To: Australian Building Codes Board 06/02/2026

Submission: Streamlining and Modernising the National Construction Code (NCC) from the perspective of an ESD Consultant

Introduction

Australia's built environment is entering a decisive decade. The National Construction Code (NCC) must evolve to support a construction sector that is simultaneously decarbonising, modernising, and responding to new expectations around performance, resilience, and affordability. A streamlined, future-ready NCC should provide clarity, reduce compliance friction, and enable industry to confidently invest in high-performance construction methods.

The following submission outlines key opportunities to modernise the NCC through clearer pathways to carbon neutrality, improved performance metrics, and the integration of modern construction technologies.

GIW Environmental Solutions

This submission has been prepared by GIW Environmental Solutions "GIW" based in Melbourne, VIC. GIW is a specialist Environmentally Sustainable Design "ESD" consultancy, delivering innovative sustainability solutions across new developments and existing building retrofits. Our expertise spans all phases of the development life cycle—from early concept design and ESD optimisation strategies to compliance reporting and sustainability benchmarking across all building classifications.

GIW has been actively involved in the assessment and delivery of compliance reporting in relation to BCA Section J (Volume 1) and Part H6 (Volume 2) since 2006.

GIW is a member of the Green Building Council of Australia, Design Matters, NatHERS Accredited, and a registered Climate Active consultant, supporting clients in achieving their carbon neutrality goals.

This submission has been prepared from the perspective of an ESD consultant and will focus on the areas and themes that are relevant to this discipline.

Theme 2: Complexity and Regulatory Burden

Reframing Regulatory Burden

The conversation around "regulatory burden" in the National Construction Code (NCC) is often framed in terms of compliance cost and administrative load. However, this framing overlooks a critical opportunity: modern, well-structured regulation can reduce burden by providing clarity, consistency, and predictable pathways for industry. Streamlining the NCC is not about deregulation—it is about designing regulation that is easier to navigate, simpler to apply, and more effective in delivering safe, high-performance, low-carbon buildings. We would therefore encourage the use of the terms 'streamlining of regulation' in lieu of 'regulatory burden'.

Establish a National Carbon Neutral Trajectory

A modernised NCC should articulate a clear, nationally consistent pathway toward carbon-neutral buildings—one that directly supports the Victorian Government's legislated commitment to net-zero emissions by 2045 and its interim 2030 and 2035 reduction targets. To be effective, this pathway needs to be underpinned by:

- Defined targets and timelines for reducing operational carbon in line with Victoria's sector-wide decarbonisation trajectory.
- A staged escalation of minimum performance requirements that reflects industry capacity, supply-chain readiness, and the state's transition planning.
- Best-practice or "excellence" pathways that empower Victorian early adopters to exceed minimum standards, accelerate innovation, and contribute to the state's broader emissions-reduction milestones.

Providing this clarity is essential for industry planning, investment confidence, and workforce development. Without a predictable and nationally aligned trajectory, the sector faces uncertainty that slows the uptake of high-performance, low-carbon solutions—ultimately making it harder for Victoria to meet its own carbon-neutral goals.

Theme 4: Innovation and Housing Diversity

Clear and Consistent Compliance Pathways for Timber Construction

Timber—particularly mass timber—offers significant carbon benefits and construction efficiencies. The NCC should:

- Provide explicit, simplified compliance pathways for engineered timber systems.
- Align fire, acoustic, and structural provisions to reduce ambiguity and duplication.
- Support timber as a key enabler of low-carbon construction, especially in mid-rise and multi-residential developments.

A Safe and Streamlined Compliance Pathway for Board Insulation Products in Wall Assemblies

The modernisation of the NCC presents an opportunity to establish a clear, safe, and streamlined compliance pathway for board-insulation products used in external and internal wall assemblies. These products are increasingly important for delivering higher-performing building envelopes, meeting elevated R-value expectations, and supporting national and state decarbonisation goals. Given the successful precedence in the EU, UK and Canada, Australia cannot stay behind. The NCC should:

- Seek alignment with the Fire Brigade on an acceptable and simplified performance pathway including but not limited to:
    - System-level testing rather than product-only testing to demonstrate real-world fire performance.
    - Pre-approved or pre-qualified wall-assembly typologies for specific building classes.
    - Transparent documentation requirements that support traceability and enforcement.

Enable Modern Methods of Construction (MMC)

MMC—including modular, panelised, and hybrid systems—can dramatically improve construction speed, quality, cost and carbon outcomes. To accelerate adoption, the NCC should:

- Establish clear, nationally consistent compliance frameworks for MMC.
- Reduce approval complexity for prefabricated and off-site manufactured components. As the NCC currently evaluates on a product level, whereas modern construction relies on system level performance.
- Create DTS pathways for high-performance assemblies commonly used in MMC.
- Encourage adoption of MMC systems that support net-zero trajectories.

