Green Building Council Australia

Building a sustainable future

17 April 2025

Commissioner Joanne Chong
Commissioner Alison Roberts
Productivity Commission

Via email: circular.economy@pc.gov.au

Dear Commissioners

Re: Interim report - Australia's circular economy: Unlocking the opportunities

The Green Building Council of Australia (GBCA) welcomes the opportunity to provide feedback to the Productivity Commission's inquiry into opportunities in the circular economy, noting the release of the interim report on 5 March 2025, with the final report to be handed to the Australian Government in August 2025.

The built environment is responsible for nearly 50% of global resource use, and 37% of GHG emissions. Reducing the impacts of our sector can best be achieved through implementing a circular economy.[1] [2] The circular transition represents an opportunity to tackle the shared global challenges of decarbonisation, climate change, biodiversity loss, and pollution. GBCA is committed to encouraging circularity as a critical part of our broader purpose; to lead the sustainable transformation of the built environment. We seek to achieve our purpose primarily through our core functions:

- We advocate policies and programs that support our vision and purpose.
- We educate industry, government practitioners and decision-makers, and promote green building programs, technologies, design practices and operations.
- We collaborate with our members and other stakeholders to achieve our mission and strategic objectives.
- We rate the sustainability of buildings, fitouts and communities through Australia's largest national, voluntary, holistic rating system – Green Star.

Green Star is Australia's most widely used sustainability rating system for the design, construction and performance of buildings – including social infrastructure – fitouts and communities. Green Star aims to transform the built environment by:

- reducing the impact of climate change
- enhancing our health and quality of life
- restoring and protecting our planet's biodiversity and ecosystems
- driving resilient outcomes for buildings, fitouts, and communities
- contributing to market transformation and a sustainable economy.

[1] Tokede, O., et al. 2022. Harmonising life cycle sustainability thinking in material substitution for buildings. https://www.sciencedirect.com/science/article/abs/pii/S0921344922003111

[2] UNEP. 2023. Building Materials And The Climate: Constructing A New Future. https://www.unep.org/resources/report/building-materials-and-climate-constructing-new-future#:~:text=The%20buildings%20and%20construction%20sector,have%20a%20significant%20carbon%20footprint

GBCA provides comment in response to the following requests for information in the interim report:

Information request 4.2 Coordination mechanisms to enhance the benefits of sustainable procurement policies
The PC is seeking information on:

- *the benefits and costs associated with introducing or expanding government-led coordination initiatives to support public procurement policies in different jurisdictions*
- *how further government efforts to facilitate coordination between suppliers, contractors and government agencies could be implemented to maximise net benefits to the community*
- *specific ways that coordination could assist suppliers of recycled materials to navigate sustainable procurement policy requirements and help government procurement agencies and suppliers identify win-win opportunities.*

Government leadership in procurement, supported by independent verification

Government leading by example is critical to enabling and accelerating the pursuit of circular economy activities. The Australian Government's Environmentally Sustainable Procurement (ESP) Policy includes a set of requirements that projects must meet to improve environmental sustainability across three focus areas – climate, the environment and circularity. This policy will help to use the government's considerable spending power to influence positive changes in the supply chain.

By embedding a range of sustainability metrics within the ESP Policy, the Australian Government provides industry with greater certainty and consistency about expectations, allowing industry to invest in capacity building, innovation, new technology and sourcing more sustainable materials. This will start to change the supply chain for the better and move us closer to a more circular economy.

All jurisdictions should be encouraged to consider how circular outcomes can be included in government procurement processes (we note that the NSW recently released its Guide to environmentally sustainable procurement[3] and Green Industries SA, part of the SA Government, has a range of resources[4] to encourage circular outcomes). Whichever requirements or metrics are included, it is important that they are coupled with a robust method of measurement and evaluation. The ESP Policy includes Green Star certification as an option that suppliers can use to provide evidence of compliance with requirements.

GBCA first introduced the Green Star rating tool in 2003. Since then, Green Star has been encouraging and rewarding waste minimisation and circular outcomes in the design, construction and operation. Early efforts focused on diversion from landfill, recycled content and dematerialisation. Green Star projects were among the first construction projects in Australia to regularly achieve over 90% diversion of waste from landfill. Since then, these areas continue to be important elements within the Green Star rating tools, but efforts to improve circularity are now even more wide-reaching and sophisticated with a range of credits within the Green Star rating tools encouraging and rewarding projects for different aspects of circularity.

