Project 1.11.4

Benchmarking and Scaling-up Australia's Circular Economy Practices

PSG #1

Date: 05/05/2026

ACKNOWLEDGEMENTS

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Project 1.11.4 : Benchmarking and Scaling-up Australia's Circular Economy Practices

PROJECT'S AIM:

This project aims to **benchmark circular economy practices** in Australia, leveraging **a consistent framework** for a circular economy in the built environment. Specifically, it will analyse opportunities to **integrate circular economy principles and R-strategies** (e.g., reuse, refurbishment, recycling, etc.) into construction and infrastructure projects, thereby helping to **establish a circular economy ecosystem**. In addition, the project will **investigate key decision-making factors**—across social, economic, and environmental contexts—that **influence the scaling up of circular economy practices** in the built environment, to accelerate Australia's transition to a more sustainable future.

INDUSTRY OUTCOMES :

This project aims to deliver the following key industry outcomes:

1. **Actionable Policy Tools:** Ready-to-use model clauses, KPIs, and verification frameworks that enable industry and government agencies to embed CE principles in project planning and delivery.
2. **Material Reuse Systems:** Practical protocols that facilitate the reliable reuse of priority materials (e.g., bricks, timber, aggregates), creating trusted and scalable supply chains.
3. **Evidence Base for CE Value Proposition:** Demonstration of whole-life cost savings, carbon reductions, and social benefits from real-world pilots, providing the business case and replication guidance for scaling CE practices nationally.

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PROJECT'S OBJECTIVES:

Objectives of the project are to:

1. **Benchmarking Circular Economy Practices** by systematically assessing the current state of circular economy adoption, identifying gaps, enablers, and barriers across procurement, policy, material reuse, and life cycle practices.
2. **Integrate Circular Economy Principles** into Construction and Infrastructure Projects by developing and testing pathways for embedding CE principles and R-strategies (e.g., reuse, refurbishment, recycling) into procurement frameworks, material supply chains, and infrastructure delivery models.
3. **Evaluate Decision-Making Factors** for Scaling up CE by analysing socio-economic, environmental, and regulatory drivers that influence decision-making, and generate evidence on costs, carbon reduction, resilience, and social value to support widespread CE adoption.

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RESEARCH APPROACH AND METHODS:

	Benchmarking	Integration	Evaluation
	Research Questions	**Research Questions**	**Research Questions**
Questions	RQ1.1: What is the current state of the circular economy (CE) and key barriers and enablers in adoption across Australia's built environment sectors (construction and infrastructure)?	RQ2.1: How can CE principles and R-strategies (e.g., reuse, refurbishment, recycling) be effectively integrated into procurement frameworks and project delivery models?	RQ3.1: What socio-economic, environmental, and regulatory factors influence decision-making and investment in CE practices? RQ3.2: How do CE interventions affect project outcomes such as cost, carbon reduction, material efficiency, resilience, and social value?
	RQ1.2: How do current CE practices in Australia compare with international benchmarks and best practices?	RQ2.2: What pathways and tools can support the integration of CE principles across different phases of construction and infrastructure projects (design, delivery, operation, end-of-life)?	RQ3.3: What policy, business model, and governance mechanisms are needed to scale CE adoption nationally?
Methods	• Comprehensive literature review through SLR • Data mapping and gap analysis • Industry survey and interviews • Benchmarking framework	• Case study analysis • Co-design workshops • Pilot testing	• Focus group interviews • Decision-making analysis • Guideline development

