP HOME BUILDER



Low-carbon building feels unfamiliar

Many lack a clear understanding

- Limited awareness of what low-carbon building looks like and how to deliver it.
- Perceptions it's product-focused, especially new products.
- Skills shortage limited human resource to embed new low-carbon practices.
- There are runs on the board but they aren't known as low-carbon action, instead it's a case of best practice.
- Decent understanding of designing energy-efficient homes (due to clear frameworks) but confusion around how to reduce embodied carbon of builds.
- There is a need to myth bust, then upskill on the variety of ways to deliver low-carbon buildings.

Despite perceptions of unfamiliarity, there are runs on the board

CURRENT LOW CARBON PRACTICES

BUILDING DESIGN

- Sustainable, locally sourced materials
- Efficient, compact floorplans
- Maximise use of site
- Uniform sizing to reduce waste
- Energy efficient materials & products
- Solar placement
- Building above standard
- Rainwater tanks
- Removal of waste disposals
- EV ports

SUPPLIER PROCUREMENT

- Only working with suppliers who have sustainability credentials
- Consistency of suppliers resulting in fewer mistakes & less waste
- Local sourcing
- Only using products that can be recycled either through Green Gorilla or the supplier

OPERATIONS

- Maximising tradie & project manager time
- System improvements to increase efficiency
- EROAD software to monitor trucks and provide training
- Thinking about scope 3 supply chain
- Internal environmental committees

WASTE MANAGEMENT

- Separating waste
- Green Gorilla
- Taking a closer look at waste streams
- Working with research institutions to analyse
 a optimise waste management
- Working with suppliers on recycling

EMISSIONS REDUCTIONS

- EV or hybrid company vehicles
- Reducing operational costs of builds
- Low VOC products
- Taking a closer look at the manufacturing sites their products and materials come from
- Trialling embedded networks (micro grids and solar)

SALES

- EV or hybrid company vehicles
- Training client-facing team with the knowledge to recommend small steps to customers (e.g. focus on heat efficient windows, not the benchtop)
- Set maintenance expectations with customers (roof cleaning, solar panels)
- Limited use of paper



Low-carbon building feels costly

They're worried about budgets and timelines

Group Home Builders believe low-carbon buildings conflict with their key priorities of cost and speed.

- High cost anchoring to perceptions that low-carbon building entails switching to expensive materials.
- Limited supply perceptions that low-carbon materials are new, hard-to-source and will therefore cause project delays.
- Consent delays perceptions that low-carbon builds cause consenting delays and further increase tension with local authorities because BCAs are unfamiliar with materials and practices.
- They're looking for direct financial benefits.

Group Home Builders see only obstacles as they look toward the change they know is necessary

The perceived and experienced barriers:



LOFTY

Too big of a problem to proactively tackle



UNFAMILIAR

Lacking a clear understanding



COSTLY

Worried about budgets and timelines

"We tend to stick to the beaten path with our current plans, they've got a set cost to deliver so diverting off that path costs time and money. We try to encourage our clients not to change things, and there's a 3k instant minimum charge if they do."

MEDIUM SCALE GROUP HOME BUILDER

"We have a good understanding of how to embed operational efficiency into the design of a home but the head scratching starts with the low embodied carbon. It's really hard to find alternative materials and figure out changes that won't cost our clients too much extra."

LARGE SCALE GROUP HOME BUILDER

"We know it's important and we know it will be more of a priority in the future but aren't taking any steps to prepare for this."

MEDIUM SCALE GROUP HOME BUILDER

"It's really hard to get green builds through council, we had a house recently and the assessors weren't familiar with the systems so it took them months. They didn't know what they were looking at or what to ask for so the process got super repetitive, they just kept asking for the same paperwork."

KEY INFLUENCER

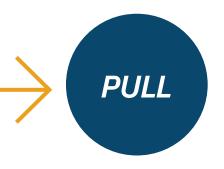


Identifying how to impact future behaviour

TRA

To overcome the perceived and experienced barriers to low-carbon building – *lofty, unfamiliar and costly* – we need a push and pull approach





PRACTICAL SUPPORT

Equip Group Home Builders with the skills, knowledge and understanding to deliver low-carbon buildings



Ensure the system enables low-carbon building



SECTOR LEADERSHIP

Provide a clear vision and detailed roadmap towards the desired change

Recognising the scale of the barriers at play, Group Home Builders believe legislation will play a key role in setting the direction and following through with the repercussions required for change.

