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SUBMISSION TO THE PRODUCTIVITY COMMISSION ON OPPORTUNITIES IN THE CIRCULAR ECONOMY – INTERIM REPORT

Dear Commissioners

Green Industries SA (GISA) welcomes the opportunity to provide further comment to the Productivity Commission (PC) to support its Inquiry into Australia's opportunities in the circular economy to improve materials productivity and efficiency in ways that benefit the economy and the environment. We are aware that other South Australian Government departments may also be submitting information to the PC for its consideration, related to their respective responsibilities.

GISA notes the release of the PC's Interim Report, and specifically that the PC has identified circular economy opportunities where policy changes could result in net benefits to the community. Recognition of circular economy opportunities and benefits aligns with South Australia's views as stated in key government policies referenced in GISA's previous submission dated 31 October 2024 to you.

Further to the information provided by GISA previously, GISA in the progress of developing a new strategy under our establishing legislation to guide activities over the period 2025-2030 in transitioning the state towards a circular economy. This strategy is being developed in the context of the broader global and national landscape, with circularity metrics being considered aligned to those of the National Circular Economy Framework. We anticipate releasing a consultation draft of the strategy in May this year and will bring it to the PC's attention.

It is clear that the global landscape is changing. The world is in the midst of a triple planetary crisis of climate change, biodiversity loss and pollution and waste. The global economy is consuming ever more natural resources, and the world is not on track to meet the Sustainable Development Goals. (United Nations Environment Programme, 2024a)

Despite the challenges facing the global population, the Circularity Gap Report 2024 has highlighted the potential of the circular economy in reducing pressure on our planetary boundaries whilst also creating new economic and job opportunities. (Circle Economy Foundation, 2024a) The circular economy transition is also vital to addressing climate change, as 45% of emissions produced globally come from the way we produce and consume. (Ellen MacArthur Foundation, 2021).

GISA notes the six priority areas identified by the PC in its interim report and considers it is in the long-term interest of the Australian community that Australia's circularity rate is significantly improved in these areas. The reform directions identified by the PC across the six priority areas are highly appropriate and any progress that can be facilitated through this Inquiry would be in the national interest and support and help accelerate South Australia's transition toward a circular economy. A general observation is the need to shift the spectrum of circular economy opportunities identified in the interim report to also include those higher up the waste management hierarchy to reuse and repair.

To support the PC in developing this inquiry's final recommendations GISA has provided further input to a number of the priority area reform directions and/or requests for information which is provided at Attachment 1.

There is no doubt that an increasing range of both global and domestic economic, social and environmental issues is impacting Australians and that to retain linear material consumption patterns is simply not sustainable. This Inquiry comes at a critical time in our nation's history and it is imperative that we do not defer progress in transitioning to a circular economy, but act decisively now.

If you require clarification or would like to discuss GISA's submission, please contact Director Policy and Evaluation Ian Harvey on (08) 8204 1954, or at ian.harvey@sa.gov.au. GISA would be happy to provide further information to the Productivity Commission should this be required, and looks forward to the release of the final report later this year.

Yours sincerely

Josh Wheeler
Chief Executive
Green Industries SA

11 April 2025

Encl
1 Further information specific to priority area reform directions / information requests

Attachment 1: Information on select priority areas.

Priority area: The Built Environment

While there is recognition of reuse as core to the circular economy throughout many sections of the Interim report, GISA considers that this is not sufficiently prominent in the content relating to the built environment where the focus is mostly about recycled materials. If the intention is that discussion on reuse has been bundled with discussion on recycled, we recommend that reuse is separated out to avoid confusion and provide opportunities specific to reuse contributing to improved circular outcomes.

GISA recognises that there is some alignment with Australia's Circular Economy Framework, sectoral priority Built Environment (2024, p19-20) and the Circular Economy Ministerial Advisory Group The Circular Advantage report, supporting recommendation Built Environment (2024, p84-88) where refurbishment and markets for recycled content are included. However, in this interim PC report the content for this area does not include circular approaches such as adaptive reuse of buildings and reuse of materials. These approaches are key to circularity in the built environment and are included as priorities, enablers and as recommendations in the federal initiatives.

