

EXECUTIVE SUMMARY

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Sustainable housing at a neighbourhood scale



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Executive summary

Key points

- The research identified shortcomings in how sustainable development is defined in Australian urban policy frameworks. Weak statutory underpinnings for sustainability and for circular economy thinking result in a continuation of unsustainable urban development patterns.
- There is limited policy attention to the opportunities provided by the neighbourhood scale. This results in missed opportunities for scale efficiencies of designing for clusters of buildings, infrastructures, and facilities.
- Due to a reliance on the market to transform urban systems of provision, ‘eco-neighbourhoods’ continue to remain experiments in Australia.
- Realising sustainable neighbourhoods in urban infill locations is faced with even greater challenges than on greenfield or brownfield sites due to site restrictions and often complex ownership structures.
- Different policy interventions are required to support sustainable housing at a neighbourhood scale. Much higher regulatory standards for sustainability and Circular Economy (CE) considerations at both building and neighbourhood scale are needed. Policy attention should be directed to mechanisms able to support planning and development at a scale higher than the currently dominant building scale. Additional interventions in fiscal and financial frameworks, business support schemes, and education and training could help with industry transition.
- The research emphasised the importance of partnerships between governments, private developers, and local communities. It also emphasised the need for suitable governance approaches to realise and manage neighbourhoods and their infrastructures.

Key findings

This research aimed to understand how sustainable housing developments can leverage benefits of the neighbourhood scale. Neighbourhoods are the 'in-between scales' between individual buildings and the urban scale and have been described as 'building blocks' of a city (Tam, Karimipour et al. 2018). The neighbourhood scale offers sustainability gains and economies of scale for decentralised systems (such as water and energy) and opportunities for integrated land-use and transport planning, biodiversity planning and social sustainability. This research examined the challenges and opportunities that built environment professionals in Australia experience when planning, designing, and implementing sustainable housing developments at the neighbourhood scale. The research also examined strategies and policy levers employed in good practice eco-neighbourhoods from across Australia and Europe that can inform Australian policy and practice.

The definition of 'sustainability' used in this research extends beyond the focus of the Circular Economy (CE) concept. While CE is concerned with realising closed loop material flows (that is, avoiding the use of non-renewable resources, reducing waste, designing products and materials for reuse and recycling), the focus of this research also considered sustainable development goals of social and intergenerational equity, environmental protection, and economic prosperity. The focus on sustainable urban development, rather than CE (as used for the overarching Inquiry), was decided for two reasons. First, sustainability is well embedded in Australian urban planning discourse (although rarely clearly defined), whereas CE approaches are not widely used. This contrasts with the European examples analysed for this research, which have been explicitly framed around CE. Second, sustainability allows not only the consideration of technical aspects of planning and designing at the neighbourhood scale but also the relevance of residents' behaviour and lifestyle choices of these communities (Williams and Dair 2007).

The research found major challenges to realising sustainable housing at a neighbourhood scale in Australia. While awareness about the value of CE actions at the neighbourhood scale is growing among built environment professionals, they experience barriers to incorporating sustainability principles into plans and developments at this scale. Important barriers are the fragmentation of policy and regulatory frameworks for sustainable urban development and weak mechanisms for planning at the neighbourhood scale. Building regulations are set at federal level while state and territory governments are responsible for urban and regional planning policies. Housing developments are usually designed and realised at the scale of individual building sites, with weak mechanisms for planning and design at the neighbourhood scale. And while numerous dwelling and community-scale design and performance sustainability rating tools are now available in Australia, their use is voluntary and their application variable. The research found that built environment professionals find it challenging to navigate the governance and policy landscape, and to identify the relevant tools to plan, design, develop and evaluate sustainable housing at the neighbourhood scale.

There are a growing number of 'eco-neighbourhoods' internationally. Such initiatives are still niche experiments that face challenges in their realisation. Knowledge gained from realising sustainable neighbourhood projects is rarely mainstreamed into planning and development processes. In Australia, good practice eco-neighbourhoods rarely demonstrate a comprehensive vision for a sustainable neighbourhood and instead attention is focussed on selected key issues of sustainability or CE. Also, the opportunities afforded by a neighbourhood scale approach appear underused in Australian examples. The cases from Europe can offer inspiration for Australia on how integrated visions for sustainable housing at the neighbourhood scale can be realised.

To support sustainable housing at the neighbourhood scale in Australia, major regulatory and policy reform is needed. This should be complemented by education of all actors in relation to what CE or urban sustainability means in practice, and especially at a scale beyond the dwelling.

The institutional actors involved in the realisation of sustainable neighbourhoods are developers, urban designers/consultants, local council planning departments and state government planners. It is largely the interaction between these groups that determines what can be done in relation to sustainable development at the neighbourhood scale and beyond minimum planning and construction requirements. Statutory planners in local governments are critical gatekeepers of more progressive opportunities in relation to sustainability at the neighbourhood scale. State and territory government departments are important actors to set policy frameworks and initiate policy and regulatory change. However, given the weak policy frameworks available, political support at all government levels is required to ensure above-standard residential projects can be realised, especially at the neighbourhood scale.

Policy development options

The research found there is a need for stricter regulatory requirements on urban sustainability in general, and for policy frameworks and development models to support sustainable housing at a neighbourhood scale specifically. Policy expectations for sustainable neighbourhood developments should be performance-based, rather than prescriptive, and they should be supported by objectives and targets so that achievements can be measured and compared.