They believe this should be about catalysing a complete mode shift. Anything that gives them wriggle room or allows low-carbon building to fall off their radar simply won't work. Note: We specifically asked Group Home Builders what they are going to proactively do to action the change they know is necessary. Unfortunately, most won't change until they have to. The cost of change is too high and the current perceived benefits are low.

"I can't think of any obvious benefits for us to move towards low-carbon building at the moment. There's obviously health benefits and lower bills for homeowners but nothing for us."

MEDIUM SCALE GROUP HOME BUILDER

"I know the boss is for as long as possible holding on to keeping the windows and every other element as cheap as possible until we're absolutely forced into increasing the performance."

MEDIUM SCALE GROUP HOME BUILDER

"You can have all the education but if it costs more and there's no tangible benefit then nobody will do it."

LARGE SCALE BUILDER

"Moving to low-carbon solutions is actually going to require a change of skills around our builders, building materials and regulators. It's going to be a big effort."

LARGE SCALE GROUP HOME BUILDER

"It needs to be mandated to force the issue and raise awareness. If people have to do it they will."

KEY INFLUENCER

Group Home Builders see MBIE as a sector steward, with the support of industry partners

- Whilst Group Home builders acknowledge change will require three key groups working together – builders & suppliers, regulators and homeowners – MBIE is considered best placed as the leading authority.
- MBIE was specifically identified over other government agencies and government in general.
- MBIE is already the 'rule-maker' and is considered official, impartial and factual. This gives Group Home Builders peace of mind that there are no hidden commercial agendas.
- A partnership approach will be key working with industry leaders and other organisations (BRANZ, NZ Green Building Council, EECA and relevant industry bodies).

"It needs to come from MBIE. They set the rules, they're official, they're impartial and factual. It can't be from a private company trying to generate commercial activity."

LARGE SCALE GROUP HOME BUILDER















There is an opportunity to highlight the existing relationship between MBIE and Group Home Builders, and ensure this is felt at all levels

Some Group Home Builders mentioned they would like to hear more from MBIE about the broader objectives and key actions relating to reducing climate emissions.

We know there are already avenues of two-way dialogue between MBIE and Group Home Builders – pointing out when and how this is already happening, then broadening the conversation to different levels will be key.

The push and pull is also important – Group Home Builders consider it crucial for MBIE to follow through with practical support alongside any legislation changes.

"One of the things that frustrates the building industry more than anything lately has been the lack of guidance from MBIE, whether it's building code changes or climate change. They need to give us the parameters of what we're working to."

LARGE SCALE GROUP HOME BUILDER

"After the H1 changes we thought MBIE would come to us with solutions in terms of suppliers we can use. But we waited and that never happened, so we ended up creating our own solutions and training."

LARGE SCALE GROUP HOME BUILDER

Bringing it all together

In the second phase of fieldwork TRA tested a range of interventions. The following have been identified as the most likely combination to change the industry for the better.

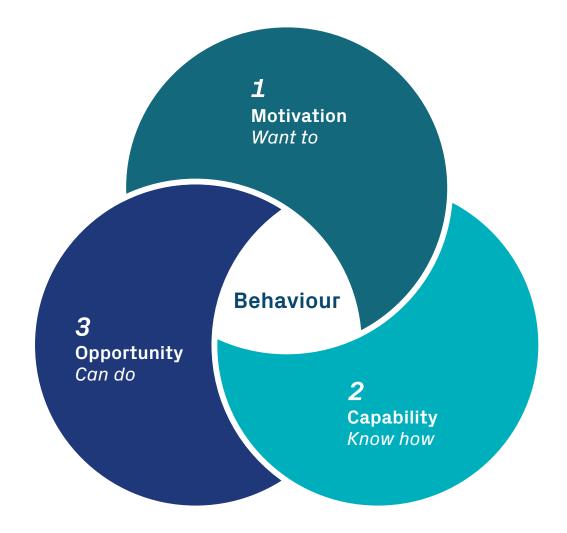


The COM-B framework helps us achieve the push and pull approach

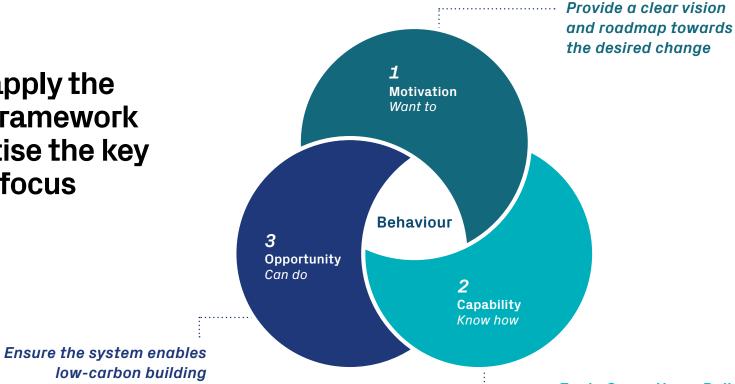
Behaviour change is difficult and there is no silver bullet. We need to come at this challenge from multiple angles, we need to consider the Opportunity, Capability and Motivation that help drive the desired behaviour.

