

# Building Code Technical Risk Advisory Group

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21 February 2020



Item	Agenda Item	In the hands of	Time
	Welcome Coffee		9:15 - 9:30
1.	Follow-up from the last meeting and proposed meeting changes	Mike Kerr	9.30 – 10.00
2.	Business Update	Dave Robson	10.00 – 10.20
3.	‘Tranche 2’ of standards prioritisation	Jenni Tipler	10.20 – 11.00
4	Standards NZ – Development of Standards	Carmen Mak	11.00 – 12.00
	Lunch		



Item	Agenda Item	In the hands of	Time
5.	Draft strategy paper on non-structural elements, commissioned by the Building Innovation Partnership	Larry Bellamy and Paul Campbell	12.30 – 1.30
	Break		
6.	Discussion on non-structural elements	Bruce Deam	1.40 – 2.00
7.	Airtight Buildings causing moisture issues	Richard Almand	2.00 – 2.20
8.	Battery Fires	Saski Holditch	2.20 – 2.40
9.	Open Forum: Proposed meeting changes, General Issues, Next Steps	Mike Kerr	2.40 - 3.30
	Close	Mike Kerr	3.30

# 1. Follow-up from the last meeting & proposed meeting changes

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Committee membership changes:

- Thank you to outgoing members Lynda Amitrano and Jayson Ellis
- Welcome to Cory Lang and Mark Jones

Any comments on minutes or post-meeting materials distributed after last meeting?

Any questions on Agenda for this meeting?



## Pre meeting

- Was the pre-read material useful?
- Should MBIE and/or BCTRAG members collaborate on pre-read materials?
- Would sub-group pre meetings to prepare agenda items be useful?

## Meeting Format

- Should breakout sessions be considered?
- How should breakout session groups be split?

## Attendees

- What are your thoughts on:
  - Inclusion of non-industry groups?
  - Inclusion of co-opted members?
  - Optimal group size?



- *Consider these points throughout today's meeting.*
- *Discuss in detail at 2.40pm at end of meeting*

## 2. Business Update

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- Technical programme – next BCTRAG
- Current consultation on Building Code
- HD8 - Update





## NZS3604 – Progress Update

### Proposed features:

1. Solutions for improved thermal performance
2. Foundation solutions for expansive soils
3. Foundation solutions for liquefaction-prone soils
4. Steel bracing elements for wide openings
5. Support systems for long-span beams, lintels, and trusses
6. Framing around internal stairwells
7. Isolated internal masonry walls

Note: No consultation on the eighth feature: a new section for interconnected, three-storey, single-tenancy buildings. The scope and nature of this new section are being developed by working group

### Recent and upcoming work:

- Monday 4 February:
  - Public feedback closed with detailed responses from 79 people
- Thursday 20 February:
  - Feedback reviewed at the second scoping group meeting.
- Friday 28 February:
  - BSP will receive the report from the scoping group.
  - The report will also identify resources needed to carry out a significant revision project.
  - BSP will consider if and how to proceed with revising the standard.



- **Questions from floor?**

# 3. Tranche 2 of standards prioritisation

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## Framework for Prioritisation

1. Time in years from last review
2. Sector use of building Standards
3. Stakeholder feedback on building Standards
4. Criticality of Code Clause
5. Criticality of Standard to Code Clause
6. Need to update Standard
7. Relevance to MBIE/Government priorities

*Standards NZ Parameters*

*BSP Parameters*

## 2019/2020 Priorities

NZS 3604:2011 Timber-framed buildings

NZS 4431:1989 Code of practice for earth fill for residential development

NZS 3404 Parts 1 and 2:1997 Steel structures

NZS 4211:2008 Specification for performance of windows

NZS 4510:2008 Fire hydrant systems for buildings

NZS 4303:1990 Ventilation for acceptable indoor air quality

NZS 4218:2009 Thermal insulation – Housing and small building envelope

## 2020/2021 Priorities

NZS 4229:2013 Concrete masonry buildings not requiring specific engineering design

NZS 4230:2004 Design of reinforced concrete masonry structures

NZS 4402.2.4:1986 Methods of testing soils for civic engineering purposes – Soil classification tests – Test 2.4 Determination of the plasticity index

NZS 3101.1&2:2006 Concrete structures standard. The design of concrete structures

NZS 4232.2:1988 Performance criteria for fire resisting enclosures – Fire resisting glazing systems

