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Delivering sustainable apartment housing: new build and retrofit

From the AHURI Inquiry: Inquiry into housing in a circular economy

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Executive summary

Key points

- A very small proportion of apartment building projects contain sustainability features that exceed minimum standards.
- Resident demand exists for more sustainable apartments, but speculative strata titled development contributes to a disconnect between what gets built and what consumers want.
- Sustainability is rarely embedded in project feasibility. Changes are often made during construction to reduce costs, and performance is not adequately reflected in property valuation.
- Shared services and the inter-dependence of apartment properties offer opportunities for improved sustainability. However, these opportunities are often missed due to the focus on profit maximisation during development and the challenges of shared management.
- The potential to prolong building life through maintenance is hampered by residents having limited access to building performance information, and by the need for joint decision-making about jointly-owned property.
- There is great potential to move towards a circular economy by improving the performance of new and existing apartment buildings through interventions that: i) support development teams to embed sustainability in project feasibility; ii) ensure that built outcomes reflect what was approved; iii) better account for building performance in property valuation; iv) realise the benefits of physical inter-dependence and shared services; v) ensure information on building performance is available to consumers; and vi) account for joint ownership and joint decision-making.

Key findings

A growing number of Australian residents are living in apartments. This growth is concentrated in the states of New South Wales (NSW), Victoria and Queensland. Spatial analysis of sustainable apartment development and major upgrade projects in metropolitan and regional areas of NSW and Victoria indicates that less than 5 per cent of building projects exceed minimum standards for sustainability. Sustainable developments that exceed minimum standards are primarily concentrated in higher value areas.

A review of the published evidence demonstrates that resident demand exists for more sustainable housing in Australia, including apartments. To identify how a transition towards the mainstream supply of sustainable apartments can be achieved, it is necessary to understand how and why the apartment industry resists change.

The sustainability of apartment developments (and retrofits) needs to be considered separately from other residential building typologies because the production, consumption, management and exchange of apartments differs in three important ways: i) apartments in Australia are typically provided as speculative strata titled developments; ii) the apartments themselves are physically inter-dependent; and iii) they are usually jointly owned and managed. Each of these differences has important implications for the transition towards more sustainable apartment living.

1. Speculative strata title development is linked to a disconnect between the production and consumption of new apartment buildings. This is reflected in the fact that sustainability is rarely embedded in project feasibility calculations. This disconnect also means that the apartment 'product' is not optimised in terms of performance. Changes are often made during construction to reduce costs and sustainable building performance is not adequately reflected in property valuation.
2. While the physical inter-dependency of apartment properties has many potential benefits in terms of building performance, these benefits are often lost due to a focus on profit maximisation. Shared services are also linked to shared management in strata titled properties, with associated challenges.
3. A circular economy (CE) approach points to the importance of prolonging building life through maintenance. Strata title ownership makes achieving this more challenging as collective decision-making is required for jointly-owned property. Joint ownership also contributes to the limited information available to consumers about their properties. This is because, rather than responding to the needs of a single well-informed client (like in the commercial sector), developers are speculatively developing apartments for sale to multiple unknown clients.

Addressing these challenges requires reshaping our apartment development and management processes to ensure the following outcomes are achieved:

- Development teams embed sustainability in project feasibility.
- The design and construction of delivered apartment buildings reflects what was designed and approved.
- Property valuation reflects building performance.
- The potential benefits of physical inter-dependence and shared services are realised.
- Consumers have access to adequate information about building performance.
- Sustainability initiatives account for joint ownership and joint decision-making.

Policy development options

Reshaping apartment development and management processes in the ways identified above will require significant policy change. The report presents recommendations for policy reform drawing on the experience of key actors involved in both apartment development and retrofit. The recommendations for reform include suggestions for improvements and alternatives to the current system of apartment development.

