Construction Waste Lab (CWL),
School of Property, Construction and Project Management

GPO Box 2476
Melbourne VIC 3001, Australia

www.rmit.edu.au
Tel: +61 39925 2230
Fax: +61 3 9925 1939

Waste Authority
Western Australia Department of Water and Environmental Regulation
Prime House, 8 Davidson Terrace
Joondalup Western Australia 6027

Phone: +61 0437 228 870
Email: wastestrategyreview@dwer.wa.gov.au

26 August 2024

Re: Public consultation on State Waste Strategy: Waste Avoidance and Resource Recovery Strategy 2030

The RMIT's Construction Waste Lab (CWL) tougher with the Sustainable Built Environment National Research Centre (SBEnrc) welcomes the opportunity to provide a submission to the Waste Authority public consultation on the State Waste Strategy document.

Since 2018, RMIT CWL through SBEnrc industry driven research programs, has been at the forefront of researching the circular economy of construction and demolition (C&D) waste stream. Our industry-driven research covers a wide range of C&D waste management aspects, including policy, education, circular supply chains, and innovative waste solutions and technologies. With the support of the SBEnrc and in collaboration with various state public agencies and private organisations, we have actively raised awareness in both sectors. To maximise our impact, we have collaborated with researchers from Griffith University and Curtin University, resulting in a prolific output of academic and industry publications, including three books addressing C&D waste management, market development for waste resources, and the utilisation of products with recycled content in the building and construction sector.

Members at RMIT CWL have been deeply involved in analysing state and national waste policies, leading to a set of recommendations aimed at enhancing the C&D waste management system in Australia. Please find below our perspectives regarding the Strategy's sections including the five priorities:

How well does the new vision reflect your intentions and aspirations for Western Australia's transition to a circular economy? How well do the principles support this vision?

A shared vision for Western Australia (pages 27-28)

We believe a successful transition to a circular economy requires encouragement, enforcement, and education. However, current circular economy principles may not sufficiently cover Enforcement with pragmatic and progressive approaches to achieve the circular economy objectives. Enforcement includes the development of supportive regulations and policies that facilitate the state's transition towards a more circular economy. Specifically, reforming Recycled Materials Specifications documents- developed by Main Roads Western Australia- is crucial in promoting the optimal use of products with recycled content. Additionally, existing regulations and policies should focus on providing clear definitions of commonly used terminologies within this environment. For instance, clarifying the distinctions between 'waste,' 'resource,' and 'product' can guide stakeholders in making informed decisions that align with the state's Waste Strategy goals.

On page 28, a strategy worth considering for inclusion is the promotion of 'demonstration projects.' According to our research[4], this approach can significantly enhance recycling efforts and boost confidence in using products with recycled content in construction projects. A notable example is the 115 Hamilton Hill project[4], where demolition waste materials extracted on-site were either reused or recycled on-site. Another strategy to consider is implementing risk-sharing mechanisms, which could encourage stakeholders to collaborate more effectively on the optimal use of products with recycled content.

How well do the existing and proposed targets align with the 2030 goals set out in this strategy?

Progress against our targets: Reduction in C& D waste generation

Noted the state has made limited progress towards its C&D waste reduction targets, the draft might have overlooked two primary reasons behind the figures. Firstly, the state's stimulus initiatives, introduced in response to the impacts of COVID-19[1], have driven construction activities across the state, leading to an increase in the generation of this waste stream. Additionally, according to the Australian Bureau of Statistics (ABS)[2], the number of residential construction activities has risen since 2020, partly as a response to the state's housing crisis. This trend may also contribute to the lack of reduction in C&D waste per capita in the state. In our opinion, failing to account for these two events in the calculations could result in inaccuracies when assessing the state's progress towards its predefined targets.

Progress against our targets: Reduction in C& D waste generation

On page 16, while the draft highlights the driving force behind increasing C&D waste recycling, it does not fully account for other significant contributing factors. The decline in the attractiveness of interstate waste transfer for Western Australians, driven by rising fuel costs and emissions, is likely to result in higher recycling activities within the state. Additionally, the COVID-19-induced disruptions to construction material supply chains have prompted the industry to increasingly turn to recycled

[1] Office of the Auditor General. 2022. Roll-out of State COVID-19 Stimulus Initiatives: July 2020 – March 2021.
[2] ABS.2024.Building Activities, Australia. Table 04. value of residential building work done, states and territories, Australia - chain volume measures.

materials to meet their project deadlines. Furthermore, the state's strong emphasis on circular economy principles, reinforced through various strategies, has influenced industry behaviour towards greater use of products with recycled content. Construction organisations across the state are keen to stay competitive in public infrastructure projects market, where meeting contractual obligations depends on building the necessary capacities before securing these contracts. These conclusions are supported by findings from two research projects we conducted between 2021[3] and 2023[4].