In the section of the report on p72 Refurbishing and repairing instead of demolishing buildings, some consideration to salvage of materials as part of or inherent in the demolition process, through deconstruction, or post demolition processing of materials would be beneficial. In addition, the approaches and systems to reuse, recover, retrieve or salvage materials within buildings is important.

Priority area: Food and Agriculture

Reform direction 5.1 Reducing food waste through food relief and donation to charity – is supported noting that while food rescue services and distribution agencies play key roles in providing food to people who need it, food rescue alone is not the solution to food insecurity. Further, consideration should be given to amending the reform direction to 'redirecting surplus, edible food' through food relief and donation to charity rather than 'reducing food waste'.

Information request 5.1 Reducing food waste through food relief and donation to charity

An action in *Valuing our Food Waste* – South Australia's strategy to reduce and divert household and business food waste (SA Food Waste Strategy) is to expand the grants available to food-rescue organisations for collection and distribution infrastructure to support redirection of suitable, surplus food. Since 2010, GISA has made funding available to support food rescue infrastructure, including for refrigerated collection vans, cool rooms and freezers and storage infrastructure.

The South Australian Environment Protection Authority's 2024 discussion paper *Beyond recycling: Moving SA towards a circular economy*[1] consulted on the potential to prevent certain businesses disposing of unsold edible food and instead requiring that these foods are donated to food rescue charities. Feedback gained through this consultation will inform the review of the *Environment Protection (Waste to Resources) Policy 2010* and South Australia's next 5-year statewide waste and circular economy strategy (under development). Any requirements will need to ensure sufficient protections for recipient organisations to ensure that food that is not suitable for donation or is surplus to a charity's needs is used for animal feed or placed in a segregated food waste collection for composting.

Reform direction 5.2 Recognising the benefits of biogas in carbon reporting

This direction may require further consideration within the context of higher-value uses of food and agriculture waste streams due to potential risks in redirecting food waste from higher order outcomes, limiting circularity of materials and nutrients.

[1] https://yoursay.sa.gov.au/beyond-recycling

In the SA Food Waste Strategy, anaerobic digestion processes and biogas recovery is identified as a supported process only where the residual digestate outputs are diverted into composting processes or applied to land following energy extraction. The ability for the outputs to return to the recycling process for land application relies on source segregated organic inputs.

The advancement of the bioenergy sector should not come at the cost of, or negatively impact, the development of the bioproduct or the composting sectors, which would be placed at a higher value within a waste management hierarchy.

In limiting the consideration of benefits of reporting under the National Greenhouse and Energy Reporting (NGER) Scheme to biogas, this will likely further the disparity in national direct and indirect economic support available for bioenergy and biofuel production than is provided for food waste destinations that convert this material into new products (including transformation of organic materials into new food products, meat rendering and compost). These processes keep the materials and nutrients circulating at their highest order use and, in the case of soil improvement products, regenerate natural systems.

An example of economic support for industry development potentially benefitting lower circularity outcomes is the Australian Carbon Credit Unit (ACCU) where the complexities of the measurement under the Source Separated Organic Waste (SSOW) and Estimating Soil Organic Carbon Sequestration using Measurement and Models methods are often cited by potential applicants as being prohibitive.

Due to pro-active, early adoption of implementing kerbside food and garden organics systems, local governments and composters in South Australia are excluded from accessing the ACCU market due to the requirements for additionality under the SSOW method. In South Australia, there are 8 Carbon Farming Initiative – Landfill Gas projects and 3 Carbon Farming Initiative – Alternate Waste Treatment projects currently active, but no projects are registered under the SSOW method. Segregating organics at the source is key to enabling these streams to reaching highest value outcomes and circulating nutrients and carbon back into soils.