NZS 4520:2010 Fire resistant doorsets

NZS 4223.1:2008 Code of practice for glazing in buildings – Glass selection and glazing

NZS 3605:2001 Timber piles and poles for use in building

NZS 4305:1996 Energy efficiency – domestic type hot water systems

NZS 4121:2001 Design for access and mobility – Building and associated facilities



For discussion:

- Does the prioritised list of Standards reflect industry's view?
  - Which additional Standards should be considered?
  - Which Standards should be considered a lower priority

## 4. Standards NZ – Development of Standards

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# Standards New Zealand Presentation for BCTRAG

21 February 2020

- Carmen Mak, Manager Standards NZ
- Stan Stanilov, Team Leader Development





# Topics to be covered



- What does Standards New Zealand do
- How standards are made
- Our new ways of working
- Working together
- Questions and ideas





# What does Standards New Zealand do

- Standards and Accreditation Act 2015 – our statutory purpose
  - Provides for a standards system in NZ that:
    - **protects the health, safety, and well-being of individuals**
    - **is consistent with international practice**
    - **facilitates trade**
- Our role includes:
  - Standards **development, approval** through the Standards Approval Board and **maintenance**
  - **International participation**
  - Access to standards





# What does Standards New Zealand do

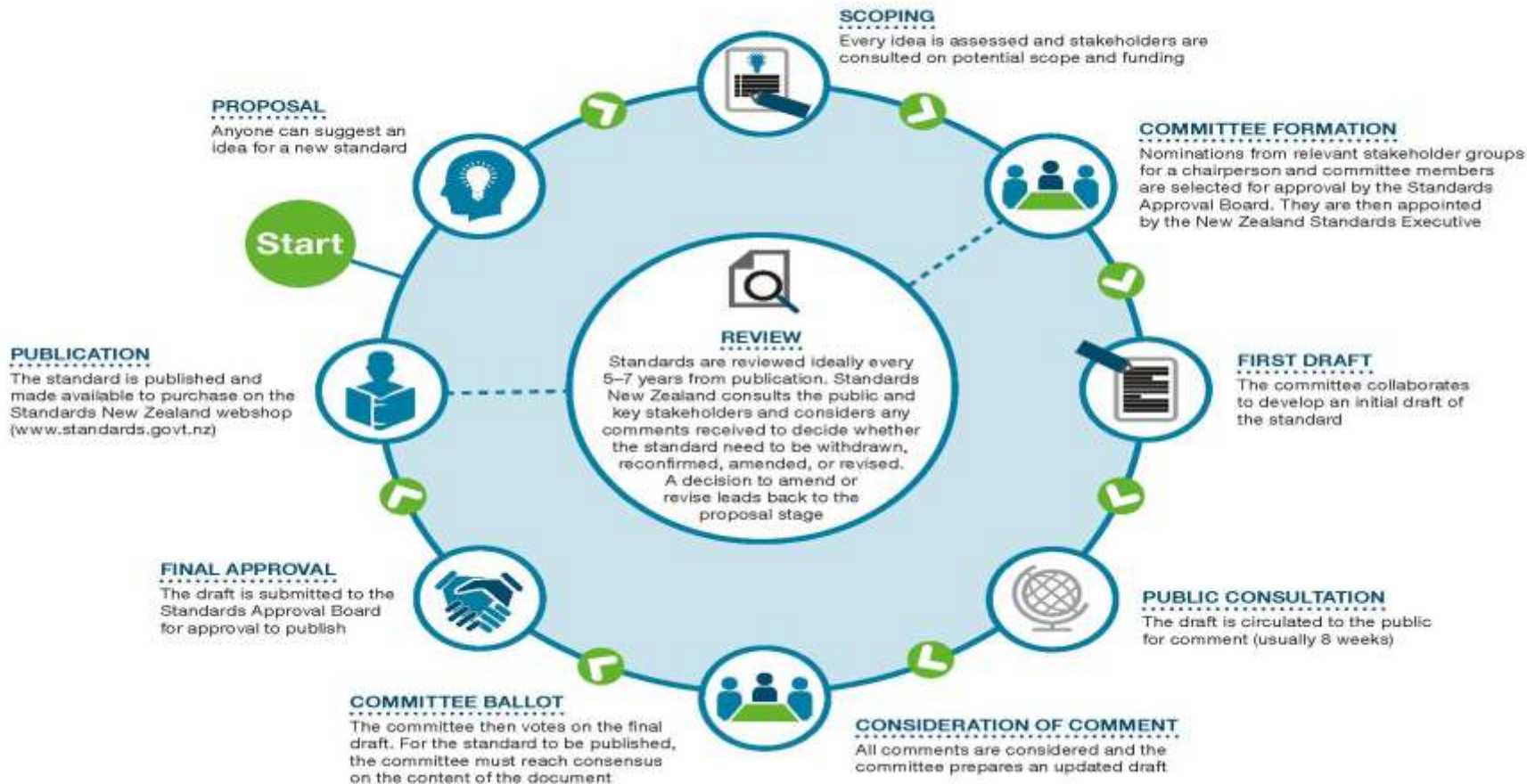
- Independence of Board and New Zealand Standards Executive
- We ensure that New Zealand has a **voice in the international standards community**
- Bring together **relevant and key stakeholders** to tailor standards solutions
- Standards solutions are developed by expert committees through a **robust, transparent process** – internationally aligned process
- **Consensus-based approach** ensures standards solutions are practical, relevant, and widely recognised and supported.

