

**BUILDING  
PERFORMANCE**

# Better buildings for New Zealand

Constructive  
NZ Construction Forum  
25 August 2022

# Discussion for today

- Introduction to Building Performance
- Building System Reforms
- Building for Climate Change
- Seismic risk
- Annual Building Code update



# Building System Performance

Hīkina Whakatutuki “lifting to make successful”

Lifting performance of the sector to ensure safe, healthy, durable homes and buildings, supporting MBIE's goal to grow New Zealand for all.



Government and industry  
working together

Changing building  
law

Growing skills capability  
and capacity

Strengthening the  
Building Code

# Our strategic priorities

- Providing stewardship and leadership to the building and construction sector.
- Partnering with Industry to respond to and manage sector challenges
- Ensuring the Building Code supports durable and resilient buildings, whilst enabling innovation in building designs, technologies and materials.
- Lifting the performance of the building regulatory system by improving the way our consenting system operates and the way building, and construction professionals are regulated.
- Improving the building and construction sector's resilience in response to seismic events.
- Reducing emissions from the building and construction sector, and preparing buildings for the effects of climate change.

# Understanding performance

- **People:** an available, accountable workforce with the right skills for the industry, and protection for consumers.
- **Processes:** make regulatory and commercial processes risk-based, balanced and efficient.
- **Products:** building products are reliable, fit-for-purpose and used appropriately. They contribute to safe and durable buildings.
- **Performance:** building system performance standards are clear and reasonable, and look to the future.



# Building System Reforms

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# Building System Reforms

These much-needed improvements to our building regulatory system will ensure that our buildings are safe, healthy and durable.

The reforms seek to:

- Lift the performance of the building regulatory system
- Ensure building work is done right first time
- Ensure that there are fairer outcomes for when things go wrong.

# Implementing the Building Amendment Act 2021

- Mandatory minimum information requirements for building products
- A new voluntary certification scheme for modular component manufacturers 'BuiltReady'
- A strengthened 'CodeMark' product certification scheme
- Stronger penalties to promote higher levels of compliance





# Building Consent System Review

- Consultation is underway on a first principles review of the building consent system
- The review aims to **modernise the building consent system** to provide assurance that building work is done right first time
- The current building consent system has its origins in a system first established in 1991
- There has no full review of the current system since it was last reviewed in 2004
- The way we design, procure and build has changed substantially since the 1990s
- We know the system isn't operating as effectively as it could be
- We want to build a shared understanding of the issues, so we can then assess options for change



# Occupational Regulation Reform

- Reforms aim to build trust and confidence in building practitioners and professionals, and the work they do
- Licensed Building Practitioners - new code of ethics starts in October; a bill to make changes to administration and complaints and disciplinary processes is due next year
- Engineers – a bill establishing a new occupational scheme is due next year
- Plumbers, gasfitters and drainlayers – a bill to make minor and technical improvements is due next year



# Consumer Protection Evaluation

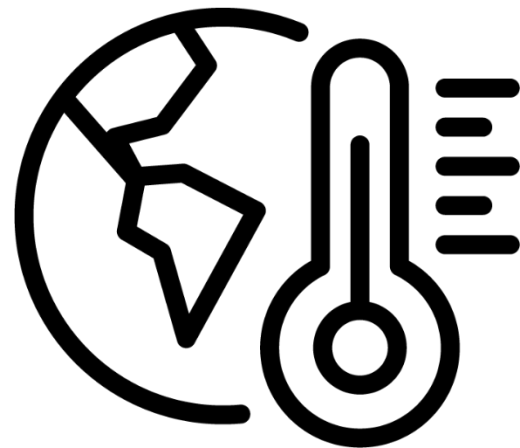
- Consumers play an important role in getting building work done right first time
- A recent evaluation has found that – for the most part – things do not go wrong and builders generally fix things when they do
- We want to make sure:
  - consumers have the right support when they choose to get building work done
  - when things do go wrong ensuring that there are fair outcomes for those impacted
- We expect to brief the Minister soon with opportunities to improve consumer protection

# Building for Climate Change

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# Building for Climate Change

- The building and construction sector is a significant contributor to New Zealand's emissions – 9.4% in 2018.
- The Building for Climate Change programme is responsible for leading the sector's response to the climate crisis, by leading work to reduce emissions and make sure our buildings are prepared for changing climate conditions.
- The vision for the Building for Climate Change programme is that by 2050:
  - New Zealand's building-related emissions are near zero, while providing healthy places to work and live for present and future generations, and
  - Homes and buildings are resilient to the impacts of climate change and meet people's social and cultural needs.