Information request 5.3 Reforming regulations to support the recovery of value from organic waste
GISA provides the following information with regard to recovering value from recycling organic waste streams.

In considering the highest order value for food waste streams that cannot be avoided, transformed into new products or sent for animal feed, recycling these materials enables the materials and nutrients to continue to circulate within a biological circular economy.

The South Australian organics reprocessing sector is already highly circular with demonstrated markets for high quality outputs. Of the estimated 1.35 million tonnes of discarded organics material managed in South Australia annually, 83% is prevented from entering landfill and is transformed into valuable products[2].

In line with circular economy principles, turning food waste into recycled organic compost for application to soil not only prevents the loss of these materials, but application of these products helps rebuild soil fertility and replenish soil carbon and nutrient stocks, regenerating agricultural land and soils. Compost has a high carbon content and contains beneficial microbes. Using recycled organic compost for agricultural purposes keeps the nutrients in the economic system and improves soil structure and water holding capacity, reduces the reliance on synthetic fertilisers, and helps soils sequester greater levels of carbon[3].

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[2] Green Industries SA, 2021, SA Organics Sector Analysis Summary, https://www.greenindustries.sa.gov.au/resources/sa-organics-sector-analysis-summary-2021-

[3] https://pir.sa.gov.au/__data/assets/pdf_file/0007/428893/carbon-farming-roadmap.pdf

South Australia is a leader in developing pelletised compost products, which have more efficient application rates and lower transport costs relative to non-pelletised compost and can be placed directly to the root zone when seeding, delivering soil benefits where needed.

Biochar is one, currently niche, recycling process for transforming suitable organic feedstocks into new products, contributing to the biological circular economy. GISA understands that pyrolysis technology producing biochar is not always considered to be well suited to food waste feedstocks however this technology may play a larger role in future processing of other organics streams, such as timber and dry wood wastes.

As noted earlier, anaerobic digestion processes and biogas recovery where clean organics streams are processed, and the residual outputs are diverted into composting processes or applied to land following energy extraction, is supported.

Alongside processing infrastructure and education to reduce contamination, implementing high performing source separation systems to recover organic waste streams is critical to recycling organics into outputs that can be applied to soil. SA government investment through GISA programs and supporting policy has resulted in a demand driven organics recycling sector to keep these materials circulating and regenerate nature.

Priority area: Textiles and Clothing

Information request 6.2 - Product labelling for textiles and clothing

GISA does not have any specific information to provide regarding consumer behaviours or labelling, however, suggests that various labelling models should be considered, including the French Eco-score model which takes into consideration many environmental impacts. Labelling regarding repairability and recyclability should also be considered.

Information Request 6.3 - Textiles and clothing product stewardship schemes

GISA considers that the main reason businesses and retailers do not join Seamless is because it is not mandatory to do so. Whilst some large retailers have signed up as members of Seamless, there are significantly more large retailers that have not. A national mandatory stewardship scheme would provide the significant funding required to transition the sector from linear to truly circular operations.

Priority area: Mining

GISA understands that the SA Department for Energy and Mining is considering providing comment to the PC in this area.

Priority area: Vehicles

Information request 8.1 Targeted measures to improve the collection and recovery of off-the-road tyres.

As the PC is likely aware, end of life tyres is on the Australian Government Environment Minister's Product Stewardship Priority List. The WA Government has led a national collaborative project investigating options for tyre product stewardship including off-the-road tyres. It is understood that an abridged off the road tyre investigation report will be published. SA has participated in a cross jurisdictional working group on this and our feedback focused on the importance of supporting higher order outcomes for any scheme development.

Information request 8.2 Establish the foundations of a robust end-of-life electric vehicle battery industry

The McKell Institute via funding support from GISA investigated lithium ion battery recycling opportunities in SA (https://www.greenindustries.sa.gov.au/resources/lithium-ion-battery-recycling-opportunities-in-sa-2021-). The study estimated that by 2035, 137,000 tonnes of lithium-ion batteries waste will be generated annually across Australia (largely from electric vehicles and energy

storage) with close to 10,000 tonnes generated in SA alone. The CSIRO also has forecast that the recoverable value of end of life lithium-ion batteries could exceed $3 billion by 2035. The report suggests there are opportunities for SA to emerge as an Australian lithium ion battery waste resource management hub if the industry positions itself to capture a significant portion of the growing lithium ion battery waste stream from other Australian jurisdictions and potentially internationally.

