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14 October 2021

Australian Building Codes Board

Submitted via webform: <https://consultation.abcb.gov.au/engagement/ncc-2022-public-comment-draft-stage-2/>

To whom it may concern,

RE: ClimateWorks submission to NCC Public Comment Draft (Stage 2)

ClimateWorks Australia welcomes the opportunity to respond to the energy efficiency provisions of the National Construction Code Public Comment Draft. ClimateWorks develops expert, independent solutions to assist the transition to net zero emissions for Australia, South-east Asia and the Pacific. A non-profit organisation, it was co-founded in 2009 by The Myer Foundation and Monash University and works within Monash Sustainable Development Institute. In 2018, ClimateWorks released two reports in partnership with the Australian Sustainable Built Environment Council (ASBEC) - *Built to Perform*¹ and *Built to Perform in Northern Australia*² - which worked with industry to develop feasible forward pathways for NCC energy requirements covering a range of building types and climates across Australia.

ClimateWorks supports in principle the proposal to strengthen energy requirements for class 1 and 2 buildings in the NCC 2022, including the shift from 6 Star to 7 Star NatHERS for thermal performance requirements. This is the critical first step in the *Trajectory for Low Energy Buildings* policy agreed by state and territory Energy Ministers in 2019, a national plan to transition to zero energy (and carbon) ready buildings. *Built to Perform* showed that a forward trajectory for NCC energy standards could cut household energy costs by up to \$900 each year, adding up to \$21 billion in reduced household energy bills across Australia by 2050.

A 'forward trajectory' provides guidance as to when, how and to what degree energy requirements will change over time. This provides a regulatory signal to consumers and industry that encourages innovation and investment in new technology, design and

¹ Available at <https://www.climateworksaustralia.org/resource/built-to-perform/>

² Available at <https://www.climateworksaustralia.org/resource/built-to-perform-in-northern-australia/>



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Since ClimateWorks' launch in 2009 through a partnership between The Myer Foundation and Monash University, philanthropic support has been key to achieving our mission of catalysing Australia's transition to a prosperous, net zero emissions future. This support continues to allow us to remain truly independent, evidence-based and non-partisan.

construction practices. A clear plan for regulatory reform is particularly important for innovations that require a long lead-time, such as the development of new products by manufacturers, as it allows the industry to plan ahead for future regulatory requirements.

Minimum energy requirements in the NCC are essential to address market failures in the delivery of higher performance buildings that have contributed to a widening gap between industry leaders and minimum practice. Even though research by ourselves and others³ demonstrate that benefits of higher energy performance outweigh potential costs, currently less than 5% of new residential buildings are designed at a 7 Star NatHERS level or above⁴. Stronger energy requirements in the National Construction Code ensure residents of all new houses and apartments benefit from higher performance buildings, not just those who choose to build above minimum standards.

Stronger energy standards are also critical to ensure Australia's building stock is resilient to a changing climate and fit-for-purpose in a net zero emissions world. This is consistent with the International Energy Agency's *Net Zero Roadmap*, which shows that 'zero carbon ready' buildings need to be the norm by 2030 (including new and existing buildings), and that governments need to implement zero carbon ready building codes by 2025 to enable this transition⁵.

ClimateWorks also supports the introduction of a whole-of-house annual energy use requirement in the NCC 2022. The approach is consistent with *Built to Perform*, which recommends an energy metric for the Code that is agnostic with respect to the fuel used. A whole-of-house annual energy use requirement incentivises the installation of an energy efficient mix of cooling, heating, lighting and hot water equipment at design and construction.

Our research shows that rapidly phasing out gas in buildings is in line with least-cost pathways to net zero in line with the Paris Agreement on climate change. The energy metric set in the NCC 2022 Public Comment Draft does not preclude natural gas from new developments. We recommend the ABCB sets a forward trajectory to progressively strengthen energy requirements using the whole-of-house annual energy use methodology, starting from NCC

³ See, for example, Renew (2021), *Households Better Off: lowering energy bills with the 2022 National Construction Code*. Available at: <https://renew.org.au/advocacy/climate-resilient-homes/households-better-off-lowering-energy-bills-with-the-2022-national-construction-code/>

⁴ Moore, Berry and Ambrose (2019), *Aiming for mediocrity: The case of Australian housing thermal performance*. Energy Policy, Volume 132, September 2019, Pages 602-610

⁵ International Energy Agency (2021), *Net Zero by 2050: A Roadmap for the Global Energy Sector*. Available at: <https://www.iea.org/reports/net-zero-by-2050>

2025. The intent of this trajectory should be to provide certainty on the rate of transition away from fossil fuel gas, because efficient electric appliances such as heat pumps can cost effectively deliver greater energy efficiency compared with equivalent gas appliances.

Building on our findings from *Built to Perform*, ClimateWorks recommends that the ABCB:

1. **Delivers a step change in 2022**

The ABCB should adopt the draft energy requirements into NCC 2022, including the increase from 6 Star to 7 Star NatHERS for residential buildings, and introducing the whole-of-house annual energy use requirement.

2. **Commits to a Zero Carbon Ready building code**

Parallel to its work confirming NCC 2022 provisions, the ABCB should define a forward trajectory for energy requirements for the NCC 2025 and beyond in line with Energy Ministers' *Trajectory for Low Energy Buildings* policy. This should focus on residential energy requirements for which there is no proposal to increase stringency in NCC 2025. It should include strengthening of the whole-of-house annual energy requirement to incentivise electrification, beginning in NCC 2025. Commercial building energy requirements should also be defined for NCC 2028 and beyond.

3. **Expand the scope of the Code and progress complementary measures**

The ABCB should adopt the draft requirements to "future proof" new class 2 and non-residential buildings to support future retrofitting of solar PV, battery storage and electric vehicle charging, with one amendment:

The requirement for electrical distribution boards to be sized to accommodate electric vehicle charging for 25% of car parking spaces **should be expanded to 100% of car parking spaces**. Buildings constructed today will still be standing in 2050. The Australian passenger vehicle fleet is expected to transition to fully electric vehicles well in advance of this time with cost-parity for new vehicles expected within the next decade. Failure to accommodate this take-up of electric vehicles may still result in future, avoidable retrofitting costs to upgrade electrical infrastructure capacity.

The ABCB should also consider **expanding the renewables, storage and electric vehicle charging 'readiness' requirements to class 1 buildings**, or clearly justify the economic case for excluding these requirements for class 1 buildings.

In addition to the content of our submission, ClimateWorks Australia supports in principle the recommendations in ASBEC's separate submission to the NCC 2022 Public Comment Draft (Stage 2).



Thank you for taking the time to consider our submission. We would welcome an opportunity to brief your team if you would like to explore our responses in further detail.

Yours sincerely,

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