Considering all three components of the COM-B model is crucial for designing effective behavior change interventions. Neglecting any one of these components can result in an incomplete or ineffective intervention.

The COM-B behaviour change model was developed from 19 frameworks of behaviour change identified in a systematic literature review Professor Susan Michie, Director of the Centre for Behaviour Change at University College London.



We will apply the **COM-B framework** to prioritise the key areas of focus



Equip Group Home Builders with the skills, knowledge and understanding to deliver low-carbon buildings



Motivation (Want to)



KEY BARRIER

Low-carbon building feels lofty – it's too big of a problem to proactively tackle SO WE NEED TO

Provide a clear vision and roadmap towards the desired change



MOTIVATION (WANT TO)

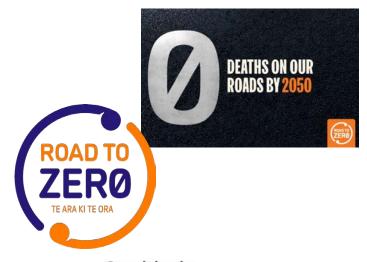
Provide a clear vision and roadmap towards the desired change

Set the vision for change

WHAT ARE WE AIMING FOR?

Define a common goal for Group Home Builders to rally around.

- Establish a clear target to help anchor low-carbon building, give direction and make it feel within reach.
- Create a sense of urgency and communicate the seriousness of the issue to mobilise Group Home Builders and homeowners.
- Consider giving Group Home Builders a voluntary engagement period before enforcing change.



Our vision is:

a New Zealand where no one is killed or seriously injured in road crashes. This means that no death or serious injury while travelling on our roads is acceptable.



MOTIVATION (WANT TO)

Provide a clear vision and roadmap towards the desired change

Define the roadmap

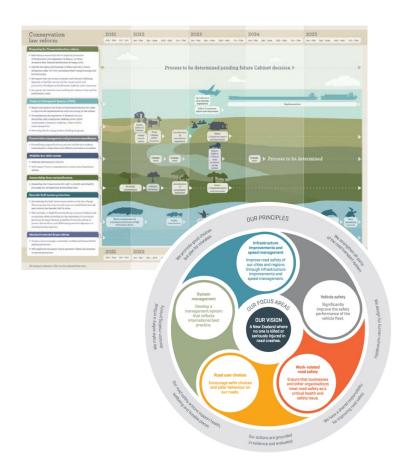
HOW WILL WE GET THERE?

Break the vision down into smaller, more manageable steps toward change.

- Remove guesswork and make low-carbon building feel feasible by providing a starting point, then ongoing key actions to tackle the problem.
- Provide specificity around key targets and timeframes to maintain accountability and progress.
- Make it compulsory to mitigate inertia and follow through with consequences if targets and timeframes aren't met.

Legislation change Group Home Builders believe could work:

- Provide performance requirements around low emissions in the building code
- Mandating a minimum amount of recycled or low-carbon materials
- Mandating low-waste practices as part of the resource consent process



MOTIVATION (WANT TO)

Provide a clear vision and roadmap towards the desired change

"What we need is a really easy to understand, straightforward policy that stipulates what is expected by 2030, 2040 and 2050."

LARGE SCALE GROUP HOME BUILDER

"Sometimes incentivising works better than forcing, it would be good to at least offer a transition period to allow people to get in the waka."

KEY INFLUENCER

"I think the key thing government can do is keep on pushing that the building code is improving. You know, not quite every year, but every two years, set the expectation that the environment becomes more important, and carbon emissions become more important. I think it makes sense. Because something has to change."

MEDIUM SCALE GROUP HOME BUILDER

"When we've got whole of life assessment as a mandatory thing that you have to get before you can get your building consent, that's going to put more onus on the construction industry."

LARGE SCALE GROUP HOME BUILDER



Capability (Know how)



KEY BARRIER

Low-carbon building feels unfamiliar – many lack a clear understanding SO WE NEED TO

Equip Group Home Builders with the skills, knowledge and understanding to deliver low-carbon buildings



Equip Group Home Builders with the skills, knowledge and understanding to deliver low-carbon buildings

Broaden understanding

Educate and showcase the variety of ways to deliver low-carbon buildings.