## Other points to note:

- Because we receive **no direct government funding** we need to recover our costs and charge for our standards
- Although we develop and provide access to standards, we are **not responsible for enforcing, regulating, or certifying compliance** with those standards



# How standards are made



# New Business Strategy



MINISTRY OF BUSINESS,  
INNOVATION & EMPLOYMENT  
HĪKINA WHAKATUTURI

STANDARDS  
NEW ZEALAND  
PŌREHU AOTĀROA





# BSP and the building sector as a strategic partner



How we have worked with BSP and the building sector:

- Strategic and collaborative
- Prioritisation framework and prioritised standards to be commissioned
- Ongoing standards revision work programme (including standards not cited in the NZBC)
- BSP pre-funding access to 120+ standards for building compliance

Further opportunities:

- Use of international standards, strategic agreement with BSP
- Medium-term work programme
- Continuing to work with the wider sector
- Digital conversion of standards and enhancing usability through new tools



# Working closer together



Ways to be involved and work together:

- Consider when an NZS is the right solution and talk to us about commissioning standards
- Facilitation of scoping workshops and working group meetings
- Cross Government reach and collaborating with other agencies
- Focus on supporting key Government priorities
- Membership on international committees, i.e. ISO & IEC
- Provide feedback on the aged standards catalogue
- Fund access to cited and other relevant standards





# Questions



# and ideas





# LUNCH

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## **5. Draft strategy paper on non-structural elements, commissioned by the Building Innovation Partnership**

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# Strategic Position Paper Design, Construction and Seismic Performance of Non-Structural Elements