Many research participants called for mandatory targets, and for binding policies and regulation and sustainable housing and neighbourhood-scale developments to be coordinated across levels of government and jurisdictions. This indicates a realisation by stakeholders that a sustainability transition cannot be realised based on voluntary action but requires a strong steering from governments at all levels. Planning, designing, and implementing sustainable housing at a neighbourhood scale will only become more mainstream if the demands are lifted in planning and building regulations. Moreover, housing developments need to be coordinated with policy areas for transport, environment, and the economy to enable the realisation of sustainable neighbourhoods. Mainstreaming approaches to sustainable neighbourhoods will usefully be supported by a review of the current fragmented landscape of sustainability rating tools and by making sustainable community assessment tools mandatory.

Besides the need for stricter regulation, the transition to practices of sustainable urban development might be supported by other policy levers. Information, education, and training have been identified by research participants as important to help change the professional and public discourses on sustainability and the CE in the built environment. There may also be a role for temporary financial or fiscal incentives for industry to support the uptake of new approaches during a regulatory transition phase.

In terms of the planning process, the research highlighted the value of an integrated urban development vision for the proposed neighbourhood development that places sustainability or circularity at its core. Such strategic master planning documents can provide a decision framework over many years of implementing large-scale projects. A stronger focus in planning policy on supporting neighbourhood-scale developments, beyond the current dominant focus on individual lot development, will be essential. Design guidelines and similar tools can be useful complementary instruments to ensure the expectations for the sustainability of the large-scale development become a binding requirement.

Realising sustainable housing at a neighbourhood scale requires new governance models and partnerships of governments, private developers, and local communities. Projects such as eco-neighbourhood developments are frequently seen to place higher demands on planning and development processes and feared to result in higher costs for the maintenance of public assets created as part of projects. More support for local councils is therefore needed to reduce real or perceived risks attached to 'untypical' developments. This could, for example, take the form of new public-private-partnership models whereby local governments and developers share the benefits and additional costs of such developments. New models for public engagement, beyond statutory requirements, should also be considered to support a shift in behaviour of residents to internalise sustainable lifestyles. This can also help with ensuring that neighbourhoods continue to evolve through sustainability community initiatives and bottom-up CE innovation.

Securing the financing needed for sustainable neighbourhoods was identified as a major challenge by research participants. The actual costs of realising sustainable neighbourhoods can exceed budgets in the lengthy processes of gaining development approval for such 'untypical' projects. Lenders are often reluctant to support projects that are perceived as higher risk. To facilitate the realisation of such complex projects in future, policy support is needed to change the financing landscape, for example through ethical investment practices that prioritise quality and legacy of development projects over quick financial returns.

Finally, policy change that prioritises previously used and recycled materials over new ones so a market for such products can develop is important. There is a lack of consideration for reuse of construction materials in planning, design, and construction processes in Australia. New products and materials are favoured by regulatory standards and cheaper to procure than recycled ones. Databases of available second-hand construction materials and structures (and accompanying warehouses for their storage) are being trialled in some of the European case studies and could be a useful tool also for Australian governments and developers to support efforts of procuring reused or recycled building material.

The study

This research is part of a wider AHURI Inquiry that addresses the overarching question of how the transition to a CE in housing can be implemented. This project was designed to contribute to the aims of the Inquiry by identifying opportunities for a CE approach at neighbourhood scale as a means to achieving sustainable housing.

Realising sustainable neighbourhoods involves multiple interconnected challenges for policy makers, planners, and developers. Understanding the on-the-ground complexities of these challenges, and how they play out in greenfield locations (land previously zoned for rural / agricultural use), brownfield (larger-scale urban renewal) and greyfield sites (smaller lots / urban infill) is key to developing effective and targeted policy responses that can facilitate the realisation of eco-neighbourhoods. The project analysed different dimensions of barriers and opportunities of planning and designing sustainable housing at the neighbourhood scale in both current mainstream housing development practices and good practice examples of eco-neighbourhoods. The project addressed four research questions:

1. Who are the key institutional actors for realising sustainable neighbourhoods in different locations?
2. What drivers and dynamics are critical in supporting a transition to sustainable neighbourhoods in different locations?
3. What are the needs and opportunities for professional training to support a transition to sustainable neighbourhoods?
4. What are the key policy instruments of relevance to achieve a transition to sustainable neighbourhoods in different locations?

To answer these research questions, the project applied a qualitative research design, incorporating a desk review of academic and policy literature, an online survey, case studies, and policy workshops. The online survey focussed on collecting data from actors in the volume housebuilding industry in Australia (including policy makers, public and private sector planners, property developers and architects and designers). They provided insights on their perceived opportunities for and barriers to realising sustainable housing at a neighbourhood scale. Altogether 123 responses to the survey were received. In addition, 15 detailed case studies of good practice 'eco-neighbourhoods' in Australia and Europe were undertaken. Ten case studies are located across Australia, in WA, SA, VIC, QLD, and ACT. Another five case studies from four European Union (EU) countries (The Netherlands (NL, 2 projects), Germany (DE), Sweden (SE), and Finland (one project each)) were analysed. The case studies include a mix of government-led and developer-driven developments. Each case study comprised a desk analysis of policy and project documentation and semi-structured interviews with key actors to identify the motivations, barriers, and drivers for realising these developments. The findings from the desk review, the survey and the case studies were discussed in two online workshops with 21 participants from government, industry, and relevant non-governmental organisations from across Australia. These workshops contributed to validation of the findings and refinement of the suggestions for policy changes to support a transition towards sustainable housing at a neighbourhood scale.



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