# Mitigation vs. Adaptation

The Building for Climate Change programme has been set up to address the two key challenges of climate change – mitigation and adaptation

- **Mitigation** – reducing building related carbon emissions. In order to reduce building-related emissions, we need to both reduce the embodied carbon of buildings and reduce the operational emissions of buildings.
- **Adaptation** – making buildings more resilient to future climate changes such as more extreme weather patterns and sea level rises. The building regulatory system needs to play its part in trying to ensure our building stock is resilient in the face of climate change.

# How we'll get there

- The Building for Climate Change programme challenges us to think about how we build in a completely different way, putting energy efficiency and carbon emissions at the core of our building designs and processes.
- The programme will introduce a raft of interventions between now and 2050:
  - New regulatory requirements (such as emissions caps on new buildings)
  - Providing data and tools to help people measure emissions
  - Behaviour change programmes
  - Incentives
  - Support for new technologies and innovations.
- The programme will engage with the sector every step of the way.

# Emissions Reduction Plan

- In May, the Government published the first Emissions Reduction Plan. This sets out a range of actions over coming years to get us on the path to New Zealand's overall climate change goal of net zero emissions by 2050.
- The building and construction sector has a major part to play in achieving this net zero goal - this will mean thinking differently about the way we design buildings and how we operate them.
- Under the plan, building and construction initiatives have five key focus areas:
  1. Reducing the whole of life embodied carbon of buildings
  2. Accelerating the shift to low carbon buildings
  3. Improving the energy efficiency of buildings
  4. Shifting energy use away from fossil fuels
  5. Establishing the foundations for further emissions reduction in the future.



# Work is well underway

- The Building for Climate Change programme is ramping up the work programme to achieve our actions in the Emissions Reduction Plan:
  - **‘Whole-of-life Embodied Carbon’** and **‘Transforming Operational Efficiency’** frameworks for emissions mitigation.
  - A proposed technical methodology for **assessing the embodied carbon** of new buildings
  - An **operational efficiency assessment methodology** (to be published later this year).
  - The next step with the frameworks will be a **discussion document for public consultation** on options for regulatory changes to introduce reporting and over time caps for operational efficiency and embodied carbon.

# National Adaptation Plan

The Government released the first National Adaptation Plan in early August. This sets out actions over the next six years to respond to the risk presented by climate change.

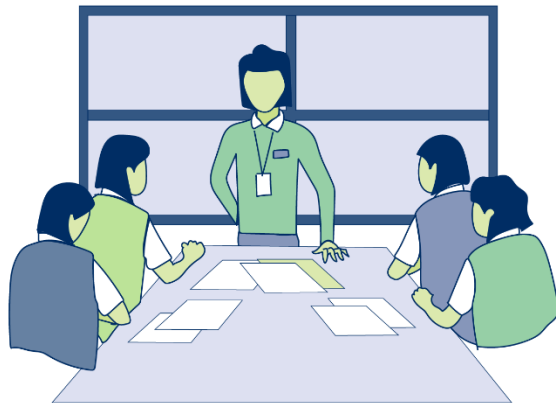


We want homes and buildings to be resilient to climate change, allowing communities to thrive. Through the National Adaptation Plan the programme will deliver actions to:

- Develop risk assessment and guidance to provide information for home and building owners to understand and plan for climate risks.
- Develop a methodology for risk assessment specific to public buildings.
- Use forward-looking climate data and modelling to inform any updates to the Building Code performance requirements and updates to climate hazards in the Building Code.
- Monitor the effects of any adaptation related regulatory change to manage any potentially adverse impacts.

# Looking forward

- These changes create some big opportunities – from helping create warmer, drier, healthier homes through to more efficient design and reduced construction waste.
- They also represent significant change for the building and construction sector, and we need to make sure we get them right.
- As the work programme progresses, we will ensure to engage with the sector and seek feedback on all proposed initiatives.

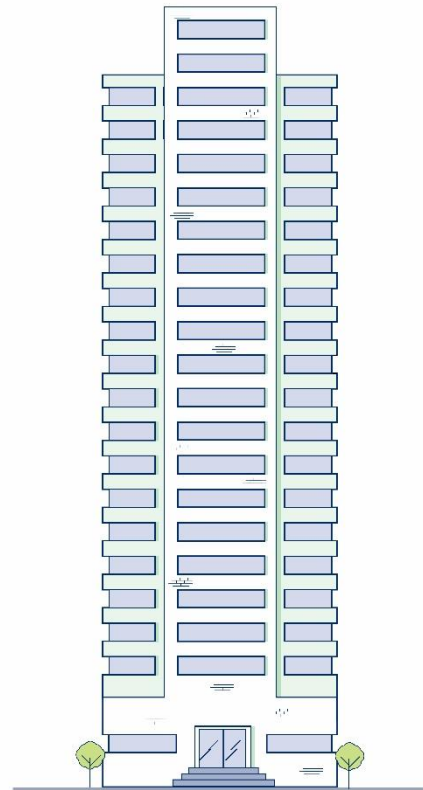


# Seismic Risk

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# Seismic Work Programme

- We are taking action to improve the building and construction sector's resilience and ensure life safety of people is paramount in building design
- There are many variables that ultimately determine how a building responds to a particular earthquake
- As the central building regulator, MBIE aims to
  - ensure that our buildings protect people and property from earthquakes
  - inform building owners and users about their building vulnerabilities
  - encourage strengthening of vulnerable buildings
  - lead to the improvement of our building stock.