In relation to developing further processing capability of black mass in Australia – GISA is aware that IonDrive and the University of Adelaide have undertaken research and development on processing to extract critical minerals from black mass with reduced environmental impacts.

Priority area: Household Consumer and emerging electronics

Information request 9.1 Barriers to greater reuse and repair

Repair and reuse must play a vital role in developing a circular economy. Funded by a GISA Circular Economy Market Development Grant, a study into SA's repair and maintenance sector aims to map the current state of repair in South Australia, to understand existing barriers to repair, and to identify opportunities for growth. The study focuses on common consumer products such as clothing, household appliances and consumer electronics. The study is soon to be published, and a copy will provided to the PC at that time.

A number of significant barriers to repair were identified in both the literature and stakeholder interviews of the study, most notably design decisions making the repair of certain products more difficult or even impossible (i.e. "planned obsolescence"), the availability of spare parts and their cost, and in some cases the availability of technical information required for the repair. Also prominent in the barriers to repair identified were changing consumer attitudes, including the tendency to value the new over the old, and to replace the broken or damaged item with the new immediately, rather than to seek out repair.

The study found that different types of goods were subject to sometimes quite different issues when it comes to their repair and repairability. For example, clothing and footwear are now rarely repaired in Australia because of the relatively low cost of replacing them, and the relatively higher costs of repair. Mobile phones and tablets, on the other hand, have quite distinct issues associated with their repair, including 'perceived obsolescence', the availability of parts, the cost of repair, and the time a repair might take. By contrast, while household appliances are more likely to be offered for repair, many are not able to be repaired, or repaired successfully. Increasing efficiencies in their manufacture, including the 'lightweighting' of their components, have rendered many of these appliances difficult and/or costly to repair.

Information request 9.2 Product stewardship for small electronics, including embedded lithium-ion batteries

The SA government has made a submission to the "Wired for Change" Discussion Paper on the Australian Government's proposed e-product stewardship scheme. SA supports a broad scope of any scheme and the clarity with which it is defined. The included and excluded product categories need to be clear, simple and make sense to a regular consumer to avoid confusion. SA also supports the promotion of re-use with scheme design to facilitate specific collection mechanisms for re-use and repair at scheme collection sites, when requested by a repair and re-use organisation and inclusion of the reuse and repair organisation as an important player in the scheme.

Information request 9.3 Product stewardship for small-scale PV systems

The SA government submission to the "Wired for Change" Discussion Paper also includes comment on a product stewardship scheme for small-scale PV systems. SA supports inclusion of large format energy storage batteries under a national product stewardship scheme which will encourage and help to create a market opportunity to process Lithium-ion batteries (LiB) that would not otherwise materialise in the absence of an effective national collection and aggregation process at scale.

A mandatory scheme is preferred as it can more effectively address and manage the underlying free rider issues than a voluntary scheme. However, inclusion of large LiB for energy storage for collection and subsequent processing under an effective B-Cycle scheme could also be an acceptable option.

SA suggests that, especially if batteries are included in the scheme, all collection sites for PV systems and batteries be required to be certified under AS5377:2022 'Management of electrical and electronic equipment for re-use or recycling', to minimise the risk of inappropriate battery storage.

SA also advocates for consideration of reuse/repurposing obligations of solar PV panels and energy storage batteries when practicality and safety issues are appropriately addressed. An obligation that requires the scheme administrator/s to minimise avoidable damage of potentially reusable products during the collection process may be beneficial. This will improve both reuse and recycling outcomes, and ensure that when reuse pathways are available, the panels are collected in a suitable condition.