

The Hon John Thwaites
Chair
Australian Building Codes Board
GPO Box 9838
CANBERRA ACT 2601

To be submitted via electronic template at www.abcb.gov.au

3 August 2015

Dear Mr Thwaites

RE: PROPOSED CHANGES TO THE NATIONAL CONSTRUCTION CODE 2016

The Green Building Council of Australia (GBCA) works with industry and government to encourage policies and programs that support its mission to accelerate the transformation of Australia's built environment into one that is healthy, liveable, productive, resilient and sustainable.

Since its inception in 2002, the GBCA has worked towards developing a sustainable property and construction industry and driving the adoption of green building practices. The GBCA welcomes policies, initiatives and mechanisms which encourage these outcomes and advocates for robust, contemporary regulation to ensure the continual improvement of minimum standards within Australia's built environment.

The GBCA supports measures that encourage better energy efficiency through performance-based methods in the National Construction Code (NCC), and we commend the Australian Building Codes Board (ABCB) for clarifying its intention that performance-based approaches become the norm, rather than the exception.

However, there are a number of concerns relating to the proposed changes to the energy efficiency elements within the NCC. In particular, the changes *JV2 Verification using a stated value* and the *introduction of Class 2 buildings in JV3*.

The concerns are in line with feedback submitted by other organisations such as the Australian Sustainable Built Environment Council (ASBEC). As members of ASBEC, the GBCA supports ASBEC's position and recommendations and we encourage the ABCB to consider this submission in conjunction with that made by ASBEC. Other members of ASBEC supporting the submission include the Australian Institute of Architects, Australian Institute of Refrigeration, Air Conditioning and Heating, Consult Australia, Energy Efficiency Council and the Property Council of Australia. In addition to the points made in the ASBEC submission, the GBCA provides the following comments based on feedback received from our members and our own rating tool development processes.

Re-introduction of JV2

In principle, the GBCA supports simplification and streamlining of processes where they lead to better outcomes. However, the case for the re-introduction of JV2 is not clear.

The JV2 methodology was removed from the Building Code of Australia (BCA) due to the widely varied outcomes resulting from such a mechanism. In reintroducing it to the NCC, the ABCB has not clarified why this method is necessary (as JV3 is flexible, widely understood, and widely used even for simpler buildings). It is not clear how the original concerns of industry have been addressed. Furthermore, both the information provided and the method itself are unlikely to yield realistic benchmarks for the reference building.

The JV2 methodology lacks the transparency that exists throughout the rest of the NCC. Comparing buildings against a single number is a 'blind assessment' which does not allow the reasons for the building's compliance to be clearly articulated. In addition, the JV2 methodology is missing the clear link to the deemed-to-satisfy requirements of the NCC which are present in JV3.

The reintroduction of this method is likely to result in buildings with building fabric that falls below even current standards. This has a direct impact not just on energy costs, but on the level of comfort for the occupant in hot or cold weather, leading to negative impacts on wellbeing and productivity. GBCA members and industry practitioners have indicated that buildings that use this method could be quantifiably less energy efficient and less comfortable than buildings that use the current JV3 method.

The likely result is that many compliant buildings and apartment units will cost more to operate over their lifetime. It may make any retrofits more expensive should they be required, and may also result in negative impacts on health, wellbeing and productivity of building occupants due to elements such as poor HVAC systems or building fabric.

Due to this, GBCA believes that this method should not be introduced into the NCC until a regulatory impact statement is prepared, and the impacts are understood by the ABCB and broader industry. In addition, should the method be considered for reintroduction, its contents should be revised to ensure it meets similar internationally-recognised methods that have achieved a high degree of rigour where stated values are used as a comparison mechanism. Australia's building code already lags in areas such as energy efficiency and comfort when compared to many other developed nations and the re-introduction of this method may serve to erode current minimum standards and put Australia even further behind.

Expanding JV3 to address Class 2 buildings

The change to treating Class 2 buildings similarly to Class 3 buildings under JV3 may make sense from the perspective of the overall reduction of energy consumption for an asset. However, in reality this change will lead to market confusion and create disincentives for developers to ensure all apartment units meet a minimum level of performance in a building.

Currently, under NCC 2015, a buyer can be assured that the unit being purchased has achieved a compliant NaTHERS rating, which refers to a minimum level of thermal fabric performance. As building fabric is the item that a typical unit owner is unable to change over time (due to legal or contractual obligations), ensuring it meets a minimum level of compliance is critical to ensuring that heating and cooling energy costs for the apartment are minimised over a building's lifetime. By assessing Class 2 buildings as a whole, and removing the minimum individual unit requirements, the guarantee that heating and cooling energy costs will be reduced across all apartments in the building is also removed. In addition, while not specifically a goal of the NCC, promoting a better building fabric assists in improving the thermal comfort of the occupant, thus improving health and well being.

The proposed change allows significant trade-offs in how operators treat the building fabric. Developers will be incentivised to aim for the lowest cost solution, which will likely result in seeking gains on some units over others. Alternatively, they may choose to use other solutions over building fabric provisions. Due to this, the future unit owner will have no way to know if they are choosing a unit in which the building fabric has been compromised to ensure the lowest cost for completing the building as a whole.

As a result, these changes could result in a lack of certainty in the market regarding the quality of units and the typical buyer will be unable to compare a unit against another, something which the current star rating method allows. Lower-performing units will lead to increased costs of living for the affected occupants, as well as potential negative health and wellbeing impacts caused by a colder home in winter, increased heat stress in summer, or mould due to poor fabric solutions.