How well do the five strategy priorities support achieving the draft waste strategy's goals and targets?

The five strategic priorities seem to address the key issues hindering effective waste management in the state. In our view, adding a column in each priority table that focuses on unintended outcomes could be beneficial. This would provide a foundation for risk management planning when developing and implementing the proposed actions.

How well do these draft actions support our priority of achieving better outcomes for regional and Aboriginal communities? Are there other actions that will support this priority? Do current State Government activities support this priority?

Priority 1: Better outcomes for regional and Aboriginal communities

To win the support of Aboriginal communities in waste management practices, providing employment opportunities through the engagement of Aboriginal corporations could be a key success factor. This strategy requires capacity building and educating those interested in participating in the waste management and resource recovery industry. Providing financial incentives, such as tax subsidies, for these corporations can support this initiative effectively.

In our opinion, the government could develop demonstration projects that showcase the successful use of products with recycled materials. These projects would serve as examples and encourage Aboriginal (construction) corporations and local communities to incorporate these resources into their construction activities.

The government needs to collaborate with the R&D sector to explore and develop waste collection routing optimisation systems. These systems would support the efficient operation of the waste management and resource recovery industry, particularly in remote areas.

State policymakers are strong recommended to develop a proximity principle policy to minimise waste transport to regional areas. This policy emphasises managing waste as close to its origin as possible. This policy together with increased penalty rates for illegal dumping can provide positive outcomes for regional and Aboriginal communities.

The first government-led action, collaboration across government to assess the waste management aboriginal needs warrants establishing a specialised entity or task force to provide the best coordination among the parties involved. An entity such as *Waste Forum* is a great example of such an entity. One mission of this entity could be an investigation of local waste management and circular practices historically used by Aboriginal communities can help develop strategies and actions that are more effective and culturally appropriate for these communities. Furthermore, this entity could collaborate with the local community to improve reporting mechanisms and digital infrastructure for addressing illegal dumping in remote areas.

[3] RMIT CWL. 2021. Project 1.75 Creation and stimulation of end markets for construction and demolition waste
[4] RMIT CWL. 2024. Project 1.85 enhancing the use of products with recycled contents in the Australian construction industry

How well do these draft actions support our priority to increase waste avoidance? Are there other actions that will support this priority? Do current State Government activities support this priority?

Priority 2: Increasing our focus on waste avoidance

The government should develop a more effective sustainable procurement policy aligned with the national Environmentally Sustainable Procurement (ESP) Policy. Such a policy would significantly enhance the use of products with recycled content in the industry.

Additionally, the state government is strongly recommended to continue supporting initiatives like the Waste Forum, which facilitates collaboration between industry, government, and experts to address waste issues.

The state government is crucial in facilitating knowledge transfer across the state. To ensure harmonisation and effective sharing of best practices and case studies, the government could establish a portal similar to our knowledge portal, www.cdwasteportal.com.au. While ambitious and challenging, such an initiative would offer far-reaching benefits and could be a notable achievement of the current government.

Harmonised and up-to-date specifications for recycled materials can unlock end markets for underutilised waste resources. Current specifications have been identified as obstacles to the broader and more effective application of these materials.

In the construction industry, stakeholders should be informed about minimising waste generation through circular design practices and sustainable construction activities. They should be empowered to address longstanding issues that contribute to waste generation, such as procurement overestimation, poor workmanship, improper materials handling and storage, and construction defects.

Government agencies should render greater supports to the on-site recycling and reuse by streamlining the permitting process. Currently, on-site recycling facilities face delays similar to those experienced by large material recovery facilities (MRFs), which can disrupt the timely completion of construction projects. Accelerating the approval process for these facilities would assist constructors in using products with recycled content more effectively. This recommendation is based on our research findings in Western Australia.[4].

Do you agree organics, plastics and e-waste should be the strategy's priority materials for the next five years?

Priority material 3: E-waste and batteries

In our view, the C&D waste stream remains a priority due to its significant volume and management challenges. Designating these waste materials as priority materials can help maintain focus on implementing the best circular economy practices and policies for their management.

How well do these draft actions support our priority of realising the economic potential of recycling? Are there other actions that will support this priority? Do current State Government activities support this priority?

Priority 4: Realising the economic potential of recycling

We believe that the actions outlined in this priority area can effectively support realising the economic potential of recycling. However, the government could collaborate with education service providers to ensure that the waste management and resource recovery industry fully understands the regulations and policies affecting their business practices[5]. The government also should promote and support the use of independent authors who can certify the quality, performance and safety of products with recycled content that builds confidence among end users to use more of these products.