Dr Larry Bellamy

Paul Campbell

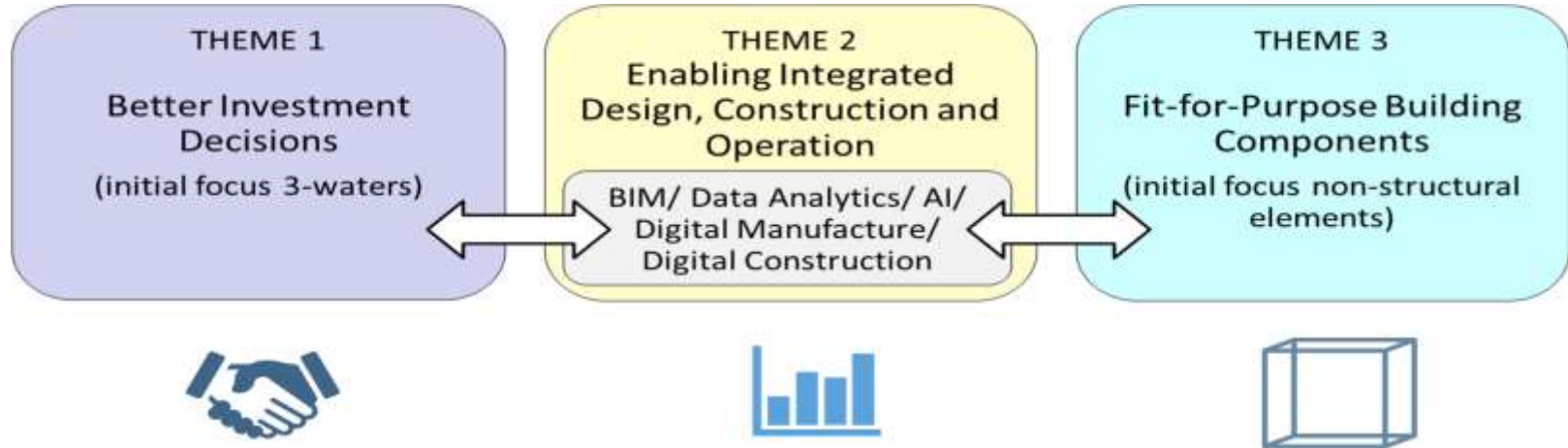


## BUILDING INNOVATION PARTNERSHIP (BIP)



- Industry-led research programme run by Quake Centre (based at Uni. of Canterbury)
- \$12.5m (40% from MBIE's Research Partnerships Scheme; 60% from industry)
- 7 years (2018-2025)
- Improve resilience, sustainability and economic performance of infrastructure (horizontal and vertical)
- Programme delivered through 3 interlinked themes
- Led with assistance of industry champions

# BIP IS DELIVERED THROUGH THREE INTERLINKED THEMES



## HIGH-LEVEL OUTCOMES OF THE BIP PROGRAMME



- **Better decision-making tools** to improve infrastructure planning, design, construction and management
- Stronger building industry through greater use of **digital technologies and procurement practices** that improve collaboration and productivity
- **Innovative engineering technologies, design methods and construction processes** that improve the resilience and affordability of buildings



Robert Finch  
BIP Leader and Quake  
Centre Director



Larry Bellamy  
BIP Research Director  
and Prof of Arch Eng



Greg Preston  
BIP and Quake Centre  
Manager

# Break

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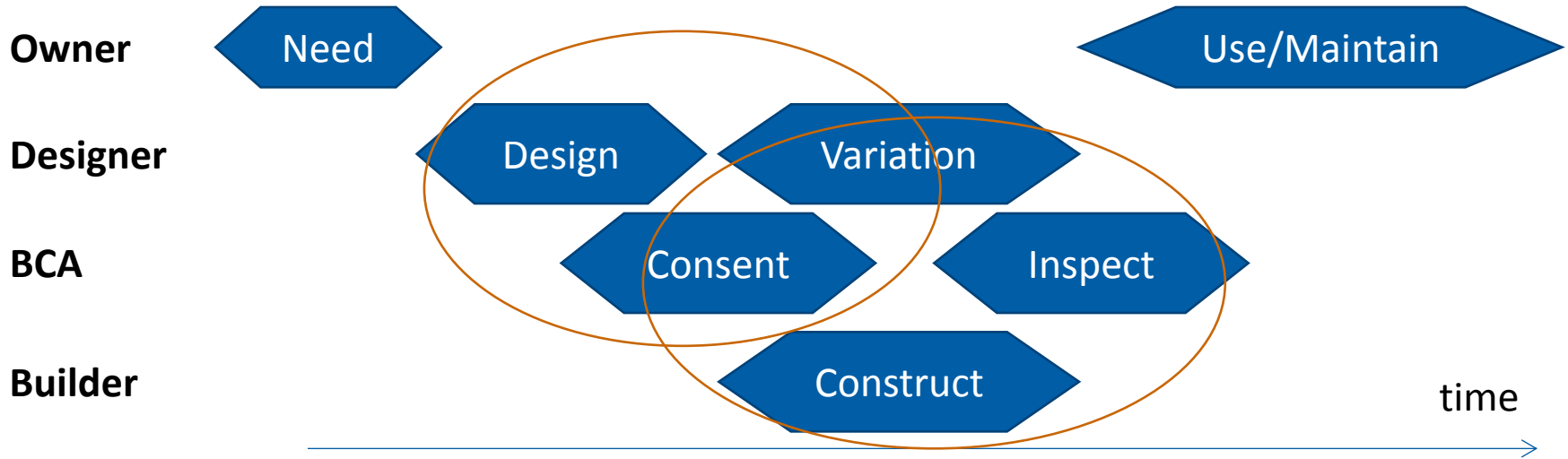
## 6. Discussion on non-structural elements