- Myth bust break down what low-carbon building actually entails to help Group Home Builders understand it's not just about expensive new products or systems.
- Focus on communicating ways to reduce embodied carbon and embed low-carbon practices into the design of a home.
- Highlight the long-term cost and health benefits to equip Group Home Builders with the soundbites to confidently promote low-carbon building to homeowners.

"It has to come back to the education piece.

For us to sell it, we need to believe it, and
to believe it. we need to know about it."

MEDIUM SCALE GROUP HOME BUILDER

"I don't think people have a common, clear definition of low-carbon building. Someone needs to define what it is, what we should be aiming for and how to get there."

MEDIUM SCALE GROUP HOME BUILDER

"Familiarity is going to increase likeliness, it will help Group Home Builders understand it's not new, scary or unknown. It's not a dark art."

KEY INFLUENCER



Equip Group Home Builders with the skills, knowledge and understanding to deliver low-carbon buildings

Connect the dots

Connect existing practices to low-carbon action to build further momentum.

- Help builders attribute their current tried and true methods to low-carbon action to demonstrate they are already on the journey to change and that further change is achievable.
- Showcase what the sector is already doing spotlight existing low-carbon practices, leaders and exemplar builds, including the process behind them to make low-carbon building feel more achievable.
- Consider running tours through low-carbon homes to help Group Home Builders and homeowners 'see it to believe it.'

CURRENT LOW CARBON PRACTICES

BUILDING DESIGN

- Sustainable, locally sourced materials
- Efficient, compact floorplans
- Maximise use of site
- Uniform sizing to reduce waste
- Energy efficient materials & products
- Solar placement
- Building above standard
- Rainwater tanks
- Removal of waste disposals
- EV ports

WASTE MANAGEMENT

- Separating waste
- Green Gorilla
- Taking a closer look at waste streams
- Working with research institutions to analyse & optimise waste management
- Working with suppliers on recycling

OPERATIONS

- Maximising tradie & project manager time
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Equip Group Home Builders with the skills, knowledge and understanding to deliver low-carbon buildings

Connect the dots

Industry leaders we can spotlight to help motivate Group Home Builders.

Fletcher Living – understand the importance of proactive change and recognise industry leaders need to step up. They are leading the way with their pilot design and build of 4 low carbon homes (see appendix).

Kainga Ora and other state sector builds (such as the Ministry of Education) – building to a HomeStar 6 level.

Community housing providers – The likes of Salvation Army and other CHPs are often invested in the longevity of homes as well as health outcomes therefore they are invested in building quality, energy efficient homes.

Build to rent sector – Like CHPs, this sector is invested in the longevity and quality of the homes and therefore can see the value in upfront investments that will result in more energy efficient homes. Examples include Ockham Residential, New Ground Living and 26 Aroha Ave.

Retirement village developers – Like larger developers, they have the resources and supply chain connections to implement sustainable practices and they have the added motivation to look after their clientele who require warm homes due to sedentary lifestyle and additional health risks.



Equip Group Home Builders with the skills, knowledge and understanding to deliver low-carbon buildings

Train and upskill

Provide bespoke training and upskilling about low-carbon practices, including managing and reducing waste.

- Group Home Builders need a robust understanding of how to design and deliver low-carbon buildings to feel confident recommending them to homeowners.
- They are open to dedicated, in-person training sessions to increase their awareness and familiarity with the range of ways to deliver low-carbon buildings.
- Important to provide specific training on how to reduce or design out waste at all stages and levels – quantity surveyors, designers, architects and builders.





Equip Group Home Builders with the skills, knowledge and understanding to deliver low-carbon buildings

Make information easy to access

Ensure all technical, accreditation and carbon information and tools are readily available.

- Low-carbon homes hub provide one single place to find all low-carbon information, with content design tailored to the needs of different audiences.
- Group Home Builders need a range of information –
 design guidance and exemplars, detailed methodologies,
 materials index showing different carbon impacts, free
 calculator / modelling tools and connections to trusted
 contacts.
- Ensure information is backed by a neutral, trusted source to mitigate any concerns of commercial agendas.
 Fronted by MBIE, but backed by BRANZ considered most credible.
- Group Home Builders are looking for a trusted tool for carbon assessment and performance data to ensure everyone is on the same page.

"It's not that simple to figure out how to make your home more carbon neutral or energy efficient. There's lots of places you could go to find out but the more you read the more confusing it gets."

LARGE SCALE GROUP HOME BUILDER

"If you do start, you end up going around in circles around agencies, there is no single source or truth, central party or department or business you can go to in regards to environmentally friendly building choices."