In addition to credits and guidance within Green Star, GBCA has also established the Responsible Products Guidelines to recognise product certification initiatives that recognise product manufacturers. Green Star project teams can receive recognition for the use of these products in their projects.

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[3] NSW Government. 2024. Guide to environmentally sustainable procurement. https://www.info.buy.nsw.gov.au/__data/assets/pdf_file/0004/1340374/Guide-to-Environmentally-Sustainable-Procurement_December2024.pdf

[4] GISA. Driving the circular economy. https://www.greenindustries.sa.gov.au/driving-the-circular-economy

The 'Responsible Products Guidelines' are an assessment methodology developed with the aim of assisting the supply chain to understand how it must evolve to address the challenges of the next decade. The guidelines recognise valuable sustainability efforts aligned with five key principles:

- Responsible – The product's impacts and contents are transparently disclosed and meet high standards.
- Healthy – The product is low or non-toxic and drives valuable social outcomes
- Positive – The manufacturing process avoids significant environmental impact and delivers climate positive outcomes
- Circular – The product is ready for low-carbon production and the circular economy
- Leadership – The product manufacturer has shown achievement in an issue that will lead to market transformation

To demonstrate compliance with the relevant initiatives, product manufacturers can use third-party verified schemes. Recognised schemes are listed on the GBCA website at https://new.gbca.org.au/green-star/the-responsible-products-program/.

A practical guide to circular procurement

GBCA recently released A practical guide to circular procurement – For new buildings and major refurbishments.[5] This guide aims to provide professionals and decision makers across government and the private sector the considerations and tools to enable circular procurement across each stage of a building project.

The guide is designed for project stakeholders and focuses on embedding circularity in each stage of a building and major refurbishment project. The guide outlines practical steps across a project's lifecycle to ensure circularity is embedded, procured, and delivered appropriately. This guide also clarifies the roles of all stakeholders involved in a project and includes sample procurement clauses for briefs and contracts.

This guide was developed after a comprehensive literature review of existing resources for circular procurement for several sectors. This guide builds on these existing circular economy resources and aims to translate them to practical procurement steps for the built environment. The guide includes the following information:

1. Introduces circular economy fundamentals
2. Introduces circular procurement concepts
3. Outlines circular strategies to drive circular principles in the built environment
4. Details how each strategy can be implemented at each stage of the building lifecycle
5. Provides sample procurement clauses for briefs and contracts
6. Provides case studies of circularity in action
7. Highlights additional circular economy resources including enablers and tools to deliver circular strategies.

[5] GBCA. 2025. A practical guide to circular procurement – For new buildings and major refurbishments. https://gbca-web.s3.amazonaws.com/media/documents/a-practical-guide-to-circular-procurement.pdf

GBCA encourages governments to use this guide to facilitate improved coordination between suppliers, contractors and government agencies and to maximise net benefits to the community.

Information request 4.4 Other circular economy opportunities in the built environment

The PC is seeking the following information on government assessment of public infrastructure projects, and integrated planning:

- *any examples of infrastructure investment decisions proceeding without adequate integrated planning or assessment, which have led to significant unnecessary materials use and waste that may otherwise have been avoided*
- *the extent to which and ways in which improving assessment of public infrastructure projects could reduce materials use and waste, including quantitative analysis of costs and benefits (where available)*
- *barriers preventing further adoption of integrated urban planning, which governments could address.*
- *The PC is seeking the following information on designing for disassembly in the built environment:*
    - *expected growth in design for disassembly for different types of structures in Australia, in the absence of any further government activity*
    - *barriers preventing further adoption of design for disassembly in Australia, which governments could address.*

Government support to encourage industry action

GBCA notes that government can play a key role in encouraging circular strategies such as designing for disassembly and materials reuse by providing warehousing and/or storage facilities. Anecdotal feedback from industry stakeholders indicates that timing is a challenge when project teams look at opportunities to disassemble, salvage, or reuse building materials and components. Access to government-funded, supplied or subsidised storage facilities could encourage greater uptake of these opportunities.

Information request 10.3 Supporting greater adoption and diffusion of circular innovations

The PC is interested in further information on challenge-based funding for innovation:

- *Are there examples of circular economy innovations that have been successfully funded through challenges (in Australia or internationally) and what determined their success?*
- *What might be the benefits and limitations to this approach? What are the likely costs?*

The PC is interested in further information on connecting industry and research:

- *What are useful models for how government can connect industry and researchers? When is this best done at the industry level, and when by location (such as a region or local government area)?*
- *Are there examples of successfully adopting or diffusing circular innovations across supply chains?*
- *What are additional examples of Australian, state, territory and local governments successfully fostering these connections?*

Models for government/industry/research collaboration

There is a role for government in fostering industry/government/research collaboration. Place-based Innovation Hubs are an effective local and regional approach where specific supply chain or infrastructure issues can be addressed. Sustainability Victoria's Circular Economy Business Innovation Centre is an example of this, housing SMEs, universities and start-ups in one ecosystem. This aligns with Green Star Communities' focus on collaborative precinct planning and infrastructure that supports sustainability.

