PSG#2 - P1.11.4 Benchmarking and Scaling-up Australia's Circular Economy Practices

Date: Monday 17th August 2026

Time: 12.00pm – 1.30pm AWST

Attendance:

- Ashleigh Morris (Corro) - Meeting Chair
- Atiq Zaman (Curtin University) – Project Lead
- Shengping Li (Curtin University)
- Benjamin Gazeau (Curtin University)
- Karim Yngstrom (ATLAS Precast)
- Peter Vanderaa (QLD Treasury)
- Meghan Cowling (QLD Dept of Transport & Main Roads)
- April Hoyles (QLD Department of the Environment, Tourism, Science and Innovation)
- Chris Skantzos (Main Roads Western Australia)
- Adrian Dawson (Transport for NSW)
- Raz Guirguis (Transport for NSW)
- Mark Hindmarsh (Sunshine Coast Council)
- Jack Gill (Think Brick)
- Joanne Vanselow (Austroads)
- Paul Matthew (University of Queensland)
- Paola Leardini (University of Queensland)
- Dona Iresha Gurusinghe (RMIT)
- Mohana Motiei (RMIT)
- Usha Iyer-Raniga (RMIT)
- Will Hackney (SBEnrc)
- Grace Martini (SBEnrc)

Notes

Project Overview and Objectives: Atiq Zaman provided an overview of the project, outlining its aim to benchmark and scale up circular economy practices in Australia's built environment, with support from Ashleigh Morris, Will Hackney, and other team members, and highlighted the project's objectives, industry outcomes, and research approach.

Project Aim and Scope: Atiq Zaman explained that the project aims to benchmark circular economy practices in Australia, leveraging previous studies to identify inconsistencies and integrate circular economy strategies more robustly in the built environment sector. The project also seeks to analyse decision-making factors for scaling up these practices.

Industry Outcomes: The project is expected to deliver actionable policy tools, material reuse systems, and an evidence base for circular economy value propositions, including demonstrating whole-life cost savings, carbon reduction, and social benefits through real-world pilots.

Project Objectives: Atiq Zaman outlined three main objectives: benchmarking current circular economy adoption, integrating circular economy principles into construction and infrastructure projects, and evaluating decision-making factors for scaling up circular economy practices.

Research Approach: The research approach includes systematic literature reviews, data mapping, gap analysis, industry surveys, interviews, case study analysis, co-design workshops, pilot testing, focus group interviews, decision-making analysis, and guideline development.

Case Study Updates and Stakeholder Engagement: Atiq Zaman, Usha Iyer-Raniga, and Dona Iresha Gurusinghe presented updates on the three main case studies - Atlas Precast (WA), Transport for NSW (NSW), and a confidential Queensland case - detailing progress, stakeholder mapping, and next steps, with input from Karim Yngstrom, Jack Gill, and other PSG members.

Atlas Precast Case Study (WA): Atiq Zaman described the focus on co-creating a circular design standard for precast systems, aligning stakeholder priorities, and conducting literature reviews, stakeholder interviews, and co-design workshops. The aim is to develop a standardised, industry-aligned design framework for precast concrete products.

Transport for NSW Case Study (NSW): Usha Iyer-Raniga and Dona Iresha Gurusinghe outlined the benchmarking of circular economy practices in the NSW rail network, identification of priority materials, and development of practical recommendations. The approach includes literature review, hotspot prioritisation, stakeholder interviews, gap analysis, and recommendations.

Queensland Case Study: Atiq Zaman noted that the Queensland case study is subject to confidentiality due to funder requirements, with only generic findings to be shared in the future, pending approval.

Stakeholder Mapping: Preliminary stakeholder mapping was presented for both Atlas Precast and Transport for NSW, identifying key groups such as designers, manufacturers, regulatory bodies, material suppliers, contractors, and professional associations. Feedback was solicited from PSG members to ensure comprehensive coverage.

Literature Review Findings and Benchmarking Challenges: Atiq Zaman and Usha Iyer-Raniga presented preliminary literature review findings, highlighting well-established circular design principles but fragmented implementation and benchmarking, with PSG members including Karim Yngstrom, Jack Gill, and Meghan Cowling discussing challenges and opportunities for standardisation.

Circular Design Principles: The literature review found strong agreement on circular design principles for precast concrete, such as design for disassembly, adaptability, modularity, and waste prevention. However, implementation approaches vary widely, with no standardised pathway identified.

Benchmarking Inconsistencies: Benchmarking practices are inconsistent across studies, with variations in indicators, metrics, reporting units, and system boundaries. This fragmentation makes it difficult to compare results or establish industry-wide benchmarks.

