



# → A practical guide to circular procurement

**Ian Dixon**

**APAC Sustainability Service Line Leader**

**Technical Director – Built Environment Sustainability**



# Background to the guide

Globally, Built environment major contributor to land use change, resource consumption and climate change:

- 40-50% of global resource use
- 36% of world energy consumption
- 39% of CO<sub>2</sub> emission
- Only 30% of construction materials recycled
- Building and demolition waste is 35% of waste generated in Australia



Eliminate waste and pollution



Circulate products and materials  
(at their highest value)



Regenerate nature

**1970: 1 Earth**



**2025: 1.75 Earths**



**2050: 3 Earths**

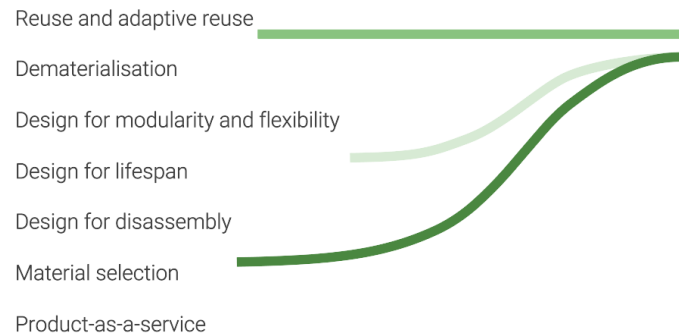


# Guide Structure



## How circularity tends to be presented

Circularity is presented in most documents as a series of unrelated strategies



## How the guide presents information

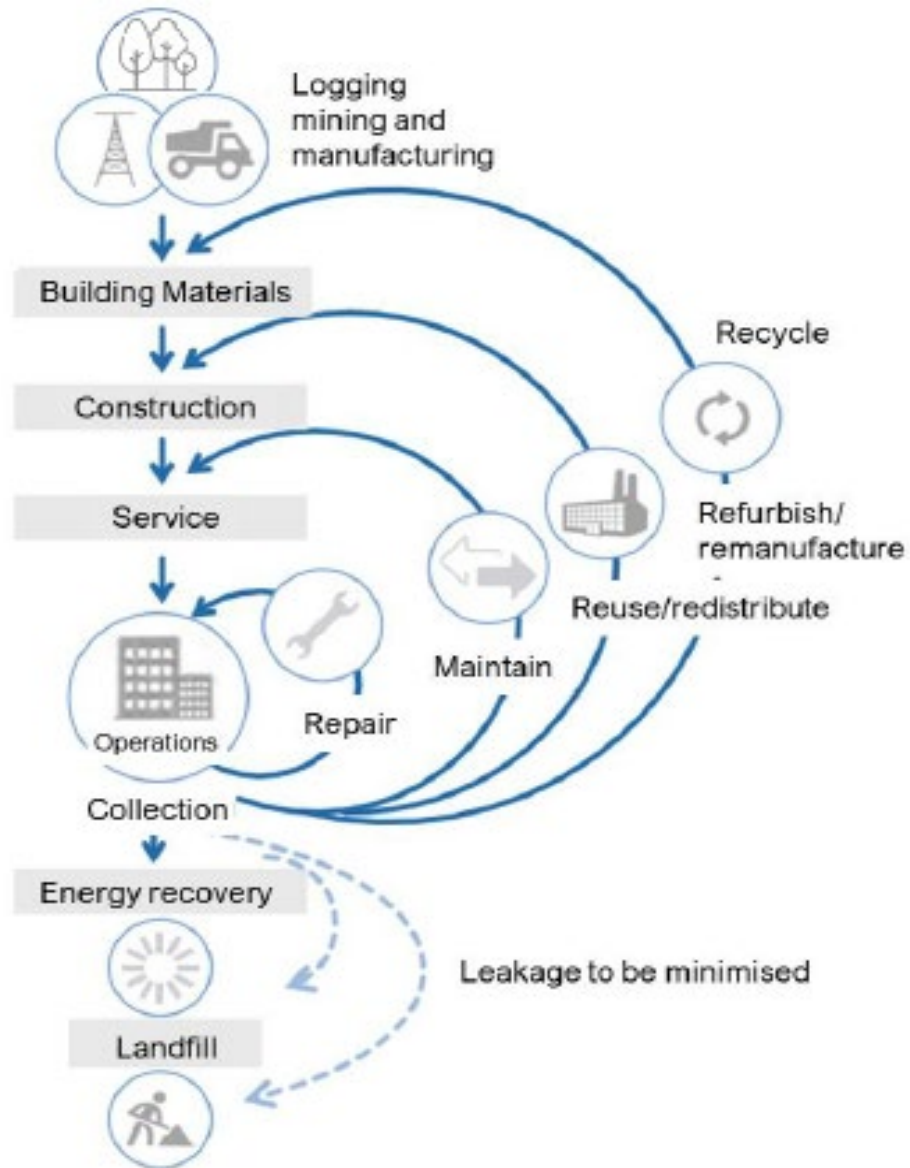
The guide outlines *practical* advice across a project's lifecycle, aligning procurement advice against multiple strategies to help maximise circularity at each step.

