

Australia has a new National Construction Code, but it's still not good enough

Written by Dr Timothy O'Leary, Lecturer in Construction and Property, University of Melbourne

After a three-year cycle of industry comment, review and revision, May 1 marks the adoption of a new [National Construction Code](#) (NCC). Overseen by the [Australian Building Codes Board](#) (ABCB), the code is the nation's defining operational document of building regulatory provisions, standards and performance levels. Its [mission statement](#) is to provide the minimum necessary requirements for safety and health, amenity, accessibility and sustainability in the design, construction, performance and liveability of new buildings.

Some say the building industry is in [deep crisis and broken](#), that even our entire building regulatory system is not fit for purpose. Consider what has happened, [particularly in residential construction](#)

. We have had buildings [burning](#),
, [cracking](#),
, windows exploding,
[rooms with intolerable heat stress](#),
,
[rendered unfit for occupation](#)
without
[costly remedial action](#),
, class
[actions against developers](#),
, and
[multi-million-dollar court judgments](#)
against consultants and builders.

Read more: [***Beyond Opal: a 10-point plan to fix the residential building industry***](#)

What have reforms to the old Building Code of Australia (BCA), now the NCC, delivered? Is the new code good enough?

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Well, how do you measure performance? We should think in terms of lives saved, [heat stroke](#) minimised, costly remedial works avoided, [less sleep deprivation](#) and climate-induced respiratory issues, [disability access](#), [less bill shock for the vulnerable](#), and housing that is built to allow [ageing in place](#).

Safety and amenity

Widespread use of non-compliant building materials, and specifically combustible cladding, has been foremost in the minds of regulators. Three years ago, after the [Lacrosse fire in Melbourne Docklands](#), the ABCB amended the existing code. This crucial revision has been [carried forward into the new code](#).

Individually, states have acted on the findings of a [Senate inquiry](#) into this area. Last October, for example, Queensland enacted the [Building and other Legislation \(Cladding\) Amendment Regulation 2018](#).

Investigations into the highly publicised, structurally unsound Opal tower in Sydney found the design – namely the connections between the beams and the columns on level 10 and level 4, the two floors with significant damage — indicated “[factors of safety lower than required by standards](#)”.

Opal Tower report finds “construction issues”.

Just two months ago when the new code was released in preview form, we learnt that a significant number of approved CodeMarks used to certify compliance for a range of building materials are under recall. The Australian Institute of Building Surveyors [posted urgent advice](#) : “We are in the process of making enquiries with the ABCB and Building Ministers to find out when they were made aware that these certificates were withdrawn and what the implications for members will be [...] and owners of properties that have been constructed using these products.”

Fire safety concerns are driving changes in the code. The new NCC has extended the provision of fire sprinklers to lower-rise residential buildings, generally 4-8 storeys. However, non-sprinkler protection is still permitted where other fire safety measures meet the deemed minimum acceptable standard.

Read more: [Lacrosse fire ruling sends shudders through building industry consultants and governments](#)

Comfort and health

The code includes new heating and cooling load limits. However, requirements for overall residential energy efficiency have not been increased. The 6-star minimum introduced in the 2010 NCC remains.

The code has just begun to respond to the problem of dwellings that are being constructed to comply but which [perform very poorly in the peaks of summer](#) and winter and [against international minimum standards](#). The change in the code deals with only the very worst houses – no more than 5% of designs with the highest heating loads and 5% with the highest cooling loads.

It's a concern that the climate files used to assess housing thermal performance use 40-year-old BOM data. Off the back of record hot and dry summers, readers in such places as Adelaide and Perth might be surprised to learn the ABCB designates their climate as "[the mildest region](#)".

For well over a decade my colleagues and I have researched thermal performance, comfort and health and improvements by regulation. Our [recent paper](#), based on a small [sample of South Australian houses built between 2013 and 2016](#), demonstrated what has been discussed anecdotally in hushed voices across the industry, that a building can [fail minimum standards using one particular compliance option yet pass as compliant using a different pathway](#).

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A building that is not six stars can be built under the new code. In fact, it may have no stars!

Read more: [Construction industry loophole leaves home buyers facing higher energy bills](#)

Lamentably, there has been no national evidenced-based evaluation (let alone international comparison) of the measured effectiveness of the 6-star standard. CSIRO did carry out a [limited evaluation](#) of the older 5-star standard (dating back to 2005). An [evaluation for commercial buildings](#) is available from the ABCB website.

Accessibility and liveability

Volume 2 of the NCC covers housing and here it is business as usual, although the ABCB has released an [options paper](#) on proposals that might be part of future codes. Accessible housing [is treated as a discrete project](#). Advocates for code changes in this area, such as the [Australian Network for Universal Housing Design](#) (ANUHD), have written to the ABCB expressing disappointment.

A Regulation Impact Assessment on the costs and benefits of applying a minimum accessibility standard to all new housing has yet to see the light of day.

These proposals or “options” talk of silver and gold levels of design (there is no third-prize bronze option for liveable housing). Codes of good practice in accessible design have for decades recommended such measures.

Read more: [Australia's housing standards are failing its ageing population](#)

It's all about performance

Some argue that deep-seated problems have developed from a code that favours innovation and cost reduction over consumer protection. There is a cloud over the industry and over some provisions – or should we say safeguards and compliance?

Safety should not be a matter of good luck or depend on an accidental selection of a particular building material or system. New buildings born of this new code are hardly likely to differ measurably from their troublesome older siblings. The anxiety for insurers, regulators and building owners continues.

Read more: [Cladding fires expose gaps in building material safety checks. Here's a solution](#)

The National Construction Code adopts a performance-based approach to building regulation, but don't expect the sales consultant to know the [U-value](#) of the windows, whether the doors are hung to allow for disabled access, or if the cleat on your tie beam is to Australian standards.

Anyone can propose changes to the NCC. The form is on the website. Consultants will be hired to model costs and benefits.

Regulatory reforms introduced through the ABCB over the past 20 years have produced an [estimated annual national economic benefit of A\\$1.1 billion](#). That's a lot of money! The owners of failing residential buildings could do with some of that cash to cover losses and legal fees.

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Dr Timothy O'Leary has received past funding from the Australian Research Council and the State Government of South Australia for research in housing energy performance, energy disclosure and housing lifetime affordability. Dr O' Leary holds an unpaid position as a Program Advisory Group member of the Victorian Government, Residential Efficiency Scorecard and contributes in a non paid advisory role to the National Energy Efficient Buildings Project (NEPP), stakeholder reference group convened by the Australian Department of Environment and Energy.

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Read more <http://theconversation.com/australia-has-a-new-national-construction-code-but-its-still-not-good-enough-113729>