Table 1: Recommendations

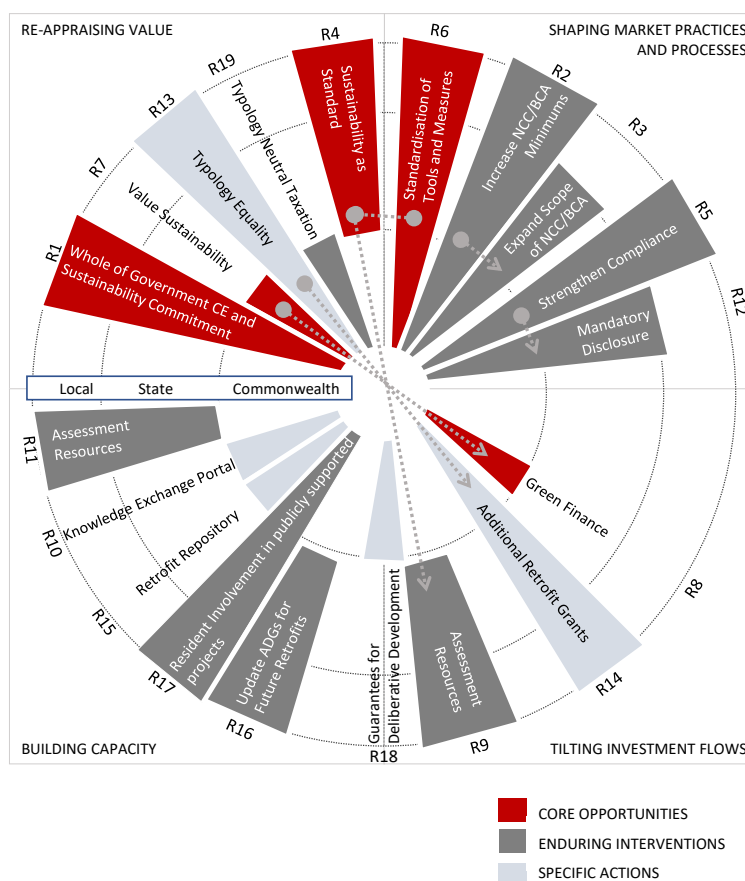
Desired outcome	Recommendations
Development teams embed sustainability in project feasibility	<ul style="list-style-type: none"> • Whole-of-government CE and sustainability commitment. • Increase National Construction Code (NCC)/Building Code of Australia (BCC) minimums: Australian Government commitment to increase minimum standards for energy efficiency in the NCC. • Expand scope of NCC/BCA: Australian Government commitment to expand the regulatory scope of the NCC beyond energy consumption in use. • Sustainability as standard: State, territory and local governments to require high sustainable performance standards in all development application assessments. • Green finance: Australian Government to explore imposing European Union style reporting obligations on financiers and establishing a process to leverage private financing in support of a transition to CE in the housing system. • Knowledge exchange portal: Australian Government support for the development and ongoing operation of an online portal to enable knowledge exchange on Ecologically Sustainable Development (ESD) in construction. • Update Apartment Design Guides (ADGs) for future retrofit: State and territory governments to update ADGs to ensure that the potential for future retrofit is considered before new apartment projects are approved. • Resident involvement in publicly supported projects: All levels of government to require publicly funded apartment projects to involve residents in design, including where publicly-owned land is made available for development.
The design and construction of delivered apartment buildings reflects what was designed and approved	<ul style="list-style-type: none"> • Strengthen compliance: State, territory and local governments to strengthen regulations for pre- and post-occupancy compliance auditing to ensure approved performance standards are met at the planning and building permit stages. • Standardisation of tools and measures: Australian Government and state and territory governments to implement programs to standardise tools, measures and regulations for building performance. • Assessment resources: State and territory governments to ensure that the planning assessment system is adequately resourced to assess building performance for sustainable developments.
Property valuation reflects building performance	<ul style="list-style-type: none"> • Value sustainability: Australian Government support for the development of a process for incorporating sustainability into valuation practice.
The potential benefits of physical inter-dependence and shared services are realised	<ul style="list-style-type: none"> • Knowledge exchange portal: See above. • Additional retrofit grants: All levels of government to introduce additional government grants to incentivise housing retrofit projects. • Retrofit repository: Australian Government commitment to fund the development and ongoing operation of an information repository to support the sustainable retrofitting of apartments. • Resident involvement in publicly supported projects: All levels of government to require publicly funded apartment projects to involve residents in design, including where publicly-owned land is made available for development. • Guarantees for Deliberative Development: Australian Government to provide government guarantees for Deliberative Development construction loans. • Typology neutral taxation: Australian Government to review and amend housing taxation system to identify and amend inequities between housing typologies.
Purchasers and renters have access to adequate information about building performance	<ul style="list-style-type: none"> • Standardisation of tools and measures: Australian Government and state and territory governments to implement programs to standardise tools, measures and regulations for building performance. • Mandatory disclosure: Australian Government to mandate the collection of environmental performance standards for all apartment buildings and their publications on advertising and transaction portals for rent and purchase.

Desired outcome	Recommendations
Sustainability initiatives account for joint ownership and joint decision-making	<ul style="list-style-type: none"> • Legislative and regulatory amendments for retrofits: State and territory governments to explore legislative and regulatory amendments to encourage and support sustainable retrofit in strata schemes. • Typology equality: All levels of government to review existing and future government grants for sustainability upgrades to ensure common property is considered to avoid exclusion of strata properties. • Additional retrofit grants: See above. • Retrofit repository: See above.

We have classified these recommendations under four main themes: re-appraising value, shaping market practices and processes, tilting investment flows, and building capacity. Figure 1 shows how the proposed reforms align with these themes, as well as identifying the responsible level(s) of government, and the nature of the proposed reforms:

- Core opportunities are big-picture, aspirational recommendations. Realising these will require the further development of a suite of more detailed and prescriptive interventions and actions.
- Enduring interventions are more specific recommendations that will need to be further developed with consideration of feasibility and path dependencies, and the engagement of key stakeholders to assist in co-design and implementation.
- Specific actions are more targeted recommendations with suggested actions for implementation.

Figure 1: Recommendations



Source: Authors' Research.

These recommendations are focused on those aspects of apartment development and operation that make apartment developments unique, and on the challenges to the adoption of sustainable apartments specifically. Many of the recommendations also have relevance beyond apartment developments. This includes recommendations relating to government commitments to sustainability, capacity building and information sharing; improvements to building standards and compliance; and improvements to property valuation practice. Because key actors in the apartment delivery system include large-scale developers and major lenders, any wide-scale change in this context is likely to flow through to other parts of the housing system. The adoption of best practice in apartment development and management can therefore play an important role in helping to shift the entire housing system into alignment with circular economy principles.

The study

This research is part of a wider AHURI Inquiry into housing in a circular economy. It aims to identify how a transition towards the mainstream supply of new and retrofitted apartments that are sustainable can be achieved in Australia. This aim sits within the overarching research question guiding the inquiry into housing in a circular economy: 'how can a transition in housing demand and supply be encouraged to provide housing that is sustainable, affordable, and accessible?'

The research draws on interviews and workshops with professionals working in apartment development or retrofit in Victoria and NSW. The interviews (n=33), and industry workshops (n= 27 across 3 workshops) were conducted in 2021 and assisted in identifying barriers and opportunities to sustainable apartment development and developing recommendations for reform. These recommendations were then further developed in a fourth workshop (n=11) in early 2022 with seven policy makers from all three levels of government, along with four of the original research participants. The research also presents novel spatial analysis of the extent of sustainable apartment development and retrofit in Victoria and NSW, with reference to the CoreLogic Cordell Connect property database.



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