Planning  
Design  
Tender  
Construction  
Use & operation  
End of use

- 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



# Circular building strategies



## Eight strategies for delivering circular buildings

Design for disassembly

Design for lifespan

Design for flexibility

Design for modularity

Dematerialisation

Material Selection

Reuse and  
adaptive reuse

Product-as-a-service

# Key activities per life cycle stage

Planning	Design	Tender	Construction and Handover	Use and Operation	End of use
<b>Define Circular Vision</b>  <b>Complete a circularity audit</b>  <b>Embed circularity</b>  <b>Assess team capability</b>  <b>Plan for material recovery</b>  <b>Design for end-of-use</b>  <b>Engage the market</b>	<b>Define Circular Requirements</b>  <b>Coordinate</b>  <b>Refine specifications</b>  <b>Engage with potential suppliers and contractors</b>  <b>Understand service life</b>  <b>Complete a Disassembly Plan</b>	<b>Communicate with the contractor</b>  <b>Clearly mark elements to be reused or adapted</b>  <b>Create a Select and Award framework</b>  <b>Include circularity vision and requirements in project documents and procurement clauses</b>  <b>Establish data tracking methods</b>	<b>Procure and Install</b>  <b>Collect and verify</b> <b>Inspect</b>  <b>Track and report</b>  <b>As-built documentation</b>  <b>Test all elements</b>	<b>Integrate circularity</b>  <b>Educate building occupants</b>  <b>Provide detailed information</b>  <b>Update As-Built documentation</b>  <b>Track, monitor, record and report</b>	<b>Conduct a pre-decommissioning audit</b>  <b>Develop a logistics plan</b>  <b>Update materials database</b>  <b>Engage with take-back schemes and products as a service providers</b>  <b>Disassemble</b>  <b>Report</b>

# Key Stakeholders



**Investors**



**First Nations peoples**



**Professional services**



**Tenants & occupants**



**Developers**



**Procurement specialists**



**Owners**



**Asset managers**



**Authorities**



**Builders & trades**



**Leasing agents**



**Demolition & recycling businesses**



**Supply chain**

## Planning (feasibility and project brief)

### Stakeholders



### Strategies

- Reuse and adaptive reuse
- Dematerialisation
- Design for modularity and flexibility
- Design for lifespan
- Design for disassembly
- Material selection
- Product-as-a-service

### Objective

Set the project's circularity vision and goals. This stage requires balancing circular and strategic objectives with financial feasibility, resources and constraints.

### Core tasks

- ❑ **Define the circular vision:** Set circular economy goals and align with sustainability objectives and Green Star targets.
- ❑ **Audit circular opportunities:** Identify ways to reduce waste, reuse materials, and integrate circular strategies.
- ❑ **Embed circularity:** Include circular targets in briefs, business cases, and budgets.
- ❑ **Assess team capability:** Ensure the team can deliver circular outcomes or provide training.
- ❑ **Plan for material recovery:** Develop a circular deconstruction strategy if demolition is unavoidable.
- ❑ **Design for end-of-use:** Ensure adaptability, reuse, and disassembly to extend material lifespans.
- ❑ **Engage the market:** Work with suppliers and contractors to source circular materials and solutions.



#### Circular practices for existing buildings

Existing buildings can practice circularity. In fact, trialling and testing necessary infrastructure is essential to deal with future circular buildings. See the [Building as Material Banks](#) case study.

### Stage deliverables

- ❑ **Project brief** with clear circularity vision and targets
- ❑ **Business case** and **feasibility report** including vision and metrics
- ❑ **Technical and functional specification** with circularity criteria and clauses included
- ❑ **Circularity Audit**
- ❑ **Deconstruction and resource recovery plan\***
- ❑ **Circularity training plan**

\*For projects with existing assets on site



#### First Nations practices and circularity

First Nations practices have long aligned with circular economy principles. Where possible, early engagement to embed knowledge is key. Their insights can inform planning, material selection, and long-term stewardship. Engagement with First Nations, and procuring services and products from first nations, can assist in also fulfilling social targets, and targets within reconciliation action plans.