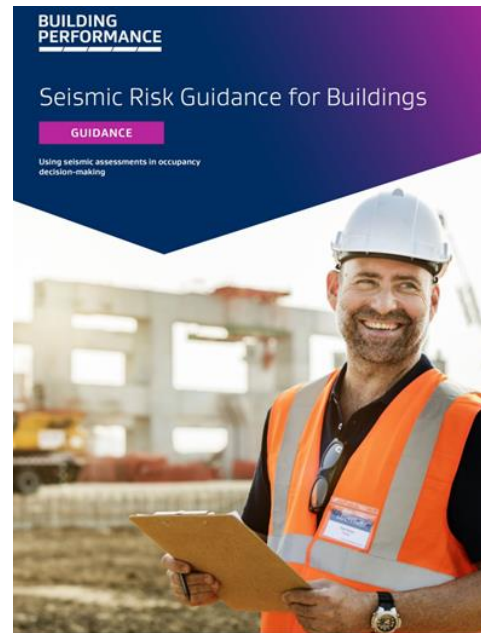


# National Seismic Hazard Model

- GNS are expecting to release a revised National Seismic Hazard Model later this year
- There is a clear focus on understanding the new hazard information and how it needs to be incorporated into the Building Code
- The Building Code provides a very high degree of life safety for new buildings
- While some existing buildings are identified through a seismic assessment as seismically vulnerable, the risk to life is still relatively low for most buildings given the low likelihood of a significant earthquake occurring in a given location in the immediate future.
- It is too early to make assumptions about what the NSHM will mean for existing buildings

# Seismic Risk Guidance for Buildings

- Recent high-profile evacuations of buildings such as the Wellington City Library, Hutt Hospital and Mātauranga House have highlighted the need to provide guidance on how to make informed risk-based decisions about occupancy and remediation work
- Our new guidance addresses some common misconceptions around how the New Building Standard should be used and clarifies there is no legal requirements to close a building based solely on a low NBS rating
- It addresses all building types, from office blocks to post-disaster critical facilities
- In particular, it is for those interpreting and making ongoing occupancy decisions on buildings based on the outcome of a seismic assessment.



# Seismic Risk

- Compared to most business-as-usual risks, earthquakes are low probability – and loss of life in an earthquake is a lower probability still
- New buildings are designed with a 1 in 1,000,000 annual fatality risk due to earthquakes
- An earthquake-prone building is estimated to have an annual fatality risk of between 1 in 40,000-100,000
- In comparison flying in an aeroplane has an estimated fatality risk between 1 in 700,000 and driving a car in New Zealand is estimated to carry a fatality risk of 1 in 20,000.



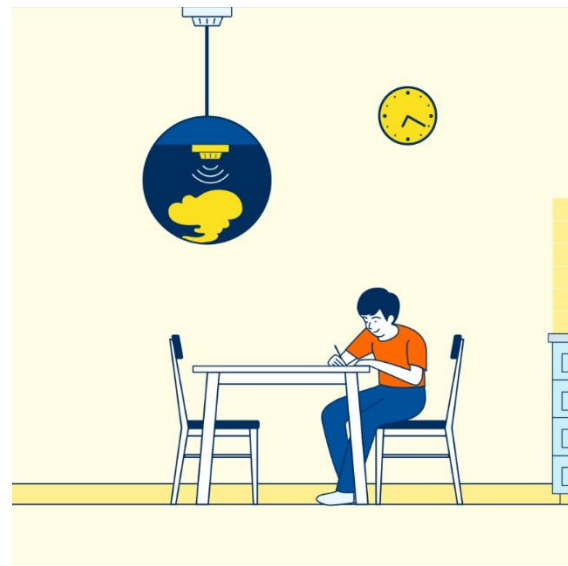


# Annual building code update

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# Annual Building Code update

- Plumbing and drainage – reducing lead and the chance of scalding
- Structural stability – hollow-core floors no longer ‘deemed to comply’
- Protection from fire – supporting housing densification in C/AS1
- The consultation has closed for the year and my team is currently working through the feedback



# Annual building code update – changes to H1

- Consultation on extending the transition period for changes for wall, floor, and roof insulation requirements in new housing
- We received over 800 responses, with a wide range of views
- We saw a high level of support for the changes themselves, but parts of the sector said they needed more time to prepare
- We decided on a six-month extension to the transition period



# Thank you.

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## Questions?

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