

BUILDING PERFORMANCE

Developing an overheating risk assessment methodology for New Zealand's building regulations

Building Energy Codes Working Group

11 May 2026



MINISTRY OF BUSINESS,
INNOVATION & EMPLOYMENT
HĪKINA WHAKATUTUKI

Te Kāwanatanga o Aotearoa
New Zealand Government

New Zealand



 Land Area
268,021 km²

 Population
5.2 Million

United Kingdom



 Land Area
243,610 km²

 Population
67.9 Million

Italy



 Land Area
301,340 km²

 Population
58.9 Million

Japan



 Land Area
377,975 km²

 Population
123.9 Million



Image created with Microsoft Copilot

Some newly built Auckland homes too hot, council study shows

2:02 pm on 27 Sep

Hot homes issue unacceptable: NZGBC



Regular Blogs



‘Hotboxes’ a housing health crisis hellfire

Bob Burnett | THE PRESS

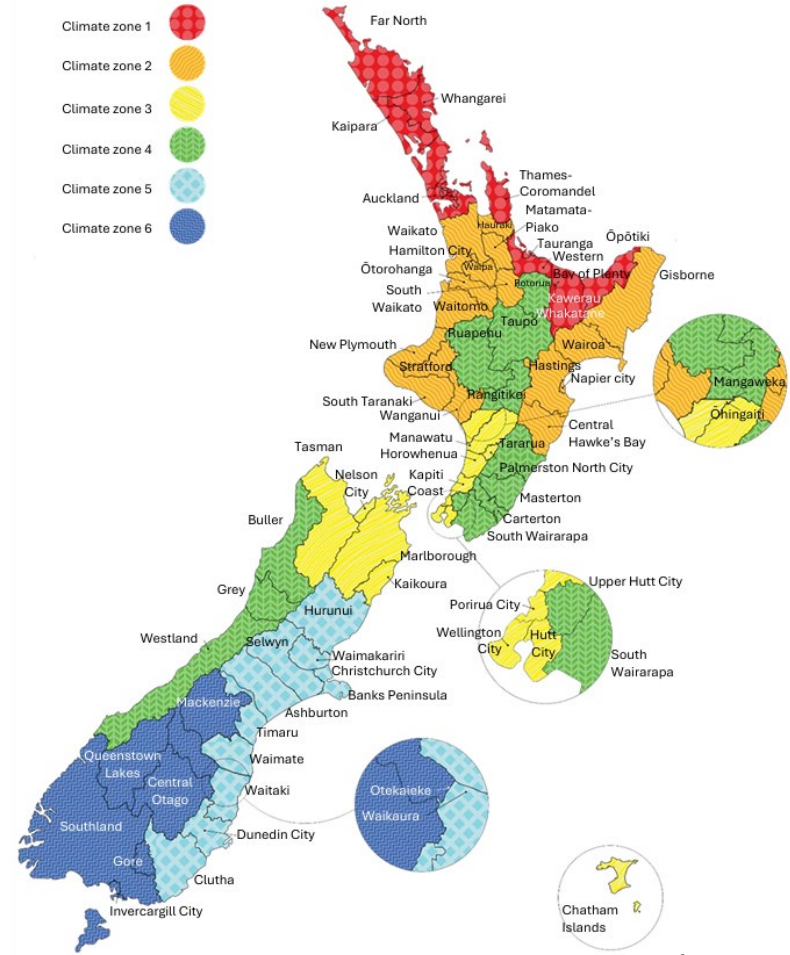
December 5, 2025



Call for changes to tackle overheating homes in summer

New Zealand's Climate

Typical summer
temperatures
are between 15 -
25°C.