# Planning - Procurement clauses

**Re-thinking project budgets**  
Circular strategies such as Product as a Service often necessitate reviewing traditional Cap-Ex/Op-Ex models. Budgets need to adjust to the option for lower initial costs whilst allowing for potentially higher servicing and maintenance costs through the lifespan of the building.

Brief language	Conduct circularity audit	<p>Evaluate existing structure/s and elements on site for reuse or adaptive reuse. Including but not be limited to:</p> <ul style="list-style-type: none"> <li>• Structural components (steel beams, timber joists, beams etc., concrete slabs)</li> <li>• Façade / envelope (windows, doors, roofs, cladding)</li> <li>• Systems including mechanical, electrical, and plumbing components (pipes, wiring, ducting, air handling, air conditioning units)</li> <li>• Finishes (tiles, flooring, partitions, ceiling linings, fixtures, joinery)</li> </ul>
	Assess material salvage and storage options	<ul style="list-style-type: none"> <li>• Develop strategy for safely removing, storing, and transporting reusable materials</li> <li>• Collaborate with stakeholders for testing and recertification of items where necessary (ie structural, electrical elements)</li> </ul>
	Consider product-as-a-service in project budgets	<ul style="list-style-type: none"> <li>• Consider the feasibility of utilising product-as-a-service within the project</li> <li>• Collaborate with suppliers to enable ease of design integration</li> <li>• Ensure project planning and budget documentation allows for this across the building's life cycle</li> </ul>
	Documentation and reporting	<ul style="list-style-type: none"> <li>• Produce an audit report from the site assessment</li> <li>• Complete an inventory of all salvaged materials, including their source, condition, and intended use in the new project</li> <li>• Collect specifications of all product-as-a-service items to provide to design team</li> <li>• Provide progress updates and final reports on opportunities for reused materials (both on and off site) in the project</li> </ul>
Contract language	The supplier/contractor shall...	
	Circular strategies	"...ensure elements are procured and delivered to provide the desired circular outcomes in line with the brief."
	Circularity audit	"...conduct an audit to evaluate and prioritise the reuse of existing assets, materials, or components. A final report must be delivered to the developer as part of the execution of the contract."
	Assess for reuse	<p>"...inspect and assess existing assets and materials to determine their suitability for reuse in accordance with project requirements and technical specifications."</p> <p>"...refer to material banks and marketplaces for secondary products and materials to be incorporated in the project."</p> <p>"...submit a detailed plan outlining the intended use of reused and reusable assets or materials, expected benefits (cost, avoided carbon emissions), and compliance with technical, safety, and operational considerations of the project."</p>



# Case Studies

## Uniting on Second Adelaide



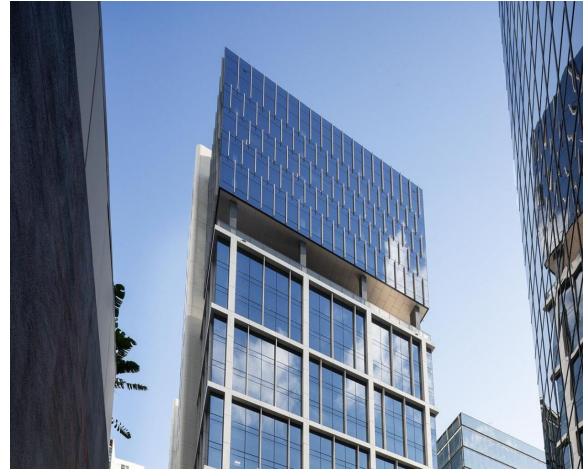
### Strategies:

- Building as material bank
- Design for disassembly
- Reuse

### Typology:

Multi-level residential, affordable housing.

## Midtown Centre Brisbane



### Strategies:

- Adaptive reuse of existing buildings

### Typology:

Multi-level commercial

## First Building Bradfield City Centre



### Strategies:

- Design modularity
- Design flexibility
- Material selection

### Typology:

Public building

# What can you and your organisations do?



## **Authorities**

Implement policies to incentivise circular outcomes. They also implement circular obligations into reporting and development approval processes.



## **Professional services**

Integrate circularity into business cases, project briefs, and design documentation. They assess environmental impact, optimise circular outcomes across a building's lifecycle, and specify materials and services that best support circular principles.



## **Demolition & recycling businesses**

Ensure materials are properly de-fitted and disassembled for reuse or recycling, diverting waste from landfill in line with circular procurement principles. They must meet project targets and provide reporting.



Green Building  
Council Australia

# \* Thank you



**Ian Dixon**

Technical Director - Sustainability

[ian.dixon@ghd.com](mailto:ian.dixon@ghd.com)



 **ghd.com**