

7-star housing is a step toward zero carbon. But there's much more to do, starting with existing homes

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Credit: dcbel/Pexels

[Energy-efficiency standards](#) for new homes in Australia are being upgraded for the first time in a decade. New homes will be required to improve minimum performance from 6 stars to [7 stars](#) under the Nationwide House Energy Rating Scheme (NatHERS). Federal, state and territory building ministers [agreed on the change](#) last Friday.

The rating will also use a whole-of-home energy "budget." This will allow homes [to meet the new standard in different ways](#). The standard will come into force in May 2023, and all new homes will have to comply by October 2023.

On Monday, the NSW government also [announced](#) large commercial developments, as well as big state projects, will have to submit a "net-zero statement" to gain planning approval. The statement must show their buildings are either all-electric or can fully convert to renewable energy by 2035. In addition, new homes and renovations will have to reach a 7-star rating under the state's Building Sustainability Index ([BASIX](#)). The current minimum is 5.5 stars.

These upgrades represent a step in the right direction, but much more remains to be done to future-proof Australian homes. Buildings account for about [20% of the nation's emissions](#). Further upgrades to the National Construction Code (NCC) are needed before 2030 to achieve Australia's climate targets.

Today, Building Ministers will meet to decide if and when they will increase Australia's minimum energy efficiency standards for new homes.

This is a chance to create safer, more efficient and affordable homes for Australians and lower emissions. [#auspol](#)
<https://t.co/Caq57x60Dj>

— Climate Council (@climatecouncil) [August 25, 2022](#)

We're still short of zero-carbon buildings

Across Australia, more than [5.5 million houses](#) are predicted to be built between 2023 and 2050. The upgraded construction code means they

will perform better in climate extremes and emit less carbon.

So this long-overdue change is good news for households and the planet. It means new houses will use an average of 24.5% less energy to keep warm and cool. And new condensation provisions will help to control mold growth, a health problem for tightly sealed homes with poor ventilation.

The [International Energy Agency](#) recommends advanced economies such as Australia have a "zero-carbon-ready building code" in place by the end of the 2020s. This would ensure all new buildings in the 2030s will be zero or near-zero carbon.

Governments around the world have already moved in this direction, including the [European Union](#) and [California](#). Australia is still well behind international best practice in design and construction.

Best-in-class energy efficiency, full electrification and [renewable energy](#) supply will be crucial to fully decarbonize the building sector. Further updates to the National Construction Code in 2025 and 2028 will need to ensure Australia implements a "zero-carbon-ready" building code by 2030. Only then can Australia deliver on its legislated climate targets and protect Australians from a warming climate and higher energy prices.

Cost arguments against further upgrades don't stack up

Australia can't wait another decade to upgrade building standards again. Arguments against higher standards tend to focus on the ticket price of new houses, but most homes are bought with mortgage loans and monthly repayments.

Higher standards would reduce energy consumption to near zero, providing a buffer against energy price spikes and increases. Low or negative energy bills (as a result of payments for exporting electricity) will largely offset the initial cost of building better-performing homes. Households will also be [less vulnerable to wider climatic events](#) such as heatwaves.

A cornerstone of the policy-making process is [cost-benefit analysis](#) undertaken by government. The analysis behind the NCC update [failed to fully grasp the economic, social and environmental benefits](#) of higher standards.

Cost-benefit guidelines, which are set by the [Office of Best Practice Regulation](#), should be reviewed. Any analysis must properly reflect costs and benefits over the lifetime of a home, including the impacts of reduced energy and health bills on mortgage repayments. Ensuring further changes to the NCC accurately represent the full benefits will be critical to avoid another decade of stalled action.

Banks have already started to recognize the value of sustainable housing. Their [lowest mortgage rates are for new green homes](#).

What about all the existing homes?

While ensuring all new buildings are built to zero-carbon standards after 2030 will be important, improving the quality and performance of the majority of Australia's 10.9 million homes is equally if not more important. Existing [building stocks are inadequate](#)—most housing was built before energy performance standards existed.

A major wave of retrofitting is needed to upgrade these homes. Deeper upgrades can be done during renovations to deliver improved performance, safe indoor temperatures and lower energy use and bills.

Existing Australian homes for the most part rate below 2 stars in energy performance. Their occupants experience extremes of temperature during summer and in winter in areas such as Melbourne, Canberra, Adelaide and Tasmania.

Extreme hot and cold are [harmful](#) to [human health](#). The impacts are greatest for people on low incomes and/or who rent.

We have [many examples](#) of how to cost-effectively retrofit housing. These changes can have [significant impacts on household bills and health](#).

Retrofitting will be more resource-efficient than demolishing and rebuilding. It will also retain the architectural and heritage value of our cities and suburbs.

However, a number of measures will be required to retrofit housing on the scale needed. These include [financial incentives](#) from banks, government subsidies, minimum requirements at point of sale, minimum rental standards, education of landlords, etc.

Net-zero code and retrofitting should be top of the agenda

Australian building ministers are due to meet again early next year. They must quickly turn their attention to ensuring the 2025 and 2028 upgrades pave the way to a zero-carbon-ready [building](#) code by 2030.

Governments should also work towards a national retrofit wave strategy that aims for a step change in the energy performance of existing homes. Essential elements of the strategy include the introduction of mandatory disclosure of home energy performance and the full electrification of

Australian homes.

Without such changes, Australian housing and households risk being locked into poor-quality, under-performing and costly housing for decades.

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