Building Regulations and overheating

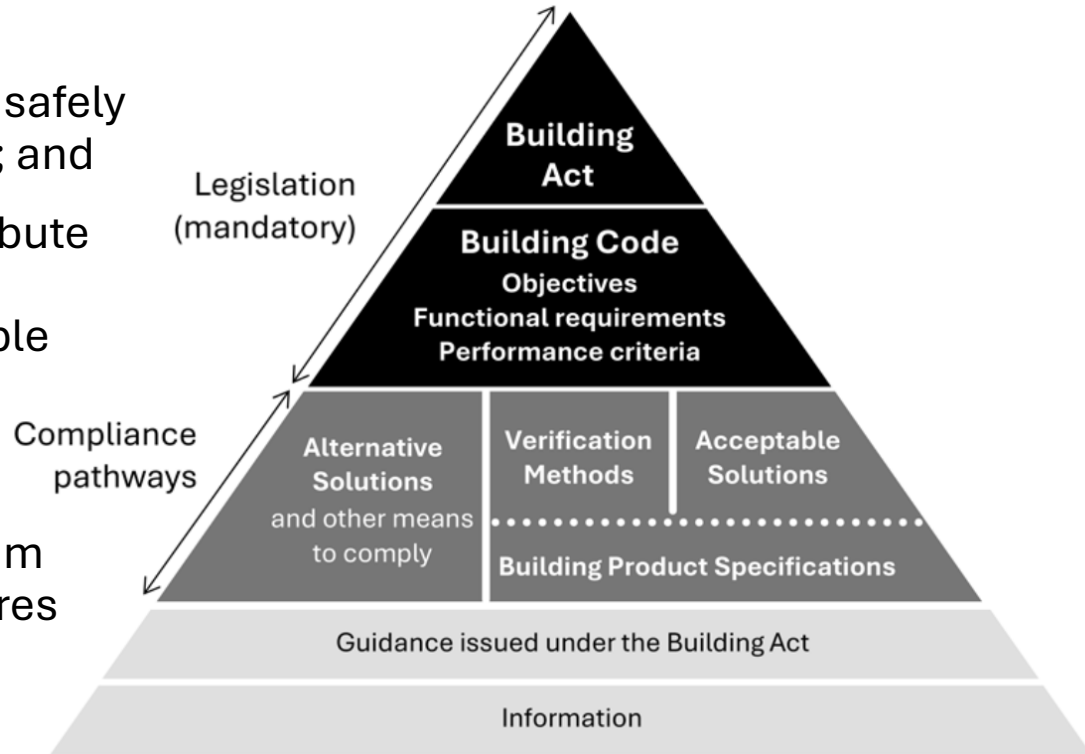
New Zealand Building Act

- People who use buildings can do so safely and without endangering their health; and
- Buildings have attributes that contribute appropriately to the health, physical independence and well-being of people who use them.

New Zealand Building Code

Only has requirements about minimum temperatures in early childhood centres and retirement homes.

No requirements for overheating.





NZ Residential Overheating Risk Assessment

HEEB Stage 2.1.1 - Methodology Report

Prepared for Ministry of Business, Innovation & Employment (MBIE)

Prepared by Beca Limited

8 October 2025



The three parts of our overheating methodology

1. A simulation methodology



2. A calculation: Standard Effective Temperature



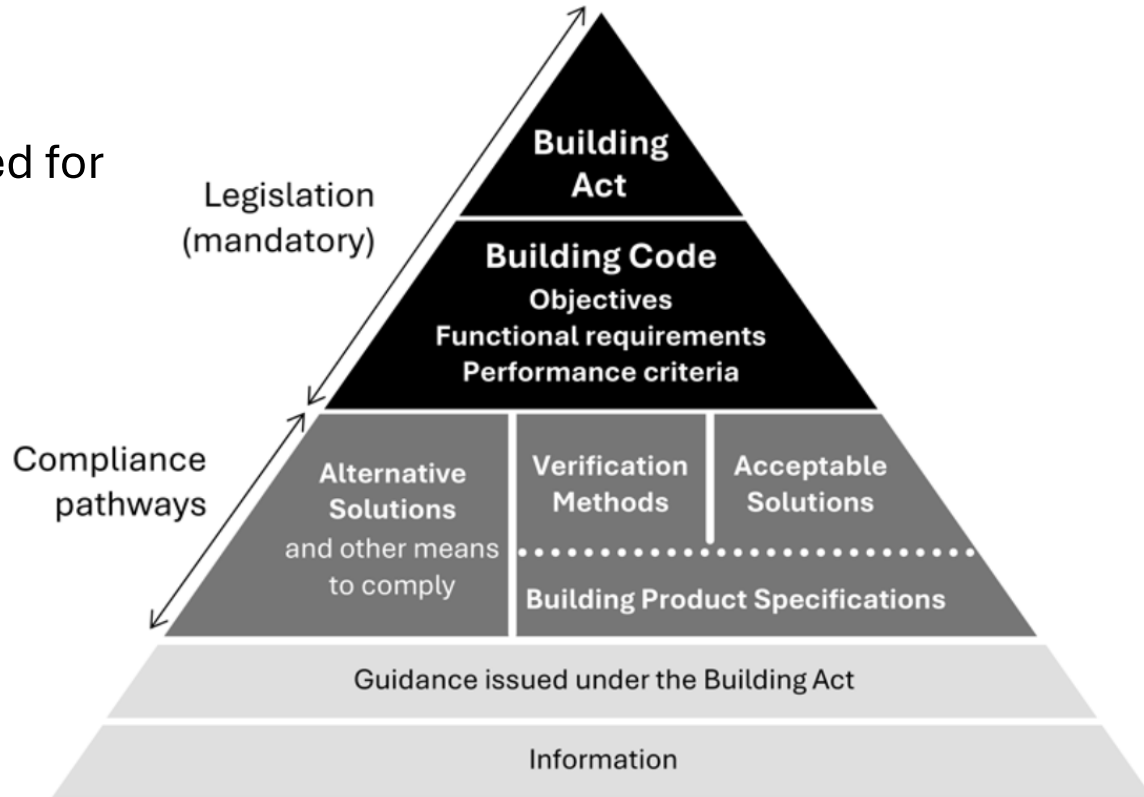
3. Pass/fail threshold



Future changes: Building regulations and overheating

New Zealand Building Code

Performance requirements added for high temperatures (overheating)



Some of our research questions:

- What is the definition of a heat wave? This will determine which weather file to use for assessments.
- What modelling assumptions shall we use? TM59 is the framework we're currently using, but it will be updated to reflect monitored data for energy loads and profiles for New Zealand.
- What is the SET* threshold for heat stress and heat strain?

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