A modern NCC must reflect the reality that construction is increasingly industrialised, digitised, and precision-driven.

Whole-Building Energy Performance Assessment Methodologies

The NCC should adopt a whole-building energy performance approach that integrates:

- Minimum thermal envelope performance targets (kWh/m2) for all building classes in lieu of comparison to Deemed to Satisfy.
- Appropriate incorporation of thermal bridging all elements including joints, points, openings, walls, floors and roofs.
- Minimum overall energy use intensity targets (kWh/m2) for all building classes including services and renewable energy generation.
- Minimum performance targets for individual apartments / tenancies.
- Allowance for offsetting through Clean Energy Regulator (CER) where minimum thresholds are met.

This approach ensures that buildings are assessed holistically and more accurately rather than through fragmented metrics.

Energy Use Intensity (EUI) as a Core Metric

Transitioning from DTS-comparison metrics to Energy Use Intensity (kWh/m²) provides:

- A clear, measurable, outcome-based performance target.
- Alignment with global best practice and carbon-neutral frameworks.
- A metric that is intuitive for industry, policymakers, and consumers.

EUI is essential for a carbon-neutral trajectory because it directly links building performance to operational emissions.

Mandatory Accreditation of Energy Assessors

Accurate energy modelling is now central to achieving the performance outcomes expected under the NCC, yet the current system allows significant variation in assessor capability and almost no formal oversight. As energy-efficiency provisions become more complex and more closely tied to national decarbonisation goals, the risks associated with inconsistent or poor-quality modelling increase. Mandatory accreditation for energy assessors is therefore essential to ensure a consistent baseline of technical competence, ethical practice, and accountability.

Accreditation would establish clear competency standards, require ongoing professional development, and ensure assessors understand building physics, software limitations, and NCC requirements. This would reduce the wide variation in modelling outcomes currently seen across practitioners and jurisdictions, improving regulatory confidence and protecting consumers from inaccurate ratings that affect long-term energy costs and emissions.

However, accreditation alone is insufficient without an independent auditing body to verify modelling quality. A national auditor would conduct random and targeted reviews, identify systemic issues, provide feedback to industry, and ensure assessments genuinely reflect NCC intent. This mirrors successful regulatory models in other sectors where technical integrity is critical.

Together, mandatory accreditation and independent auditing would strengthen the credibility of energy modelling, support higher-performing buildings, and ensure the NCC delivers reliable, measurable energy and emissions outcomes.

Embodied Carbon & Whole of Life Considerations

As Australia progresses toward national and state net-zero targets, the NCC must evolve beyond its current focus on operational energy to address the full lifecycle impacts of buildings. Embodied carbon—emissions associated with material extraction, manufacturing, transport, construction, maintenance, and replacement—now represents a significant proportion of total building emissions, particularly as operational performance improves. Without a regulatory framework that captures these impacts, Australia risks locking in high-carbon construction practices that undermine long-term decarbonisation goals.

Future NCC revisions should introduce clear, nationally consistent requirements for measuring and reporting embodied carbon at the design stage, supported by recognised methodologies and verified product data. This would enable designers and developers to make informed material choices and drive demand for low-carbon products.

Equally important is the integration of end-of-life considerations, including durability, disassembly, reuse, recycling, and responsible disposal. Embedding circular-economy principles within the NCC would reduce waste, extend material value, and support emerging low-carbon supply chains.

By incorporating embodied carbon and end-of-life performance into future updates, the NCC can shift the industry toward whole-of-life thinking, improve transparency, and ensure that Australia's built environment aligns with its broader climate commitments.

Construction Quality Assurance: Air Tightness Testing

To ensure that design intent is realised in practice, the NCC should require: mandatory air-tightness testing for a minimum of 20% of conditioned floor area within a development.

This approach:

- Improves construction quality.
- Reduces performance gaps.
- Builds industry capability in delivering high-performance envelopes.

Air tightness is a foundational element of energy efficiency, comfort, and moisture management; testing ensures it is not left to chance.

Conclusion

Australia's construction sector is undergoing rapid transformation, and the NCC must evolve to match this pace. A streamlined, modernised code—grounded in clarity, nationally consistent performance pathways, and whole-of-life carbon considerations—will enable industry to deliver safer, higher-performing, and lower-emissions buildings. By embracing modern construction methods, strengthening compliance integrity, and aligning regulatory settings with net-zero trajectories, the NCC can shift from a reactive framework to a proactive enabler of innovation and quality. These reforms are essential to support industry capability, reduce uncertainty, and ensure Australia's built environment is resilient, efficient, and aligned with long-term climate commitments.

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