The GBCA supports the current approach under the NCC 2015 which ensures all units meet a minimum performance standard individually in addition to an average performance being met for the entire building. This approach provides transparency and certainty to unit buyers and unit tenants.

Should the ABCB choose to introduce a whole-of-building compliance method for Class 2 buildings via JV3, consideration must be given to ensure that elements of individual units are not penalised over others, and that the overall building fabric for the building is not compromised.

In addition, GBCA recommends a review of international methods for assessing energy efficiency and reduced emissions to ensure the methods within the NCC are in line with transparency, labelling and efficiency trends worldwide.

Removal of references to energy efficiency and greenhouse gas emissions

The GBCA is also concerned about the removal of references to improving energy efficiency and reducing greenhouse gas emissions previously included in the aim at the start of Section J of the NCC.

The NCC has a significant role to play in communicating and demonstrating Australia's professional capacity to perform complex modelling solutions that accurately measure energy consumption and reduced building emissions. The change in language means that in an international market increasingly focused on improving the energy efficiency and reducing the greenhouse gas emissions of buildings, Australia's building industry will be seen as less competitive with a reduced capacity to develop world class buildings using advanced modelling techniques.

Within Australia, this change also makes it more difficult for both industry and government to communicate the importance and benefits of improving energy efficiency and reducing greenhouse gas emissions. The NCC will always be an integral part of a coordinated approach to reducing Australia's total emissions and it is critical it retains a consistent focus on achieving these outcomes.

The GBCA recommends that Section J language be reviewed to ensure the aim of improving energy efficiency and reducing carbon emissions is clearly stated. Further revisions could be done to introduce the ancillary concepts of thermal comfort, health benefits, and productivity that can result from well designed and efficient buildings (as stated by organisations such as IEA).¹

Verification and training

The points above reflect feedback that the GBCA has received from many of its property and construction members, particularly those who practice in areas in specifically affected by proposed changes to the NCC.

The GBCA understands that the ABCB does not have the mandate to address how state and other regulatory bodies verify what is required by the NCC. In isolation, the changes proposed to the NCC could be managed through a well-trained body of building certifiers and stricter regulation around verification of outcomes.

However, as there is no clear administrative body to oversee assessments under the proposed verification method; and, no real training is offered to building certifiers around complex modelling solutions; and, in some jurisdictions, building certifiers are limited in what they can review. The issue of verification and training will also contribute to the potential negative impacts on building quality, and health, wellbeing and productivity of building occupants and international competitiveness, as outlined previously.

ABCB should take into considerations these concerns prior to the introduction of less stringent mechanisms for verification particularly in the residential space. Alternatively, ABCB could consider the introduction of market-based solutions such as thermal imaging and air pressure testing as methods for verifying outcomes already set out in the NCC.

Aligning with other best practice standards

Industry clearly understands the value of more relevant and stringent methods of verification such as those afforded by NABERS Energy commitment agreements and Green Star ratings. The success of both programs underscores that industry values the validation of outcomes and the higher energy performance benchmarks (compared to code) set out by those two mechanisms.

The GBCA recommends ABCB clarify how these two mechanisms could be used to demonstrate compliance with the existing pathways in the code. Clarifying this would result in a reduction of the cost of verification of compliance by all parties by removing the need to model outcomes via two, or even three separate methods.

¹ Energy Efficiency Requirements in Building Codes, International Energy Agency, 2008, https://www.iea.org/publications/freepublications/publication/Building_Codes.pdf

Towards a more sustainable future

While the GBCA understands that the ABCB has not been provided with a mandate to increase the stringency of the NCC at this time, the changes proposed may result in lower-performing buildings compared to those built to meet the current requirements.

The success of the NABERS Energy program, becoming the default mechanism for verification of energy performance for offices, as well as the wide use of holistic Green Star ratings across all sectors throughout Australia, means that there is broad industry support for better energy, water, indoor environment, and even material selection benchmarks.

The NCC continues to be a transformative mechanism in improving Australia's buildings. The GBCA calls for the ABCB to build on its achievements to date and further increase the sustainability, health, and productivity aspirations for Australia's building stock. The GBCA would welcome the opportunity to work with the ABCB and industry to develop a strategy to make improvements to the NCC (both to minimum requirements and verification of the outcomes) for the scheduled update in 2019 and beyond.

Recommendations

In addition to the recommendations stated in ASBEC's submission, the GBCA recommends that:

1. The JV2 method should not be introduced into the NCC until a regulatory impact statement is prepared, and all impacts are understood by industry.
2. Class 2 buildings should not be able to demonstrate compliance under JV3 unless there are clear methods of ensuring good outcomes for each individual unit in a building, and that building fabric performance is regulated.
3. Any modelling methods introduced should be in line with national and international methods for comparing the energy performance of buildings.
4. Language in the introduction of Section J should clearly state its purpose of decreasing energy consumption and reducing greenhouse gas emissions; that language should be expanded to address the benefits of increased building fabric performance regarding thermal comfort and productivity.
5. The ABCB considers introducing validation mechanisms such as air pressure testing or thermal imaging to ensure existing NCC outcomes are being met.
6. The ABCB clarifies if and how more rigorous methods such as NABERS Energy commitment agreements and Green Star ratings can be used to demonstrate compliance with Section J.
7. The ABCB work with GBCA and industry towards more stringent energy efficiency and greenhouse gas emissions targets, and the introduction of water efficiency, indoor quality, and material selection requirements to the NCC.

Yours sincerely



Romilly Madew
Chief Executive