Industry-led innovation partnerships with a focus on specific sectors, such as waste management, construction or manufacturing, as well as broader partnerships taking a systems level approach. For example, the proposed Net Zero Cities Cooperative Research Centre (CRC) and the current Building 4.0 CRC have effectively integrated researchers, industry and government to drive practical innovation. There is an opportunity to go further here, with the government investing directly into the CRCs where there is a market failure, as well as providing the co-funding under the current structure. Organisations such as the Clean Energy Finance Corporation (CEFC) currently assist with this funding, which is extremely important.

As another example, GBCA has been looking at benchmarks for construction and demolition waste, which will be extremely useful to industry. This work was jointly funded by GBCA, CEFC and Bradfield City. GBCA's Responsible Products program is another example of this collaborative research approach (please see response to 4.2 above regarding the Responsible Products Guidelines).

Examples of Circular Innovation Diffusion Across Supply Chains

1. Responsible Products and Materials

- GBCA's Responsible Products Program under Green Star pushes suppliers to adopt transparent, circular-friendly manufacturing practices.
- This approach encourages whole-of-supply-chain engagement in developing, certifying, and promoting circular materials (e.g., low embodied carbon concrete).

2. Whole-of-Life Carbon Assessments

- Increasing uptake of Life Cycle Assessments (LCAs) across construction and infrastructure projects through Green Star certification is driving procurement reform and design choices aligned with circularity. Hundreds of new building projects are certified using Green Star each year, as an example in 2024 there were 130 new buildings certified.

The PC is interested in further information on Aboriginal and Torres Strait Islander knowledges and circular innovations:

- *What actions could governments take to value Aboriginal and Torres Strait Islander knowledges, in ways that protect Indigenous cultural and intellectual property, in the adoption and diffusion of circular innovations?*

Engagement and connection

Yitpi Yaartapuultiku will be a community asset providing a range of activities for First Nations and non-First Nations people in the City of Port Adelaide Enfield, SA. The process of genuine engagement on this project provides both principles and examples of integrating Indigenous knowledge, culture and contemporary priorities including regarding circular economy. Please see GBCA's website for a project case study and City of PAE's website for more information.

Information request 10.4 Improving investor confidence in the circular economy

The PC is interested in further information on the following questions:

- *Will the proposed Australian sustainable finance taxonomy and enhanced ESG reporting provide sufficient information for investors to make informed decisions about circular economy projects? Or are further initiatives required to improve investor confidence in the circular economy?*
- *What are examples of sectors or circular activities being impacted by the cost and availability of insurance? What factors or risks currently determine insurance availability (or lack thereof)?*

Guidance for investors

Please see p.p. 14-15 of GBCA's A practical guide to circular procurement – For new buildings and major refurbishments[6] for information about how metrics and disclosure can support circular outcomes in buildings and improve investor confidence.

Information request 10.5 Government support for place-based circular initiatives

The PC is interested in further information on the following questions:

- *To what extent are existing precincts (such as those set up for net zero, advanced manufacturing, or Special Activation Precincts) already engaged in circular activities? What are some of the ways to encourage further circular activities in these precincts?*
- *What are the barriers (and possible solutions) to expanding or setting up materials recovery facilities? How might facilities provide a basis for place-based circular opportunities? Are there examples of this?*
- *What service provision and funding models would best support place-based circular activities, including reuse, repair, waste collection and recycling activities in remote and very remote areas?*
- *What are the main regulatory barriers that communities or businesses face in establishing place-based circular initiatives?*
- *What other kinds of government assistance or support do communities or businesses need to enable successful place-based circular precincts (such as coordination or facilitation, as in information request 10.2)?*
- *What actions could governments take to facilitate Aboriginal and Torres Strait Islander roles in progressing place-based circular initiatives?*
- *What actions could governments take to value Aboriginal and Torres Strait Islander knowledges, in ways that protect Indigenous cultural and intellectual property, to identify and develop place-based circular opportunities?*

Place-based circular opportunities

Please see response to 10.3 above regarding Place-based Innovation Hubs. All levels of government can play a role in encouraging and supporting place-based circular opportunities. Some examples exist in Australia, such as the Narangba Innovation Precinct (see also Appendix A). Kalundborg Symbiosis in Denmark is an excellent international example.