Semantic and Indicator Harmonisation: A key barrier to effective benchmarking is semantic inconsistency rather than a lack of indicators. The literature supports the development of a standardised benchmarking framework that aligns stakeholder priorities, standardises definitions, and harmonises metrics and reporting.

Material Passports and Digital Tools: Material passports and digital tools such as BIM and digital twins were discussed as emerging areas of interest, with limited adoption in Australia. Will and Ashleigh Morris referenced examples like Rosella Street and Modasta, and Meghan highlighted the importance of consistent baselines in benchmarking.

Rail Sector Literature Gaps: Usha Iyer-Raniga noted that there is limited research on circular economy in rail infrastructure compared to buildings, with a need for systems thinking, stakeholder collaboration, and consistent taxonomies for circular strategies.

Survey Launch and Data Collection Plans: Atiq Zaman announced the launch of a national industry-readiness survey on circular economy, requesting PSG members to circulate the survey link widely, and outlined plans for data collection and stakeholder engagement following ethics approval.

Discussion on Industry Engagement and Professional Bodies: Karim Yngstrom, Jack Gill, and Will Hackney discussed the fragmented nature of the precast industry and the potential role of professional bodies such as the National Precast Association in standardising practices and supporting benchmarking efforts.

Industry Fragmentation: Karim Yngstrom described the lack of coherence in the precast industry, both within and across states, and suggested involving the National Precast Association to help raise standards and develop meaningful accreditation.

Role of Peak Bodies: Jack Gill supported the idea of engaging industry associations to gather insights and facilitate the development of industry-wide benchmarks, while Will Hackney offered to extend PSG invitations to relevant bodies.

Communications, Conferences, and Upcoming Activities: Ashleigh Morris, Atiq Zaman, and Usha Iyer-Raniga provided updates on recent and upcoming conferences, including the WA government conference, World Sustainable Built Environment Conference, and COP, and discussed the importance of sharing project activities and lessons learned.

Conference Participation: Atiq Zaman and Usha Iyer-Raniga reported on participation in the World Sustainable Built Environment Conference and upcoming events such as the WA government conference and COP, where circular economy and zero waste are key themes.

Knowledge Sharing: Usha Iyer-Raniga mentioned the development of formal conference proceedings and a white paper to inform future conferences, and highlighted ongoing work with UN Habitat and UNOPS on circular housing and post-disaster resource use.

Implementation Limits and Procurement Challenges: Chris Skantzos, Meghan Cowling, and Ashleigh Morris discussed the practical limits of recycled content in materials, the importance of understanding these limits for industry education, and the challenges of fair procurement in government projects.

Material Limits: Chris Skantoz and Meghan Cowling highlighted the importance of understanding and communicating the maximum feasible recycled content in materials like RAP and SCM, noting that technical and supply constraints limit how much can be used sustainably.

Procurement Fairness: Chris Skantoz explained the need for open and fair procurement processes in government projects, and the importance of specifying clear options and limitations for recycling and reuse in tender documents.

Action Items and Next Steps: Ashleigh Morris summarised the main action items, including circulating the survey link, sharing the literature review and stakeholder mapping for feedback, reaching out to peak bodies, and scheduling the next PSG meeting for October 19th.

Actions

1. **Survey Distribution for Circular Economy Readiness:** Circulate the circular economy readiness survey link to all PSG members and request them to share it with key stakeholders within their organisations to ensure broad national representation. (Atiq Zaman)
2. **Stakeholder Mapping Feedback:** Review the stakeholder mapping shared in the literature review and provide feedback to Atiq Zaman or Will Hackney if any additional stakeholders should be included. (All PSG Members)
3. **Peak Body Engagement:** Reach out to relevant peak bodies, such as the National Precast Association and other professional associations, to explore their inclusion or attendance in the project stream and PSG. (Will Hackney, Karim Yngstrom, Atiq Zaman)
4. **Material Passport Discussion:** Explore further discussion and investigation into the use and prevalence of material passports in the Australian market, including potential links to Green Building Council and industry capacity. (Will Hackney)
5. **Data Collection on Material Volumes:** Investigate the availability and collection of data on volumes, age, and quality of materials used in New South Wales Rail for potential inclusion in the project analysis. (Usha Iyer-Raniga)
6. **Conference and Event Updates:** Share updates on upcoming conferences, side events, and relevant activities, including confirmation of COP side events and World Circular Economy Forum participation, with the PSG once details are finalised. (Atiq Zaman, Usha Iyer-Raniga)
7. **Procurement Influence Across States:** Consider and discuss how the findings from the Transport for New South Wales case study could influence procurement practices in other states such as WA, Victoria, and Queensland, and identify key stakeholders for potential PSG invitation. (Usha Iyer-Raniga, Will Hackney)