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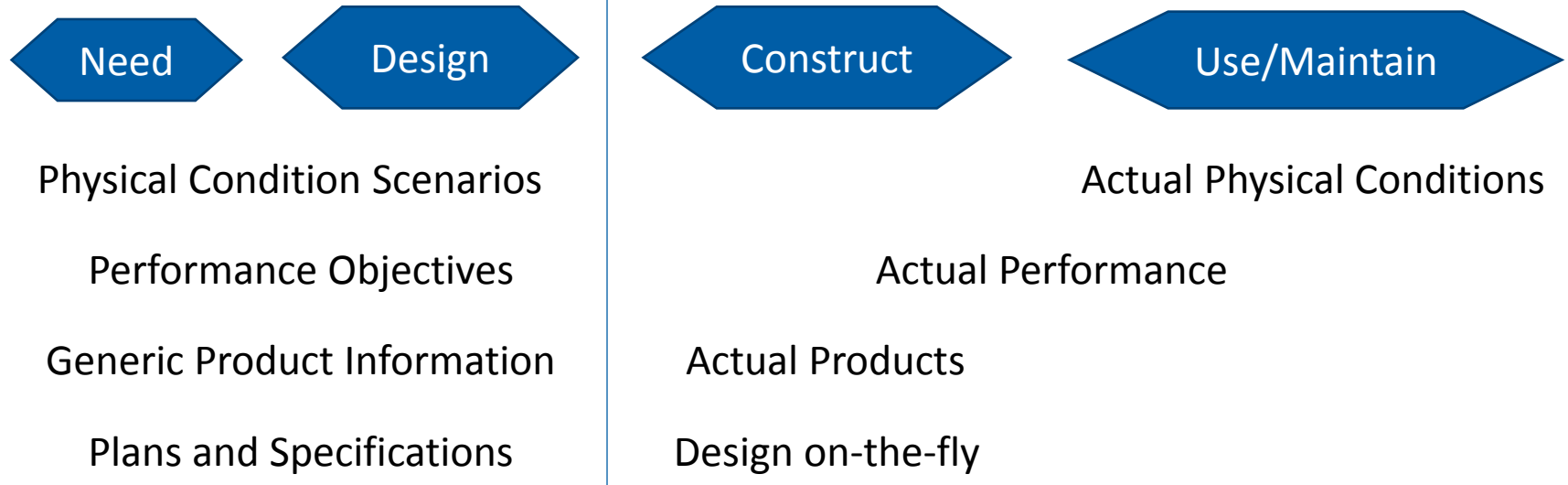


# Building Processes



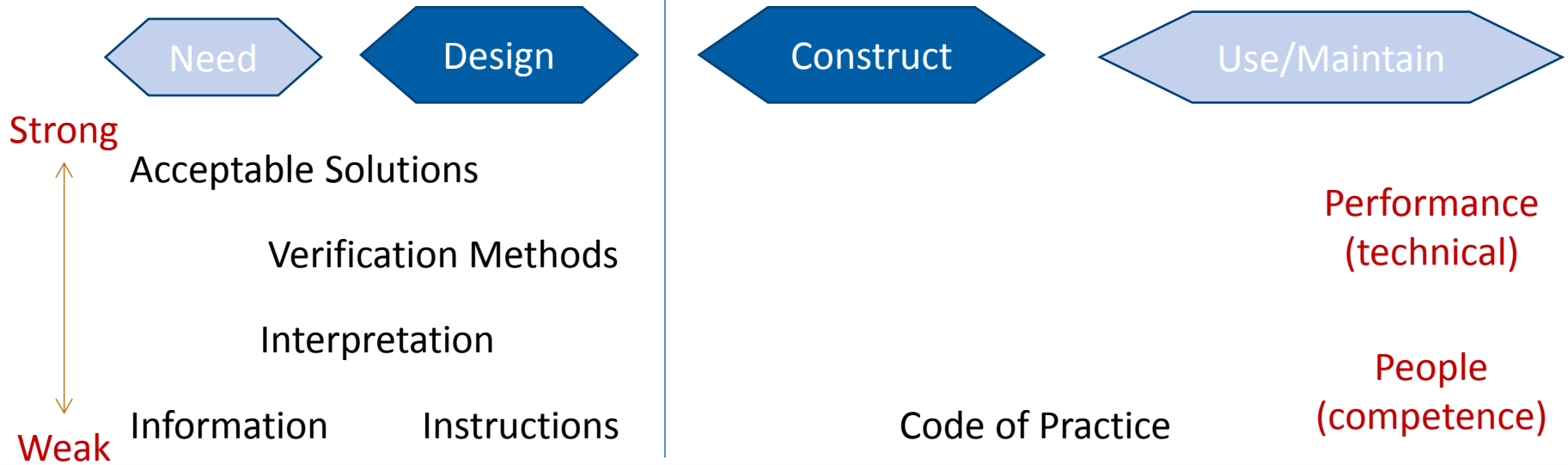


# Design for Performance





# Performance Interventions



# 7. Airtight Buildings causing moisture issues

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stuff life & style  
**What an A4-sized patch of mould means for you**