Information request 10.6 Expanding the set of circular economy indicators

The proposed indicators include:

- *Indicators relating to environmental outcomes from circular activities:*
  - *Waste generated by material type and sector*
  - *Recovery rates by material type and sector*
  - *Greenhouse gas emissions from production activities by sector*
- *Indicators relating to economic outcomes from circular activities:*
  - *Gross value added of circular economy activities by sector – Jobs in circular economy activities by sector*
  - *Business investment in circular economy activities by sector*
  - *Research and development expenditure on circular economy technologies by sector*

[6] GBCA. 2025. A practical guide to circular procurement – For new buildings and major refurbishments. https://gbca-web.s3.amazonaws.com/media/documents/a-practical-guide-to-circular-procurement.pdf

Data on some indicators is already being collected and reported elsewhere. The PC notes that the feasibility of monitoring some of these indicators could be limited by the potentially large costs associated with attributing outcomes to circular economy activities, and disaggregating data by sector.

The PC is interested in further information on the following questions:

- *What are specific examples of how governments (at all levels) and businesses would use the proposed circular economy indicators to identify and track progress of circular opportunities?*
- *What would be the costs associated with gathering data on the proposed circular economy indicators?*
- *Which agencies would collect or estimate the data?*
- *How consistent across states and territories is the data needed for circular economy indicators? Does it allow comparison across industries or sectors?*
- *Are there alternative indicators that would better measure the progress of Australia's circular economy? What would be the benefits and costs associated with these alternatives?*
- *What reporting format would be most valuable and accessible to stakeholders using the monitoring data (e.g. including in the Measuring What Matters framework, or a separate dedicated dashboard)?*
- *Over what timeframe could the proposed expanded set of indicators be rolled out? How frequently should the set of indicators be reviewed and updated, so that they can remain fit for purpose to inform government and business decisions about the circular economy?*

Metrics for measuring circular impact

GBCA's A practical guide to circular procurement – For new buildings and major refurbishments[7] (see p.15) includes a matrix of metrics against eight circular strategies that have been extracted from a range of frameworks and guidance documents. These metrics are classified as 'established', 'developing' or 'emerging' and can be used to help transition the real estate sector towards a circular economy and develop better benchmarks over time. They can also be used by the sector to access 'green' finance or loans. The guide includes sample clauses that can be used by projects to embed metrics in projects.

GBCA is working on developing appropriate benchmarks for Australia for the developing metrics, and even some developing metrics based on the release of ISO 59020:2024 Circular economy — Measuring and assessing circularity performance (for Material Circularity Indicator (MCI) and Circularity Transition Indicator (CTI)). These will begin appearing in Green Star Buildings v1.1 and the Responsible Products Guidelines – Version B.

Additional information

Circular economy in South Australia's built environment: Action plan[8] was a delivered by GBCA on behalf of the South Australian Government. It outlines key actions for government, industry and academia to work collaboratively to drive the transition from a linear to circular economy and to seize the opportunities available in the built environment.

Please see **Appendix A** below for several more examples of circularity in practice.

[7] GBCA. 2025. A practical guide to circular procurement – For new buildings and major refurbishments. https://gbca-web.s3.amazonaws.com/media/documents/a-practical-guide-to-circular-procurement.pdf

[8] GBCA. 2023. Circular economy in South Australia's built environment: Action plan. https://gbca-web.s3.amazonaws.com/media/documents/circular-economy-in-south-australias-built-environment_hz3JVD8.pdf

To arrange further discussion, for a briefing on our work to date regarding circular economy, or for additional clarification of the points made above, please do not hesitate to contact Katy Dean, Senior Policy Adviser, via email

Yours sincerely

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Green Building Council of Australia

Appendix A: Examples of circularity in practice

Buildings as material banks (BAMB) - Kennett Builders have partnered with the University of Adelaide and dsquared Consulting to trial a material bank on three residential developments including Uniting on Second – Bowden.
See p.34, A practical guide to circular procurement

Midtown Centre in Brisbane demonstrated that re -development doesn't always require extensive demolition work, utilising the existing site and reusing and enhancing two 20 -level government buildings.
See p.35, A practical guide to circular procurement