LARGE SCALE GROUP HOME BUILDER

"Everyone is bringing out lots of carbon calculators at the moment but we need to know from MBIE which one we're going to be using. We don't want to be investing too much time into something that's not right. We want to use the official one we're always working with."

LARGE SCALE GROUP HOME BUILDER



Opportunity (Can do)



KEY BARRIER

Low-carbon building feels costly – GHB are worried about budgets and timelines SO WE NEED TO

Ensure the system enables low-carbon building



OPPORTUNITY (CAN DO)

Ensure the system enables low-carbon building

Increase access to affordable materials

Ensure low-carbon materials are affordable and readily available.

- Improve access to innovation and accreditation pipeline to increase supply of certified, affordable low-carbon building materials. Consider ways to make this process faster and more affordable, without compromising quality.
- Subsidise the use of low-carbon materials Group Home Builders believe they need to be on-par or cheaper than current materials to make commercial sense.

"If low carbon was cheaper or low cost that's when you'll see change but not if you have to pay more."

MEDIUM SCALE GROUP HOME BUILDER

"It's a good idea to make it simpler from a paperwork perspective for new products to enter the market. At the moment it's really hard to follow, this just creates a mental barrier for people."

KEY INFLUENCER

"It's really hard for new materials to enter the market, it needs to be easier."

MEDIUM SCALE GROUP HOME BUILDER



OPPORTUNITY (CAN DO)

Ensure the system enables low-carbon building

Streamline consents

Look to make the consents process faster and more straightforward for better financial outcomes.

- Stalled consents are a huge pain point for Group Home Builders, speeding up them up has a clear financial benefit.
 If low-carbon buildings gain quicker consents, it becomes a no brainer.
- Increase access to MBIE Multiproof and Built Ready schemes
 these are considered great approaches but many are either unaware of them or find them too time-consuming or rigid.
 Opportunity to speed up the process to enter the scheme and increase flexibility (i.e. a tiered approach to allow some changes to be made to original plan).
- Provide education and support for consenting authorities to ensure they have the latest knowledge to consent low-carbon builds in an efficient manner.

MultiProof

Print Share Save

Last updated: 21 March 2016

The MultiProof scheme is beneficial for builders and companies who build standardised designs. It provides evidence of compliance for Building Consent Authorities

BuiltReady modular component manufacturing scheme launched

Print Share Sav

Posted: 7 September 2022

The new BuiltReady scheme is introduced alongside an updated and strengthened CodeMark scheme, both of which will enable faster consenting of quality assured homes and buildings.





OPPORTUNITY (CAN DO)

Ensure the system enables low-carbon building

Enable low-waste practices

Make it easier for Group Home Builders to minimise waste regardless of their region.

- Group Home Builders are disheartened by the amount of waste on build, however they are hamstrung by the waste infrastructure available in their region.
- Empowering them to achieve efficiencies through improved waste infrastructure is a win-win.
- Scale recycling services such as Green Gorilla or increase access to waste minimisation or diversion infrastructure to make it easier for Group Home Builders to separate waste.
- Encourage or require suppliers to take responsibility for recollecting associated waste and offcuts.



IN SUMMARY

The key areas of focus to empower **Group Home Builders** to deliver low-carbon buildings as the default

Set the vision for change Define the roadmap Motivation Want to **Behaviour** Opportunity Can do Capability Know how **Broaden understanding**

Increase access to affordable materials

Streamline consents

Enable low-waste practices

Connect the dots

Train and upskill

Make information easy to access

Let's talk



Appendix

APPENDIX: A

Fletcher Living is leading the way with their pilot design and build of 4 low-carbon homes

Fletcher Living understand the importance of proactive change and recognise leaders in the industry need to step up.

These builds were a response to attending a seminar about the Global Carbon Challenge – motivating the building sector to get to a 1.5°C future.

"As a large player, we've got a strong role to play, we've got the size and scale and the vertically integrated structure to position ourselves so we can be market leaders in that space."

HEAD OF SUSTAINABILITY. FLETCHER LIVING

LOW-CARBON ACTION

- Simplified house designs that respond to climate (smaller house = less carbon footprint)
- Red list free using products/materials will be safe for occupants and those installing them
- Waste management set up cameras on skip bins data feed into an university research project to test and learn
- Supplier procurement training and engagement, work with NZ based suppliers, Kāinga Ora, suppliers with sustainable offering (Firth carbon cement)
- Sales team training maintenance expectations (education on solar, roof cleaning etc) commuting in hybrid fleets