BEA TAYLOR AND NATALIA DIDOVICH - 16:39, Mar 07 2018



stuff life & style  
 Got mould? Open a window and chuck out the pot plants

16:48, Mar 07 2018



16:48, Mar 07 2018

stuff life & style  
**The hidden dangers of mould in the home**

17:25, Mar 06 2018



stuff life & style  
 Mould in Middlemore Hospital buildings so advanced it could breach walls, report shows

16:48, Mar 07 2018



16:48, Mar 07 2018

Levin business readies launch of DIY test for 'toxic' mould

16:48, Mar 07 2018



16:48, Mar 07 2018

stuff life & style  
**Shannon mum helped out of black mould house trap**

16:48, Mar 07 2018



Firefighters in suburban Wellington relocated after black mould

16:48, Mar 07 2018

Black mould at Waikato primary a symptom of leaky school building challenge

16:48, Mar 07 2018



Mould, leaking wastewater disgusts Dunedin student flat tenants

16:48, Mar 07 2018



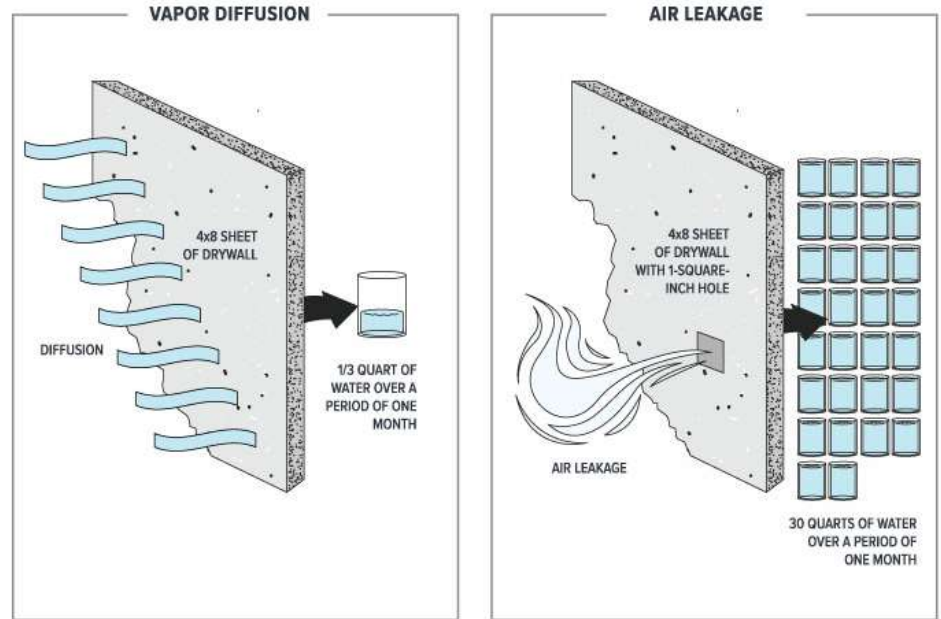
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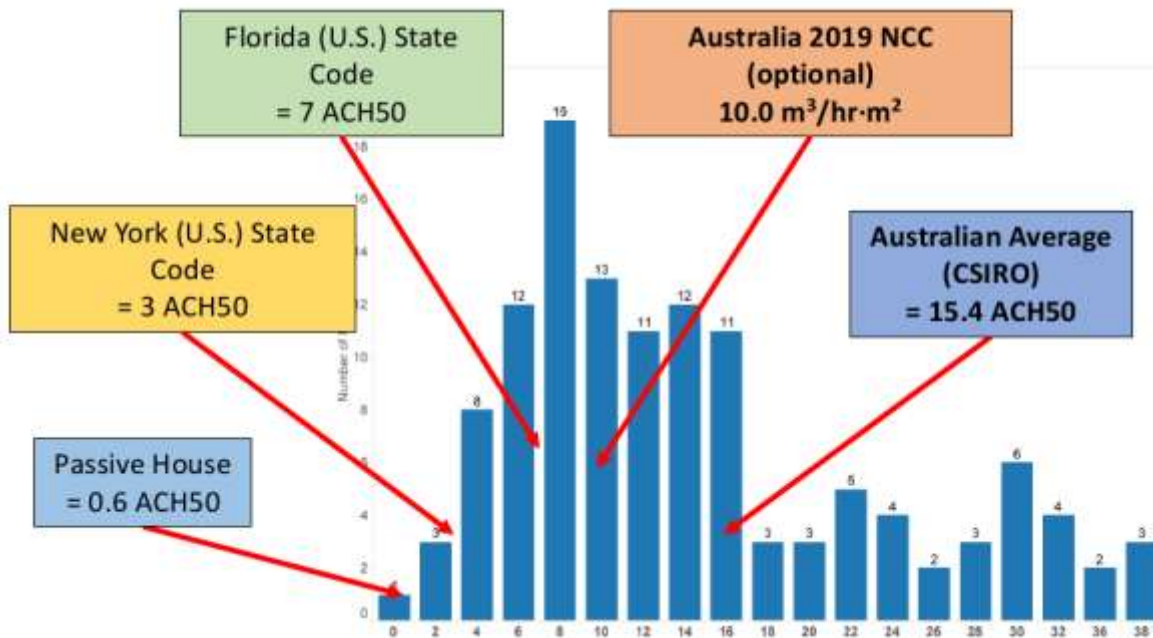
- Are New Zealand buildings at risk of condensation issues associated with airtightness?