The government should also consider implementing risk-sharing mechanisms to support businesses that wish to procure recycled materials. In the context of the construction industry, these mechanisms should ensure that the responsibility for any performance failures of recycled materials in construction projects is not solely borne by the constructor.

Lastly, the government can invest in building new facilities and preserving well-operated ones close to metropolitan areas to help the industry reduce waste transportation costs. While the circular economy emphasises reduction and reuse, in the medium term, recycling and the use of recycled products seem to be the most effective strategies for Western Australia. Therefore, investing in recycling facilities is strongly recommended to optimise resource management and align with current and future waste recovery targets.

How well do these draft actions support our priority of contingency planning and climate resilience? Are there other actions that will support this priority? Do current State Government activities support this priority?

Priority 5: Contingency planning and climate resilience

The actions proposed effectively support contingency planning and climate resilience. One key recommendation is to provide waste levy exemptions for C&D waste generated from natural hazards.

Thank you for consideration of RMIT CWL's submission, if there are any queries, please contact the undersigned.

Yours sincerely

Dr Salman Shooshtarian
Senior Lecturer, Deputy Director of RMIT Construction Waste Lab
School of Property, Construction and Project Management, RMIT University
E: salman.shooshtarian@rmit.edu.au

Professor Tayyab Maqsood
Head of Project Management, Co-director of RMIT CWL
School of Property, Construction and Project Management, RMIT University
E: tayyab.maqsood@rmit.edu.au

Professor Peter SP Wong
Head of Construction Management, Co-director of RMIT CWL
School of Property, Construction and Project Management, RMIT University
E: peter.wong2@rmit.edu.au

[5] Jayarathna, C, Ryley, T, Caldera, S, Wong SPP and S. Shooshtarian, Maqsood, T. 2024. Project 1.95 Using recycled and recyclable products: Influencing stakeholders through circular economy practices. SBEnrc project.

Relevant Readings

[1] **Shooshtarian S, Maqsood T and Wong PSP** (2023) 'Policy intervention of waste management'. In: *Bandh, S.A., Malla, F.A.* (eds) Waste Management in the Circular Economy. Springer, Cham. Springer Nature. DOI: 10.1007/978-3-031-42426-7_5.

[2] **Shooshtarian S, Maqsood T, Zaman A, Caldera S, Ryley T and Wong PSP** (2024) 'Enhancing the use of products with recycled content in the Australian construction industry'. Nova Science Publishers. 238 pp. NY, US. DOI: 10.52305/KKEK0064

[3] **Shooshtarian S, Maqsood T, Caldera S, Ryley T and Wong PSP** (2023) 'Development of end-markets for recycled construction and demolition waste resources in Australia'. Nova Science Publishers. 261 pp. NY, US. DOI: 10.52305/PZRQ5282

[4] **Shooshtarian S and Maqsood T** (2021) 'Construction and demolition waste management in Australia'. Nova Science Publishers. 467 pp. NY, US. DOI: 10.52305/PCZT5417

[5] **Shooshtarian S, Maqsood T, Wong PSP, Caldera S, Ryley T, Zaman A and Caceres Ruiz AAM** (2024) 'Circular economy in action: The application of products with recycled content in construction projects: A case study approach'. *Smart and Sustainable Built Environment*. 13(2): 370-394. DOI: 10.1108/SASBE-08-2023-0213.

[6] **Shooshtarian S, Maqsood T, Wong PSP, Zaman A and Ryley T** (2024) 'Utilisation of certification schemes for recycled products in the Australian building and construction sector'. *Business Strategy and the Environment*. 2024(33): 1759-1777. DOI: 10.1002/bse.3568

[7] **Shooshtarian S, Maqsood T, Wong PSP and Bettini L** (2022) 'Application of sustainable procurement policy to improve the circularity of construction and demolition waste resources in Australia'. *Materials Circular Economy*. 4(27): 1-22. DOI: 10.1007/s42824-022-00069-z

[8] **Shooshtarian S, Caldera S, Maqsood T and Ryley T** (2022) 'Evaluating the COVID-19 impacts on the construction and demolition waste management and resource recovery industry: Experience from the Australian built environment sector'. *Clean Technologies and Environmental Policy*. 24, 3199-3212. DOI: 10.1007/s10098-022-02412-z s

[9] **Shooshtarian S, Caldera S, Maqsood T, Ryley T, Wong PSP and Zaman A** (2022) 'Analysis of factors influencing the creation and stimulation of the Australian market for recycled construction and demolition waste products'. *Sustainable Production and Consumption*. 34(2022): 163-176. DOI: 10.1016/j.spc.2022.09.005