The First Building in Bradfield City Centre is an industry innovation hub housing Stage 1 of the Advanced Manufacturing Readiness Facility. Designed by Hassell, and informed by Indigenous narratives of Country from Djinjama, First Building was designed as a modular kit-of-parts. It can be disassembled, expanded, or relocated, ensuring its resilience to the evolving needs of the city.
See p.36, A practical guide to circular procurement

The Narangba Innovation Precinct in Moreton Bay, South East Queensland is an example of how industrial symbiosis can work in practice for small and medium companies in the construction industry. By facilitating the co-location of synergetic industries, the City of Moreton Bay Council is enhancing resource flow between businesses, reducing waste, and fostering a circular economy. In this article, we show how this innovative approach not only benefits the environment, but also boosts the bottom line for the companies involved.

ResiLoop was set up by the Australian Resilient Flooring Association to address to estimated 60,000 tonnes of waste each year to landfill generated in the resilient flooring industry in Australia. Notably, 9,000 tonnes of this is new and unused. ResiLoop addresses Australia's flooring industry's pathway to a circular economy, by tackling waste from installation.
https://www.arfa.org.au/resiloop-faqs.html

Cultivated are furniture and lighting repairers, working with single chairs to entire office spaces. They contract local metal workers, carpenters and upholsters to restore furniture back to their original condition, ready for another life. In 2022, Cultivated transformed Gate 5 of Melbourne Airport, rescuing furniture that would have gone to landfill from Woolworths and KPMG, and restoring to fit out the terminal.
https://cultivated.com.au/blogs/stories/project-revisiting-gate-5-melbourne-airport

Koskela are an Australian made furniture manufacturer, showcasing the ability to have a low impact on the environment, with a positive impact on society. Koskela import and export emissions are close to zero (with a target of zero emissions by 2035), use sustainable and ethical suppliers, have operational repair and maintenance initiatives, in-house end of life initiatives, and have contributed $1.6 million to First Nations communities.
https://koskela.com.au/

ASPIRE is as online tool for building material exchange. The marketplace allows material owners to share materials that would have otherwise gone to landfill, reducing costs and turning resources into revenue streams, in a market with ever-growing waste disposal costs and emissions targets.
https://aspiresme.com/

XFrame is a system of light-weight flexible framing parts designed to enable circular commercial fit-out solutions and modular construction framing. The system comprises 12 standard parts forming a modular braced structural matrix from precision milled engineered pine plywood components. Designed around a unique diagonal grid geometry of triangulated panels, the structure is designed for end-of-life deconstruction, reconfiguration, and reuse. XFrame's ambition is to aid the building industry to transition to a circular economy by establishing XFrame as a 'platform technology' in which supplementary

technologies and systems can be developed, facilitating the recovery and reuse of almost all building layers.
https://xframe.com.au/

The SA Department for Education has embarked upon a pilot program to deliver a number of projects through modular construction as part of its capital works program. This program was set to deliver projects for a range of benefits including building innovation and capability in the local market in modular construction.
https://www.aurecongroup.com/projects/education-research/permanent-modular-education-facilities-program

Lot Fourteen is a 6 Star Green Star Communities certified precinct, and the first precinct in Australia to be Precertified as a WELL Community. The reuse of the existing buildings along North Terrace, Adelaide is an excellent example of how the adaptive reuse of existing buildings can be revitalised into new, sustainable office accommodation. The buildings are now home to innovative technology companies and start-up tech incubators, including the Space Discovery Centre, and 'Stone and Chalk', a carbon neutral innovation hub.
https://www.lotfourteen.com.au/

Precycle is an on-demand service that concentrates on removing and recycling unwanted and surplus building materials from home construction sites. The service collects clean offcuts, discarded materials and excess materials including timber, bricks, plasterboard and steel, and enables the materials to be reused and recycled within a circular economy model. Based on a review undertaken with funding from Green Industries SA, the service increased landfill diversion rates from 10% for a business-as-usual approach to 76%.
https://www.carbonneutraladelaide.com.au/business/precycle

The SMaRT Centre at University of New South Wales has created the phrase 'microrecycling science' to describe their novel approach to researching innovative approaches and technologies to reform various waste streams into value added materials and products.

SMaRT has developed MICROfactorie™ Technologies that use various, discreet modules to transform problematic waste materials, such as glass, textiles and plastics, into new value-added materials and products, such as engineered green ceramics for the built environment and plastic filament as a 'renewable resource' for 3D printing.
https://www.smart.unsw.edu.au/technologies-products/microfactorie-technologies