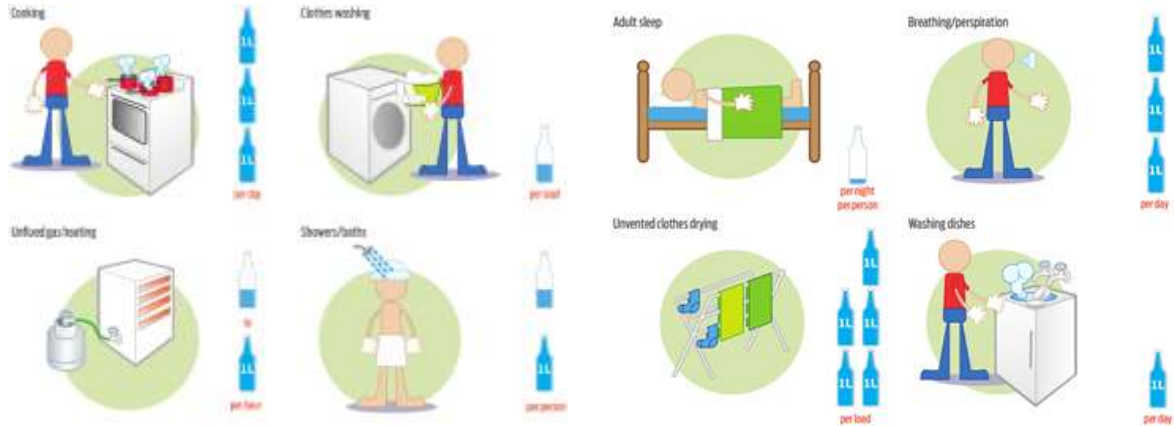
**VAPOR DIFFUSION VS. AIR LEAKAGE**

INTERIOR TEMPERATURE = 70° F  
RELATIVE HUMIDITY = 40%

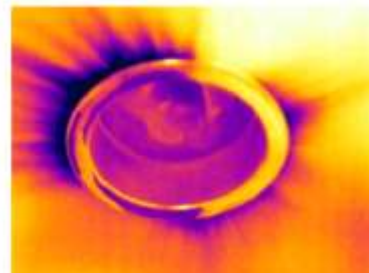
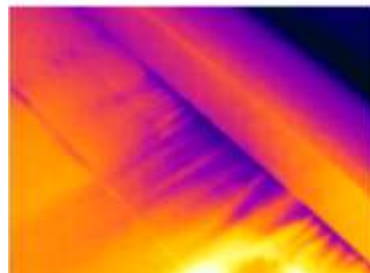
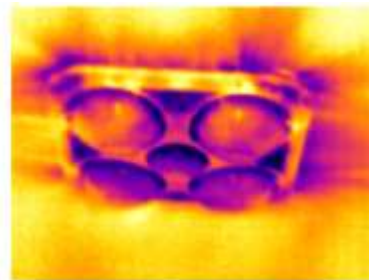
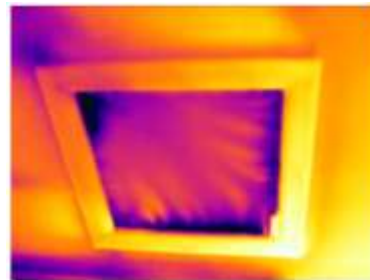
©CCPIA



- Does the BCTRAG believe there is suitable risk to justify prioritising research into the settings for continuous low volume or time lag mechanical ventilation









Does the BCTRAG believe there is suitable risk to justify prioritising research into the settings for passive ventilation of cold roof spaces?

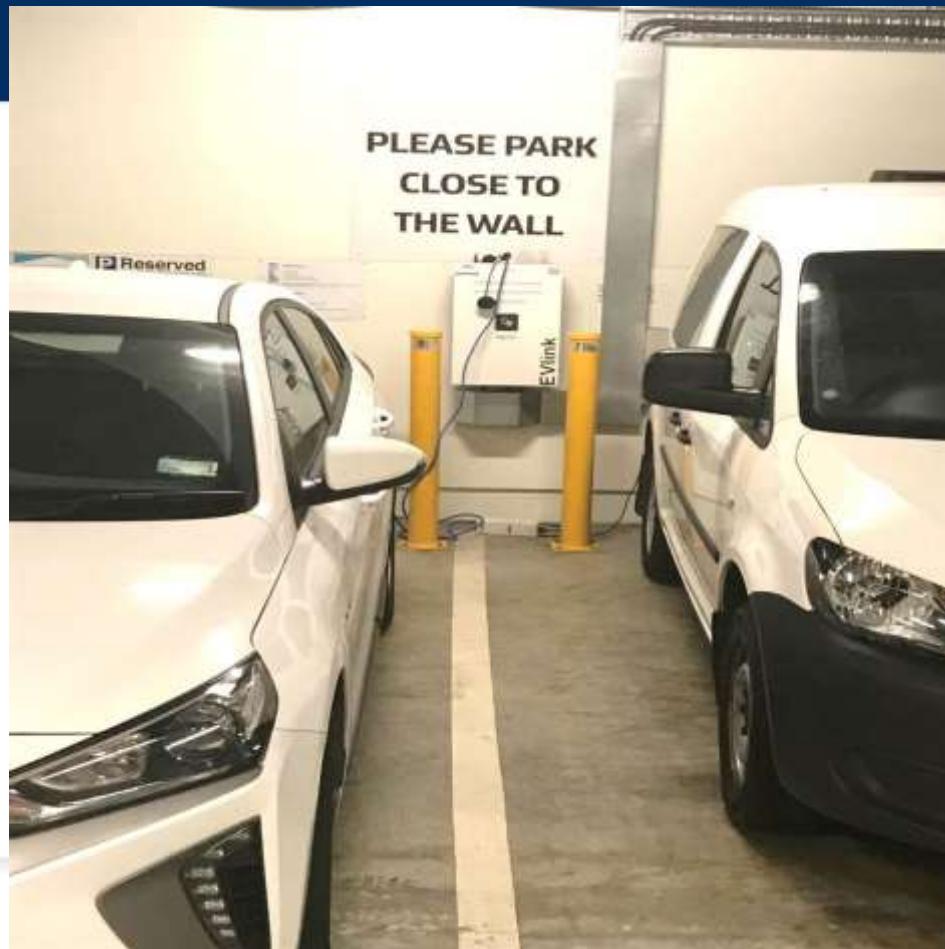


## 8. Battery Fires

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**For discussion:**

- **Is there any concern in industry that the risks associated with li-ion batteries are not being regulated adequately?**
- **If there is a view that better regulation is required, what risks/applications should be considered for regulation via the Building Code?**

# 9. Open Forum: Proposed meeting changes, General Issues, Next Steps

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- **Next meeting will be on Tuesday 19<sup>th</sup> May, 2020 at MBIE.**
- **Questions?**

**Thank You**

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