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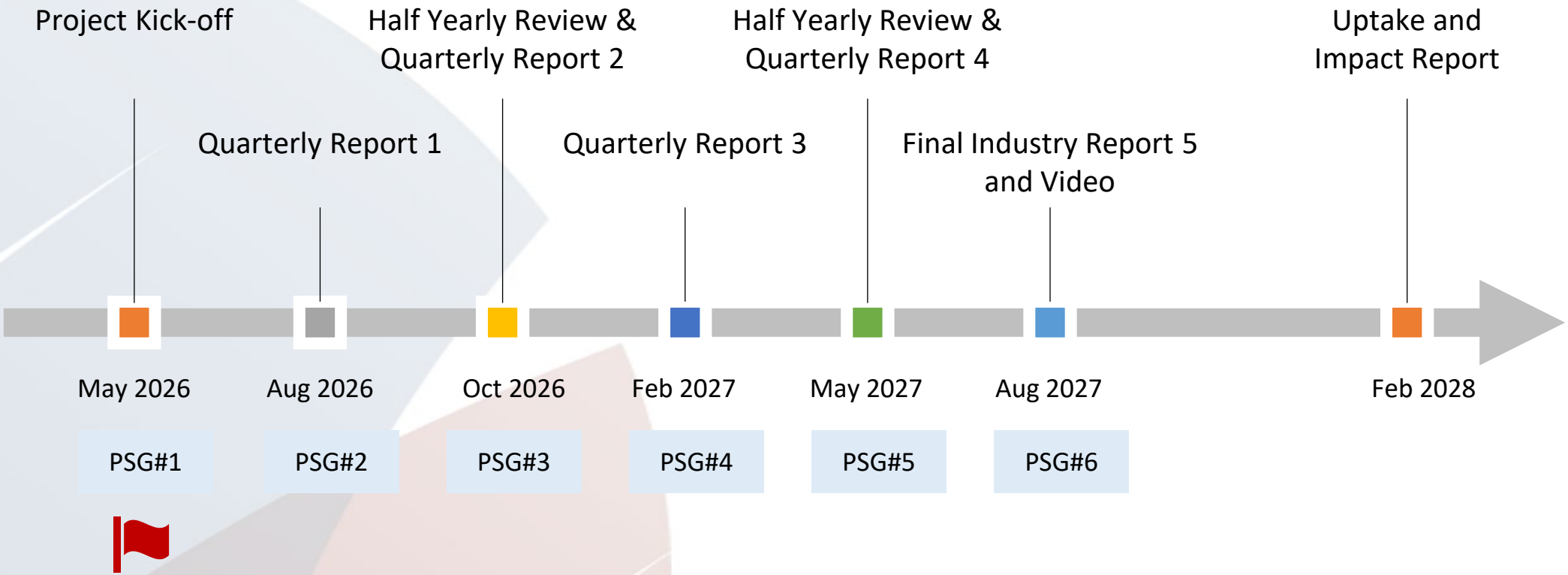
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Case Studies

	Case Study 1 (WA)	Case Study 2 (NSW)	Case Study 3 (QLD)
Case Studies	Co-Creating Circular Design Standards for Pre-cast Systems: Aligning Stakeholder Priorities in the Construction Value Chain	Circular Economy Pathways for TfNSW: Optimising Material Reuse and Asset Lifecycle Value	Due to the Data Privacy Agreement, the project team will report the progress separately
Key Focus	The case study aims to develop a standardised design guideline that embeds core circularity principles, including design for disassembly and reuse, modularisation and material efficiency, low-carbon mix design, alternative materials, and long-term durability and adaptability.	The study aims to benchmark existing reuse, refurbishment, and recycling practices within the NSW rail network against national and international best practice and assess the potential for higher-order R-strategies (e.g., reuse, repurpose, remanufacture) to extend asset life and reduce waste.	Due to the Data Privacy Agreement, the project team will report the progress separately
Stakeholders	Precast designers, manufacturers, engineers, architects, builders, clients, regulators, and recyclers, etc.	NSW Transport, Sydney Rail, Ballast suppliers, Infrastructure NSW, Suppliers & Manufacturers, Asset Managers, Engineers, TfNSW, Standards bodies, Contractors, etc.	Due to the Data Privacy Agreement, the project team will report the progress separately

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Project Timeline (Attachment D)



P1.11.4: Project timeline and key deliverables